ISEE Seminar/2019/ABS/001

Effect of Multimedia on Preparation of Traditional Dairy Products at the Household Level

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ABSTRACT

India is the largest milk producer in the world with 165.4 million tons in 2016-17 which was about 19.5 percent of the milk produced in the world. Only 37-40 percent of the produced milk is being processed at organized and unorganized sector. Hence, majority of the milk is remained unprocessed. But, the country like India, where, the climate is tropical in nature and it is quite impossible to maintain quality. Hence, majority of the milk is remained unprocessed. Then, the role of the extension personnel has to play an important role in order to impart knowledge and skill to the people who don't have relevant knowledge. Therefore, a multimedia was developed by National Dairy Research Institute on production procedure of traditional dairy products to upgrade the knowledge regarding preparation of traditional dairy products at the household level. A total 96 respondents were selected from the eight villages of the Karnal district of Haryana to quantify the effect of the developed multimedia on knowledge gain and knowledge retention and to documents the changes in production procedure of traditional dairy products due to exposure of the multimedia. An exclusive knowledge test was developed to assess knowledge gain and retention due to exposure of the multimedia. It was found that there was a significant gain in the knowledge level and considerable change in retention of the gained information regarding production procedure of the traditional dairy products due to exposure to the multimedia. The major changes were observed in the method of preparation of *dahi, ghee* and *paneer* which were highly desirable for the quality dairy product.

Keywords- Traditional Dairy Products, Knowledge Gain, Multimedia Effect

ISEE Seminar/2019/ABS/002

Smart Approaches for Technologies Dissemination in Agriculture for the Farmers

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ABSTRACT

Technology and information dissemination are traditional extension activities, rural advisory services providers face challenges in coming up with and disseminating climate-resilient technologies and practices. Determining what types of adaptive changes farmers need to make and when to make them, and ensuring that relevant technologies and modes of dissemination keep up with the need for ever changing climate change adjustments are two key inter-related challenges for rural advisory services providers. In addition to collaborating with researchers to come up with practices to address climate change, rural advisers will need to be more involved in looking for technological solutions than they currently are by searching for good practices in adapting to climate change from historical experiences and identifying lessons from other regions that are already affected by adverse climatic conditions. In response to the changing nature of agriculture and farmers' needs, the focus of extension in the past three

decades has shifted away from transferring skills, technologies and knowledge related to the production of crops, livestock and forestry products from research to farmers, to developing technologies with farmers and catalyzing and facilitating innovation processes. This shift in focus is in alignment with the need for site-specific assessments to identify suitable agricultural technologies and practices. Agricultural Information Wing plays a major role in transmitting the latest farm technology to the farmers through farmers training camps and literature. Traditionally dissemination of technological innovations is done by three methods viz; personal contact method, group contact method and mass contact method by using result and method demonstration methods. Farmers are enterprise owners in agriculture, and it is the responsibility of the Agricultural Extension System (AES) to transform the knowledge, skill and attitude of the farmers with the aim to enhance their farm productivity, production and profitability.

Keyword: Technology, Farmers, Climate, Skill

ISEE Seminar/2019/ABS/003

Agri and Rural Entrepreneurship: Problems and Strategy for Running Enterprise

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ABSTRACT

Indian economy is basically agrarian economy. Over 85 per cent of the rural population in India is dependent on agriculture. Agri entrepreneurship is now a days a major opportunity for the people who lives in rural areas. On the contrary it is also a fact that the majority of rural entrepreneurs are facing many problems due to not availability of primary amenities in rural areas of developing country like India.It also focuses on the major technical, administrative, economic and social and financial problems faced by agri -entrepreneurs, i.e. availability of raw material, electricity, water supply, lack of training support and labour shortage etc.A strategy is an overall long-term plan for the farm business. It sets out the goals that the farmer wants to achieve and the main ways to achieve those goals. Strategic management is the process of planning the strategy, implementing it, monitoring the outcomes and adjusting the strategy over time as conditions change. After economic liberalization, entrepreneurial activity is playing a major role in socio-economic development of the country in India. The seasonal nature of agriculture and lack of irrigation facilities creates problem of seasonal and cyclical unemployment.Large number of persons employed in agriculture is of disguised nature. They seem to be employed but their marginal productivity is zero. Even if some of the farm rural youth shift from primary agriculture production activities to secondary agriculture (processing, value addition) and agri entrepreneurship, the present level of agriculture production may not get affected at all.

Keywords: Rural, Entrepreneurship, Problems and Strategy, Rural Development

ISEE Seminar/2019/ABS/004

Development and Field Testing of Need Based Mobile App on Buffalo Reproduction: An Educational Tool for Information Dissemination

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ABSTRACT

An educational mobile app on Buffalo Reproduction was designed and developed based on the needs of the farmers under reproduction in Hindi and English languages with aim of imparting knowledge to buffalo owners and aguide for VLDA and graduating veterinarians. The App provides basic information on different areas of buffalo reproduction by dividing the whole content into seven distinct segments. The major areas covered are; targets of reproduction, puberty and sexual maturity, heat symptoms and breeding methods, pregnancy diagnosis, peripartum care and management, bull selection and management for breeding. Special emphasis has been given by covering eleven major reproductive problems commonly found in buffaloes emphasizing on causes, preventive and control measures on each problem/disorder separately. It includes delayed puberty, anoestrus & silent estrus, repeat breeding, genital prolapse, dystocia, retention of placenta, cystic ovaries, venereal diseases, abortion, fetal mummification and fetal maceration with unique photographs. The App additionally provides answers on frequently asked questions by the farmers under each section of buffalo reproduction and complete App content has audio backup with download facility. After placing the app ofon Google Play store, it was field tested for assessing the effectiveness and perceived utility,using an interviewschedule from 30 farmers,30 stockman/ VLDAand 30graduatingveterinary students after their downloading of app, for further modification based on their judgement. The data revealed that about 83% respondents had high readiness, motivation, innovativeness and trustworthiness for accepting the app. Only 36.7% had prior experience of using the app on mobiles and about 60 % farmers showed technophobia in using the app. More than 83% respondents found the app as user friendly, attractive and reliable with 70% agreed for ease in downloading. More than 65% respondents found that content and photos used in app as interesting, informative with good designing. According to 60-70% respondents, app had high video streaming with eye catching colours with easy visuals and audio streaming with moderate pauses and low voice modulation. 58-70% respondents found the content of the app as appropriate, clear, updated whereas preciseness, relevancy and coverage were found moderate by about 45-50% respondents. Overall utility of the app perceived by respondents was found high as revealed by 70% farmers, 80% graduating veterinary students and 55% VLDA's. 75% of the farmers, VLDA and graduating students perceived excellent look of the app and were notfound statistically differents in their perception regarding the effectiveness and perceived utility of the mobile app with special reference to buffalo reproduction.

Keyword: Information Dissemination, ICT, buffalo reproduction, VLDA

ISEE Seminar/2019/ABS/005

Empowerment of Rural Community through Social Institutional Innovations for Rainwater Management for Transforming Dryland Agriculture

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ABSTRACT

Water management was virtually unknown to farmers. Farmers had been using scarce water resources injudiciously, which had resulted in undue wastage of water. Defunct water harvesting structures were not being repaired in time. The farmers also never saw 'water sharing' and 'water economy' as a priority issue. Social exclusion was at a high and the Dalit community had no access to major sources of irrigation water but it become possible through Social Institutional Innovations sharing of water to dalit community through water sharing practices by forming Water Sharing Groups. Dryland farmers faced with an uncertainty of declining water table, drying up of the aquifer in times of a drought year when rains fail to recharge the water aquifer and raise water table. Yet they were not worried, because under the social regulation programme (SRP), water sharing is now made possible. The striking characteristics of this social institutional innovations which is a type of Contemporary Water Management Innovation (CWMI) are that they address the community mobilization and elicit farmers' participation for concerted group actions for solving all inter-related problems through farming systems approach in the whole agro-ecosystem which results in the transformation of Dryland Agriculture in Ananthapur Districts. A case study analysis revealed the way the water sharing group of farmers were able to grow crops through the use of social regulatory measures in water sharing groups which is a flawless example of Rainwater Management in the Ananthapur district, which was able to enhance their incomes by saving and conserving more water.

Keywords: Social Institutional Innovations, Water Sharing, Contemporary Water Management Innovations (CWMI), Social Regulations Programme (SRP), Rainwater Management

ISEE Seminar/2019/ABS/006

Market Led Extension- A Profit Maximization Trend of Farming Community

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ABSTRACT

Extension plays its pivotal role not by mere transfer of technology to farm but along with it the appropriate market information as well. Extension personnel need to make aware farmers about what to produce, when to produce, how much to produce, when and where to sell, at what price and in which form to sell their produce. Effective linkages of production systems with marketing, agro-processing and other value added activities play an increasingly important role in the diversification of agriculture and applied field. There is need to conversion of Producer Led Extension into Market Led Extension, minimization of input cost, introduction of export oriented

output product, modernization of wholesale markets or new markets with new agricultural policy and strategy. This emphasizes the important role of extension organization ranging from SWOT analysis of market to the organization of farmer interest groups. The Government in this regard is providing much of the infrastructure required for efficient marketing along with the other information and extension services. However, this loss can be minimized by the Market Led extension approach through appropriate supply of information by SWOT analysis of the market, establishing market and agro processing linkages, direct marketing, and capacity building in terms of improved production and post-harvest operation such as proper handling, grading, standardizing, value addition, packaging as well as storage and transport system. Hence, this paper discusses the prospects and challenges of market led extension in view of 21st century scenario of Agriculture towards building the capacity of farmers, extension functionaries, stakeholders, as well as for policy recommendation towards holistic sustainable agricultural development.

Keywords: Agriculture, Market Led Extension, agricultural input, market and extension personnel

ISEE Seminar/2019/ABS/007

Digital Agripreneurial and Innovation Culture Among Farmers

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ABSTRACT

The agriculture and food sector is facing multiple challenges with the global population projected to grow from 7.6 billion in 2018 to over 9.6 billion in 2050 there will be a significant increase in the demand for food. Digital innovations and technologies may be part of the solution. Revolution is seeing several sectors digital technologies such as Block chain Internet of Things, Artificial Intelligence Extension Advisory Services and Immerse Reality. In the agriculture and food sector the spread of mobile technologies remote-sensing services and distributed computing are already improving smallholder's access to information inputs and market. Digital entrepreneurship involves the transformation of existing businesses through novel digital technologies and the creation of new innovative enterprises characterized by the use of digital technologies to improve business operations, the invention of new business models and engaging with customers and stakeholders through new channels. Globally, there are an increasing number of initiatives to foster digital entrepreneurial activity related to the creation, development and scaling-up of 'digital start-ups including in the agriculture and food sector. Farmers might be particularly suited to entrepreneurial activities. These days farmers often design business plans scout for funding make use of farming enterprise incubators and attend scientific conferences. Youth farmers in particular are also more likely to take risks in their farm management. Nevertheless, creating a sustainable digital agripreneurial culture is a long-term political and practical process starting with appropriate education among farmers. It requires an enabling environment which allows risk-taking trust-based relationships between stakeholders, financial opportunities and professional services a sustainable digital ecosystemthe availability of appropriate skills and an attitude of sharing or open innovation.

Keyword: Digital, Innovation, Technologies

ISEE Seminar/2019/ABS/008

Sets Technology for Quality Onion Production in Bundelkhand Region of UP

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ABSTRACT

Onion is one of the most important vegetable crops grown in India having both food and medicinal values and widely cultivated for domestic consumption as well as for export. *Kharif* onion is widely cultivated in states of Maharashtra, Karnataka, Andhra Pradesh and Rajasthan and some part of Uttar Pradesh for internal consumption as well as for the export. India, being major onion-producing country, produces 20.13 million tons from 1.19 million ha, with a very low productivity of 16.24 tons/ha. It has very good export potential and demand of onion increased day by day for export as well as internal consumption of the country. The climate of Uttar Pradesh is very favourable for *Kharif* onion production and most of the farmers are taken the crops in *Rabi* season but it has very good potential for *Kharif* onion production, if the farmers taken the *Kharif* onion the produce obtained during October-November and this time the market rate of onion is very high the farmers can fetch handsome amount of money and improve their socio economic status. The farmers of this area generally grow local genotypes/varieties of onion along with traditional method of cultivation in *Kharif* season and its responsible for low yield. In many parts of the country, particularly, in Deccan plateaus *Kharif* onion is grown with quite higher productivity. As the Bundelkhand region receives comparatively low rainfall during *Monsoon*, possibility of *Kharif* onion in this region is equally high. Sometimes during June and July, due to heavy and erratic rains in Bundelkhand region the nursery grown by the farmers are totally damage and they not get single onion nursery for planting in field and its creates the shortage of onion during October-November and also price fluctuation take place. However, the *Kharif* onion production through sets, a good technology for production of quality onion (bulblets raised from *Kharif* onion varieties like Agrifound Dark Red, Baswant-780, L-883, Bhima Dark Red, Bhima Raj, N-53 and Arka Kalyan during summer season are used for planting. Seeds @ 10-12 g/m^2 are sown on raised beds or in flat beds depending upon the soil by following the broadcasting method. Best time of sowing the seeds for getting quality bulblets is first fortnight of January to early February depending upon the metrological condition of the area. The plants are allowed in nursery bed up to March-April till there is desired size of bulblets (1.5-2.5 cm). Harvesting is done along with the tops and selected bulblets (1.5-2.5 cm) are stored by hanging method till August in a well ventilated room/go down). This technology, adopted and demonstrated among the farmers of Bundelkhand region definitely will help for quality onion production for export as well as internal consumption of the country.

Keywords: Kharif onion, Farmers, Bundelkhand

ISEE Seminar/2019/ABS/009

Training Needs of Vegetable Growers in Sonipat District (Haryana)

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ABSTRACT

India is the second largest producer of vegetables in the world accounting for about 13.38 per cent of the world production. Indian farmers grow a numbers of vegetables, but potato, tomato, onion, cabbage and cauliflower

account for 60.00 per cent of the total production. Vegetables being a cash crop can play significant role for improving the livelihood of farmers, particularly small and marginal farmers. But the productivity level of farmers is very low particularly of resource poor farmers. Training plays an important role in building of human behaviors, positive attitude and it is critical input for human resource development and also adds to the ability of individuals to do the job differently**.** Ghaswa et al (2017) observed that the cauliflower growers required more training in some of crucial training areas *viz;* "knowledge about method of application of phosphatic fertilizers", "appropriate time of harvesting". The cauliflower growers perceived the least training needs areas like "knowledge about use of trace /minor elements or bio-fertilizers" and "knowledge about depth of sowing" of improved cauliflower production technology.In Haryana more than half of total cropped area is covered by cereals, Hence, Sonipat district is also not an exception in this case. Therefore, paddy and wheat are the two major crops occupying 75 percent of the total cropped area. But due to the vicinity of National Capital Delhi, the district has immense opportunity for commercial vegetable cultivation and farmers are harnessing the potential of vegetable production in the area and also facing many problems on production front. Effective training cannot be planned and executed without knowing profile and training need of different vegetable growers in the district. Therefore, keeping in view of its importance in farmers' economy it was decided to conduct a study with specific objective to ascertain the training needs of farmers for vegetable cultivation in the district for cultivation of different vegetable crops. The study was conducted in Sonipat and Rai blocks of the theSonipat district and the total sample size was 200 respondents for the purpose of investigation. The data were collected through pre-tested interview schedule. The data so collected were tabulated and analyzed to draw logical inferences.The study reveals that majority of carrot and okra growers required training on plant protection measures. Further, analysis of data obtained about the training needs of farmers on selected technological aspects for potato and tomato cultivation showed that the farmers needed maximum training about improved seeds. However, weed management stands first on the radish grower farmers' priority.

Keywords: Vegetable, Farmers, Training

ISEE Seminar/2019/ABS/010

Perceived Impacts of Krishi Community Radio Programmes on Farming Community of Dharwad District

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ABSTRACT

The study determined the perceived impacts of Krishi community radio programmes on farming community of Dharwad district. An interview schedule was used to collect data from asample of 100 farmers. The findings of the study showed that 68.5 % of the respondents who listened to agricultural programmes aired on Krishi CR are males and 31.5% are females. The study show that farmers gained knowledge in the various improved practices as a result of the Krishi CR agricultural programme. The impact of the programme on farmers' livelihoods was highest in Narendra village Chikkka Malligawad and, Mammigatti village but was moderately high in kyarakoppa, Mandyal, Kelageri villages of Dharwad district respectively. The "t " test was used to test the differences in impact and theresults indicated that other external factors may have also resulted in such differences which may be beyond thecontrol of the programme or farmer. Similarly, majority of the farmers indicated that they were satisfied with Krishi community radio programmes on agricultural as it has improved the use agricultural technologies in the study area. The studyrecommended that the government should support the community radio for agricultural programmes to ensure its sustainability.Also, there should be a further research to find out why some farmers are dissatisfied with Krishi community radio agricultural programmes.

Keywords: Impact, krishi community radio, agricultural programme, farmers, villages.

ISEE Seminar/2019/ABS/011

Use of media by DAESI Trainees of Karnataka

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ABSTRACT

Agri-Input Dealers in the country are a prime source of farm information to the farming community, besides the supply of inputs and credit. However, majority of these dealers do not have formal agricultural education. In order to build their technical competency in agriculture and to facilitate them to serve the farmers better and to act as para – extension professionals, National Institute of Agricultural Extension Management (MANAGE) has launched a self-financed "One-year Diploma in Agricultural Extension Services for Input Dealers (DAESI) Program" during the year 2003 with a course fee of Rs.20, 000/- to the input dealers. Due to positive impact of the program, Ministry of Agriculture & Farmers' Welfare, Government of India has decided to implement this program for Input dealers in all the States of the country. University of agricultural sciences, Dharwad is also centre for implementation of DAESI in north Karnataka. The present study was conducted in Dharwad, Belagavi, Haveri and Gadag districts of Karnataka state with the sample size of 120 DAESI Trainees. A well structured schedule was developed and data was collected by personal interview method. Frequency and percentage were employed to analyze the data. It could be observed that all of them are using internet. Further more than 90 percent of DAESI trainees are subscribers of news paper and possessed T V. Regarding frequency of use of media nearly 90 percent of them are reading news paper regularly, followed by viewing T V (72.85%) and Listening to Radio and Using internet (65.71%). Regarding frequency of use of internet more than 60 percent of them are using daily. It could be concluded that as most of them are subscribers and possessing the mass media and using them regularly, it is the best media through which useful information may be disseminated through them. Since they are the prime source of information for the farming community.

Keywords: DAESI, Mass media and Input dealer

ISEE Seminar/2019/ABS/012

Students' Response Towards On-Line shopping- A Study of UHF Solan and HPU Shimla (H.P)

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ABSTRACT

The study conducted on a random sample of 100 students selected from two universities viz; Dr. Y.S. Parmar university of Horticulture & Forestry, Solan and Himachal Pradesh University, Shimla (HP) revealed that a majority of the respondents had Internet access, and used on-line shopping for purchasing books, clothes, mobile/ camera and software. Economic, convenience in use and coupon/discount facilities etc. were the main reasons for on-line shopping. Insecurity/unsafety of payment, slow delivery of products, high shipping costs and low level of trust in the products were the main problems faced by them in on-line shopping. Though overall 54 percent of respondents were satisfied with the on-line shopping yet only 30 percent of them were found satisfied with warranty policies of the companies engaged in on-line shopping for the customers. Hence, the study implies that the companies concerned should ensure safety of payment and timely delivery of their products besides quality assurance for further promoting On-line shopping among the customers.

Keywords: Internet access, on-line shopping, slow delivery, high shipping costs, warranty policies etc.

ISEE Seminar/2019/ABS/013

Students' Opinion on theExisting Education Standard – A Study of the University of Horticulture and Forestry(UHF) Nauni- Solan (H.P.)

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ABSTRACT

The study conducted on 100 students randomly selected from under -graduate and post-graduate students of Dr. Y.S.Parmar university of Horticulture and Forestry Nauni- Solan (H.P.) revealed that acordial and good relationship existed between the teachers and the taught as well as male and female students in the university. Overall rating of the students on teaching standard in the university was found to be good**.**More emphasis on theory , taking theory classes in practical hours , inferiority complex among the students, fast delivery of the lectures by the teachers, unfriendly environment in the class , discouraging students feedback/questioning etc. were some of the main problems/difficulties faced by them . Hence, the study implies that the teachers should teach the students as per their learning capability/styles giving more emphasis on practical knowledge rather than the theoretical knowledge besides motivating them to participate in sports, games and other extra- curricular activities in order to further improve the existing education standard in the university. Sincere efforts should also be made to harness the talents of the students by organising various training programmes, workshops, seminars and orientation programmes for them**.**

Keywords: - Cordial, Teacher-Taught relationship, Congenial, Extra –Curricular Activities, Opinion

ISEE Seminar/2019/ABS/014

Benefits of Digitization in Agriculture

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ABSTRACT

Digital technologies have potential to deliver significant economic, social and environmental benefits. In rural areas, where education and literacy rates are generally lower, mobile phones tend to be used mainly for communication and social media. Digitalization creates demand for digital skills for people who are competent in using digital devices understanding outputs and developing programmes and applications. This requires not only basic literacy and numeracy but also data handling and communication skills. These days, farmers often designbusiness plans, scout for funding, make use of farming enterprise incubators and attend scientific conferences. In the agrifood sector, the digital technologies change the structure of the labour market and the nature of work. It redefines the role of farmers and agri-preneurs and alters the skill set required in the agrifood sector. Field agrobots are already being deployed to help farmers measure, map and optimize water and irrigation use. Fleets of small lightweight robots are now seen as a replacement for traditional high mass tractors, gradual reduction of compaction and re-aeration of the soil and benefits to soil function. Use of mobile applications providing price information to farmers can reduce market distortions and help farmers to plan production processes. For instance, Precision Agriculture is about management concept based on observing,measuring and responding to inter and intra-field variability in crops; whereas, Internet of Things (IoT) in agriculture application can lead to cost savings in terms of seed, fertilizer, andtractor fuel can reduce working hours in the field. Digitalization of agriculture will cause a significant shift in farming and food production over the coming years.

Keywords: Benefits, Digital technologies, Internet of things, Precision agriculture

ISEE Seminar/2019/ABS/015

Socio-Digital ApproachesforTransforming Indian Agriculture

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ABSTRACT

Today the greatest need of time is to deliver targeted and timely information to people and this should be more precise when the needs of farmers are concerned. The interaction of people with technology empowers them and brings face to face with the real world. With the launch of Digital India on 1st July 2015 ,the motive of empowering Indian agriculture has also been digitalized under which farmers are able to get timely information, they can make decisions such as how much fertilizers to apply based on a combination of rough measurements. Digital approach to agriculture aims at gathering data more frequently and accurately. A developed agricultural system is based on three pillars namely knowledge, infrastructure and a systematic delivery mechanism. Our farmers need timely information in context to weather forecasting, pesticide dose, number of irrigations, sowing date which is possible only through digital technology. The ICT plays a key role in knowledge exchange, market information, access to finance, making agriculture a profitable enterprise. Digitalization of agriculture is not only a solution but a revolution for making Indian agriculture sustainable. The socialization of digital approaches in Indian agriculture is urgently required at all the levels in order to accelerate the pace of agricultural development and finally achieving food security. This approach is intensive and initially beyond the reach of small farmers but joint effort of government, ICRISAT, ICT and small stake holders are gradually transforming Indian agriculture to a socio- digital level. The digitalization of agriculture will very soon make farming highly profitable business by delivering safe, nutritiou sand affordable food for all.

Keywords: Socio-digital, ICT, sustainable, profitable, food security

ISEE Seminar/2019/ABS/016

Digital Solutions for Enrolment Enhancement in Agriculture and Allied Fields

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ABSTRACT

In this science driven world, digital advancement is playing a critical role. However, there is still no substitute for traditional sciences like agriculture and its allied fields like home science. While the need for proficient agricultural scientists is still there, it is not necessarily translated into higher enrolments of students in these areas, posing a risk to the longevity and quality of agricultural sciences. Hence, the present research (conducted under the ICAR funded extramural project) is focussed on identification of the preferences of students regarding digital solutions for gaining information on higher education in agriculture and allied fields. Information pertaining to preference of high school and college students among various available digital solutions (traditional and supporting technologies) like text, images, banners, website, blogs, videos, mobile apps, webinars, podcasts and adswas gathered through a structured interview schedule. The results showed that there is a need for accessible digital solution among the students community which can provide updated information about the various aspects of agriculture and allied

science education on a single platform. Properties like easy to use, multifaceted avenues of the study area, wide reach, popular and inexpensive medium to gain information were most desired by the students in respect to digital solution.Therefore, it was concluded that out of the available digital technologies, a mobile phone application would serve as the best option for students wanting to gain information about different SAUs, traditional universities and premier institutes for Agriculture and Home Sciences, their admission criteria and form availabilities, skill aspects of Agriculture and allied sciences, job awareness, success stories and subject counsellors. Further, development of this app is under process.

Keywords: Digital, Information, Agriculture

ISEE Seminar/2019/ABS/017

Exploring Entrepreneurial Opportunities for Community Science Colleges through Skill Education

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ABSTRACT

Entrepreneurship cannot be successful if the individual don't have required skills not only basicskills of entrepreneurship (ie personal attributes, interpersonal communication skills, critical and creative thinking and practical skills) but the skill related to that particular entrepreneur (attribute and attitude towards that skill, interpersonal communication skills, creativity and practical knowledge of a skill). It can be said that entrepreneurship and skill education are synonymous to each other up to some extent. Community science is a subject which equips the students with various skills according to their syllabi including skill of entrepreneurship. All India Survey on Higher Education, 2015-16 concluded that total 9912 (nine thousand nine hundred twelve) and 22132 (twenty two thousand one hundred thirty two) students were enrolled in PG courses in Home Science and Agriculture subjects which is 0.002% and 0.006% respectively of total students enrolled in higher education. It depicts that very less number of students are showing interest in agriculture and allied subjects. The possible reason behind this may be less job/employment/entrepreneurship opportunity. Today with the growing demand of industries, the institution needs to work on their students to meet global trends, develop skills to face the struggle for upcoming professional life. Keeping in view the fewer enrolments in community sciences the present study was undertaken with financial support of education ICAR. The objectives of the study were to explore the factors responsible for less enrolment and employment opportunities. The opinions of academicians on carrier opportunities provided by syllabus presently and new thrust areas which can be incorporated under various subject of community sciences were collected and further compared with associated sector skill council report of NSDC. Suggestions on the possible industry collaboration mechanism were also recorded on the research.

Keywords: Entrepreneurship, Communication Skill, Employment, Community Science, Higher Education

ISEE Seminar/2019/ABS/018

Assessment of Technological Gaps in Pineapple Cultivation: A Study from Darjeeling District of West Bengal, India

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ABSTRACT

India enjoys its spatial advantage for exporting pineapple to Gulf countries as well as to European countries. India poses 1st rank in terms of harvested area (1,11,000 hectare) of pineapple among the Asian and BRICS countries (FAO,(ON1407) 2017). In India, West Bengal ranked first in pineapple production (345.15, 000'MT) in 2017-18 (Ministry of Agriculture & Farmers Welfare, Govt. of India (ON1601) & (ON1955). Where, North Bengal provides the major bulks for this. Agri-Export Zone for promoting exports of pineapple has already been established in North Bengal. Despites of its huge potential the production is not to the ear mark. West Bengal is too far from true utilization of its potential. Farmers of this region have adopted different technologies of pineapple production. But most of the farmers of the area, have not adopted the total recommended package of practices regarding scientific cultivation. There is a big gap between the recommendation made by the scientists and field level adoption by the farmers. The study conducted to find out the extent of technological gaps among different categories of farmers and strategy to lessen the gap.Phansidewa Block of Darjeeling district, where the maximum numbers of farmers are engaged in pineapple cultivation, selected purposively for this study. Out of 7 Gram Panchayats in this block, 3 Gram Panchayats, namely Bidhannagar–I, Bidhannagar–II and Chathat-Bansgaon were selected purposively as per the recommendations of the extension personnel working in the district and in block, where pineapple is cultivating intensively for last few years. A total number of 200 respondents were selected randomly for the study and were grouped into three categories i.e. marginal farmers (127), small farmers (57) and medium farmers (16) on the basis of their size of land holdings. The result shows that all the three categories of farmers had highest technological gap in fertilizer application followed by post-harvest practices. Third major technological gap was found in harvesting for marginal and medium farmers and in selection of variety for small farmers. Lowest technological gap was found in case of irrigation, selection, preparation and treatment of planting materials and regulation of flowering and ripening of the fruits for marginal, medium and small farmers respectively. Polled data also reveals that the farmers in general were having maximum technological gap in fertilizer application followed by post-harvest practices and selection of variety. Hence, to reduce the gap, improved and low cost technologies must be introduced through intensive extension system with proper training programmes time to time. Training programmes should be designed in such a way that it meets the training need of different categories of farmers. The problem faced by the majority of farmers is lack of up-to-date knowledge about scientific pineapple cultivation technologies. New extension strategy should be used to develop favourable attitude of the farmers towards scientific practices. So, that they can understand the importance of scientific recommendations and get benefitted from their harvests.

Keywords: Pineapple, Technological Gap, Production technology, Adoption

ISEE Seminar/2019/ABS/019

Information Seeking Behaviour of Farmers for Capacity Building in Agriculture

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ABSTRACT

Information is an important resource for individual growth and survival. Capacity building of the farmers also depends a great deal upon the provision of the right kind of information, in the right form and at the right time. It can be possible when information need and information seeking behaviour of the farmers explored out. Therefore the present study was an attempt to know the information seeking behavior of farmers regarding crop production. Study was conducted in Jaipur district of Rajasthan. 75 respondents were selected through random sampling method for the study and personal interview technique was used for data collection. Results revealed that farmers have need of information mostly in government schemes of organic farming (55%) and in marketing aspects (43.66%) of crop production. Data related to information source used by the farmers revealed that mobile phone was the most preferred source by the farmers (70.66%). Farming helping app (56%), television (53.33%) and local leader /neighbors (41.33%)always used by the farmers for accessing crop production information. Study further revealed that poor contact of extension worker (42.66%), poor net signal and lack of mass media (33.33%) and agriculture information broadcasting on odd hours (32%) were the major problems faced by the farmers in seeking information. Government should improve access to public extension services, by increasing the number of extension officers, and providing adequate training programmes to update their knowledge in the farming activities.

Keywords: Information Seeking Behaviour, Farmers, Capacity Building and Agriculture

ISEE Seminar/2019/ABS/020

Women in Agriculture: Closing the Gender Gap

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ABSTRACT

The famous scientist Swaminathan said that it was women who domesticated the crop plants and further initiated art and science of farming. The men used to hunt in search of food. The status of women in our country had faced several changes over past millennium. The women plays crucial role in agricultural development. Their involvement in agriculture varies from region to region. Agriculture sector employs 4/5th of all economically active women in the country. Around 50% of India's self-employed farmers are women. Major resources like land are unevenly distributed by gender. As compared to men, less number of women enjoys property ownership rights directly in their names. They have less control over decision made in relation of land. Even those women having lands in their name, they may not have actual decision-making power in terms of cropping, sale, mortgage, etc. In India only 14.9% of households are headed by women. Closing this gap, specifically in agriculture is not easy but taking one simple step could be very powerful. Proper designing of strategies, policies in public and private sector can benefit to both men and women. Eliminating discrimination under the law, recognizing the importance and

power of customary land rights, educating women regarding land rights, ensuring that women's voice are heard, adjusting bureaucratic procedures, educating officials and evaluating them to gender, etc. can help to manage the gender inequalities.

Keywords: Women, Agriculture, Land, Gender gap.

ISEE Seminar/2019/ABS/021

Effectiveness of Mobile Application on knowledge Empowerment of Commerci Dairy Farmers on Brucellosis

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ABSTRACT

Quick and timely dissemination of technological information from the agricultural research system to grassroots level and farmers' reaction in the form of feedback to the research system is one of the most critical inputs in technology transfer. Information and Communication Technology plays an important and crucial role where its potential can be exploited to strengthen the linkage amongst research and extension system. In this context, an mobile application was developed on brucellosis prevention in dairy animals and it was tested for its effectiveness in terms of knowledge gain by the commercial dairy farmers (n=60) from six district of Haryana and Punjab states. The study revealed that, the overall mean knowledge gain on Brucellosis in dairy animals through mobile application was effective ($p< 0.01$) in terms of knowledge gain among the commercial dairy farmers (17.65). Pearson's correlation analysis of socio-demographic profile with knowledge gain revealed that knowledge gain through Mobile application on brucellosis was positively and significantly correlated with education, landholding, income, herd size, milk production and experience in dairy farming at 5 % level of significance. It is evident from this study that Information Communication Technologies plays significant role in knowledge gain and empowerment of dairy farmers and hence still more institutional intervention, support and innovation is required in developing such technology transfer mechanisms in developing countries like India.

Keywords: Effectiveness, Mobile Apps, Knowledge, Empowerment, Dairy Farmers

ISEE Seminar/2019/ABS/022

Health Endangerment among Tribal Farm Women in Operations of Different Agricultural Activities- An Emerging Issue

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ABSTRACT

Farmwomen play very important role in home as housewives in managing the domestic affairs and they work as co-partners in the farming profession. No field operation is beyond the reach of women. Tribal women constitute half of the work force among tribals in India. Tribal women face problems and challenges in getting a sustainable livelihood and a decent life due to environment degradation and the interference of outsiders. The study was

conducted purposively in aspirational Barwani district of Madhya Pradesh. The sample size for the study was 200 tribal farm women. *Most of the tribal farm women were frequently occurring in health hazards like Skin Irritation & Allergy*, Poisioning*, Cut, Wounds & Injuries,* Skin Disorders, Respiratory Hazards, *Congestion & Breathing, Swollen & Sore Hands & Feets, Body Ache & Physical Tiredness*, Eyes Irritation, Noise-Induced Hearing Loss, Biting and Cancers *in* operation of agricultural activities. The major causes for health endangerment of tribal farm women were Illiteracy, lack of awareness, impecuniosities /poverties, unemployment, conventionality/orthodoxy, use of chemical insecticide, pesticide, use of chemical fertilizers and lack of medical facility at village level. Majority of tribal farm women suggested that demonstration, training, awareness camp of improved and scientific agricultural technologies should be organized at village level. Medical facilities should be available at village level was also suggested by farm women.

Keywords- Health Hazards, Agricultural Activities, Tribal Farm Women, Multivariate effect

ISEE Seminar/2019/ABS/023

Nutritional Security by Dried and Dehydrated Fruits

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ABSTRACT

Fruits are important source of essential nutrients such as vitamins, minerals and fibre. They contain high moisture content that is why they are highly perishable in nature. As per the latest estimates, by Central Institute of Post Harvest Engineering and Technology (CIPHET), Ludhiana, the wastage of fresh horticultural produce is upto 18 percent due to poor post harvest management practices. Thereby drying is appropriate alternative for perishable products to increase their shelf life and act as an important role in food supply chain. Drying is one of the oldest method to preserve the products for nutritional security to the mankind. The main feature of this process is to reduce the moisture content with the aim to avoid food spoilage by micro-organisms. Dried fruits enhance the storage stability, minimize packaging requirement, reducing transport weight. Because drying removes moisture, the food shrinks and decreases in size and weight. But when water is added to the dried products, it returns to its original size. Dried products can use in off season. It is a good approach to secure the nutritional quality and to satisfy the changing human needs. An optimum drying system for the preparation of quality dehydrated products is cost effective as it shortens the drying time and cause minimum damage to the product. Modern techniques like vacuum drying, osmotic dehydration, freeze drying, heat pump drying and superheated steam drying have a great scope for the production of good quality dried products and powders. Dried fruits and their application in powder form have gained interest in the food industry.

Keywords: Fruits, Drying. Nutritional Security, Post Harvest Management, Value Addition

ISEE Seminar/2019/ABS/024

Government Policies and farmer's suicides: A comprehensive report

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ABSTRACT

Indian economy is based on Agriculture. As most of the farmers are small or marginal, the banks have started

different schemes to promote farming. One of such successful initiative by the government is the Kisan Credit Card (KCC). This was scheme was started to help these farmers purchase various agricultural inputs like seeds, fertilizers, pesticides etc. and draw cash for their production needs. This Kisan Credit Card shall be converted in Rupay cards for easy use of credit facility by the farmers. The study has been linked with the various cash flow by different agencies like Co-operative banks, RRBs and Commercial banks. The data has also been analysed on the incidence of the suicides which are committed by the farmers and farm labourers. It was observed that the highest incidence of farmers suicides are in the state of Maharashtra followed by Karnataka and Andhra Pradesh. However, the use of such schemes by the farmers like Kisan Credit Cards can help the small and marginal farmers buy agricultural inputs during the season.

Keywords: Credit loans, Kisan Credit Cards, Farmers Suicides, Agencies, financial assistances

ISEE Seminar/2019/ABS/025

Group Dynamics Effectiveness of Women's Groups in Raipur District of Chhattisgarh

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ABSTRACT

Women informal groups show certain characteristics such as fellow feeling, co-operation, cordiality, sympathy, understanding, leadership, etc. among themselves. To utilize these potential quality attempts have been made for facilitating women's overall status by organizing them into a formal group. Today, Women's groups(WGs) are playing a major role in rural areas. The groups function to provide a platform for each member of the group to identify and use opportunities for their growth and empower WGs/SHGs to collaborate with other institutions. Group dynamics is a phenomenon in which we examine the group functions, its need, and the interaction among the members of the group. "When a group matures, several forces – physical, social, moral, and economic, operate within it and influence the behaviour of its members, ultimately affecting the group productivity. The total of these forces that contribute to the performance of a group is termed as "Group Dynamics". The research was performed in Raipur district of Chhattisgarh. Three villages were chosen from 2 selected blocks viz. Arang and Dharsiwa, and five women groups were selected from each village. A hundred and twenty respondents from thirty women groups were interviewed. Majority of respondents were found in medium category of group dynamics effectiveness dimensions such as participation, membership, influence, and style of influence, decision making procedure, task functions, maintenance functions, group atmosphere, interpersonal trust, norms, feelings and achievements in women's group and most of them had empathy at lower category. Sixty five percent of the women's group had medium overall Group Dynamics Effectiveness (GDE) category.

Keywords: Women's group, Group Dynamics Effectiveness

ISEE Seminar/2019/ABS/026

Management of Eco Friendly Practices of Vegetable Crops among Tribal Framers

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ABSTRACT

Vegetables are grown in India since thousands of years. The vegetables become an essential requirement of the daily human diet, because of its nutritional value. World needs, eco-friendly farming systems for sustainable agriculture. This is the need of the present day. There is an urgent need to develop farming techniques, which are sustainable from environmental, production, and socioeconomic points of view. A growing environmental agriculture movement evolved in response to increasing soil erosion, pesticide use, and groundwater contamination. Simultaneously, economic conditions for farmers were becoming more stressful and the number of family farms declined. The present investigation was conducted in Jhabua, Dhar, Alirajpur and Barwani district of Madhya Pradesh. One block of each district were selected on the basis of maximum area under vegetables. Four villages of each block were selected and the sample size for the study was 240 tribal farmers who engaed in vegetables growing. The present study revealed that majority (61.67%) of the respondents belonged to medium adoption category of eco-friendly technologies. Variables like education, size of land holding, annual income, source of information and farm power & other equipment, social participation, socio-economic status, irrigation availability and innovativeness were positively and significantly correlated with adoption about eco-friendly management practices. Majority (87.50%) of the respondents suggested for making availability of pest resistant varieties.

Keywords- Management, eco-friendly, winter, vegetable growers, IPM & INM.

ISEE Seminar/2019/ABS/027

Constraints in utilizing Awardee Farmers for Agricultural Extension as Para-professional Agents

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ABSTRACT

Despite a wide range of reform initiatives, the coverage and quality of agricultural information provided to farmers is uneven. This has created a "knowledge gap" indicating the inefficiency of the system. The ratio of extension agents to farmer being 1:1162, it is imperative that the Indian extension system faces acute shortage of extension professionals (Dalwai, 2017). To plug these gaps and nullify the shortage of professionals, the farmers can be utilized as para-professionals, by taking advantage of their opinion leadership. Progressive farmers can assume the role of para-professionals to make way for "Farmer to Farmer Extension" approach that can increase the efficiency and reduce workload of extension functionaries and ensure sustainability. Various institutes bestow progressive farmers with awards. These awardee farmers command certain amount of opinion leadership which has remained untapped. However such an approach of Farmer to Farmer Extension will not be free of bottlenecks and they need to be overcome for utilization of awardee farmers in extension work. A study was conducted in Karnataka state to find out the constraints faced by awardee farmers in taking part for extension work. A total of ninety three awardee farmers as well as thirty extension agents were consulted to find out the constraints. The study indicates that lack

of infrastructure at farmers' level and lack of provision and budgetary allowances are the major constraints as reported by awardee farmers and extension professionals respectively.

Keywords: Awardee farmers, Opinion leadership, Para-professionals, Farmer to Farmer Extension

ISEE Seminar/2019/ABS/028

Perception of Farmers towards IPM Practices in Tomato Cultivation in Chikaballapur District of Karnataka

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ABSTRACT

Agricultural growth in terms of production and productivity is essential to meet the needs of growing population in India. The Green Revolution has been the major milestone in transforming the country from food deficiency to self-sufficiency during the later part of 1970s. Thereafter, the agriculture sector in India has been successful in keeping pace with ever increasing food demand of growing population. The country has transferred from the stage of food shortage to the stage of self sufficiency. However, the condition of the farmers is far from satisfactory particularly vegetable growers where the loss from the incidence of pest and disease is more. Hence, the adoption of IPM technologies by the farmers is very much essential in the country. Kolar and Chickballapur districts are known for extensive tomato cultivation in Southern Karnataka. In spite of the educational efforts made by the State Agricultural Universities, ICAR Institutions, KVKs, Developmental Departments etc., the tomato growing farmers have been using more of agro-chemicals to the crop and also other critical inputs. Hence, the current attempt of studying the perception dimensions of tomato growing farmers on IPM practices in tomato cultivation would be of greater importance. In the present study, a scale was developed to measure the perception of farmers. The study was conducted in Kolar and Chickaballapura Districts of Karnataka State where tomato is being extensively cultivated. The major tomato growing taluks in Kolar (Mulabagalu, Srinivasapura and Kolar) and Chickaballapura (Chinthamani, Shidlaghatta and Chickaballapura) districts were selected for the study. Thirty tomato growing farmers will be randomly selected from each of six sampled taluks. Thus, the total sample constitutes 180 farmers from six taluks of Kolar and Chickaballapura districts. The data collected was quantified, categorized and tabulated. The statistical tools used for analyzing the data included mean, standard deviation, percentage, zero order correlation, chi-square test and multiple regression analysis. The results revealed that most (40.00%) of the farmers had good perception towards IPM practices followed by 28.89 percent of them had average perception and 31.11 per cent of the farmers had better perception of the IPM practices. The perception of the farmers towards IPM practices is good in lesser number farmers therefore, there is a need educate these farmers about the advantages of adopting IPM practices. Hence, it suggested to conduct intensive and field based training programmes by Karnataka State Department of Horticulture and farm universities to enhance the perception level of the farmers. The variables such as achievement motivation, aspiration, cosmopoliteness, economic orientation, education, innovativeness, management orientation, risk orientation, scientific orientation, tomato farming experience and training programmes undergone are found to be having highly significant relationship with perception towards IPM practices by tomato growing farmers. Therefore these variables need to be considered for the extension activities to enhance perception, knowledge and adoption level of IPM the tomato growing farmers. If policy makers and extension organizations concentrate on these factors, then farmers' knowledge adoption and perception will be more.

Keywords: Perception, IPM (Integrated Pest Management) and tomato cultivation

ISEE Seminar/2019/ABS/029

Role of Women in Agricultural Biodiversity

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ABSTRACT

Diversity is a basic property of life. Agricultural biodiversity is a broad term that includes all components of biological diversity of relevance to food and agriculture. It also includes all components of biological diversity that support the ecosystems of which agriculture is a part (agro-ecosystems), the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes. Biodiversity is essential for maintaining the ecological functions, water cycle, soil fertility, pollination and cross-fertilization of crops and other vegetation, protection against soil erosion and stability of food producing and other ecosystems. Conservation of biological diversity leads to conservation of essential ecological diversity to preserve the continuity of food chains. India is sharing 12.53 % of world's biodiversity. It is the 7th largest country in the world and one among the 17 mega diversity centers, where 1,39,000 species of plants, animals and microbes are recorded. More than 4 lakh species are yet to be identified.It is estimated that 30 percent of animal genetic resources at the breeding stage are categorized as a high risk of loss. Of the 2,50,000 to 3,00,000 known plant species, 4 percent are edible, and only 15 to 200 are used by humans. The rural poor depend upon biological resources for an estimated 90 percent of their needs. Women, in their performance of domestic tasks, sustain an intimate relationship with plants. Domestic tasks include gardening, plant gathering, post-harvest preservation, storage, and processing of food, medicinal, fuel and fibre plants. In fact, the kitchen and pantry are quite possibly the most undervalued sites of plant biodiversity conservation. Women venture far from home to gather plants in relatively 'wild' places such as forests and some research demonstrates that men are not permitted to gather in these women's wild spaces. The paper discusses role of women in bio diversity as seed custodians, gardener, plant medicines, intercropping, livestock and water management, eco feminism and environment conservation. Govt. initiatives for conserving biodiversity are also discussed.

Keywords: Biodiversity, Ecosystem, Agriculture, Women in Agriculture

ISEE Seminar/2019/ABS/030

Scopes, Opportunities and Challenges of Digital Marketing in India

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ABSTRACT

Digital marketing is the use of electronic media by the marketers to promote their products or services into the market. The main aim of digital marketing is to attract consumers with various brands through use of technology on internet. Digital marketing is often referred to as 'online marketing', 'internet marketing' or 'web marketing'.

The term digital marketing has grown in popularity over time, particularly in certain countries. Digital Marketing has become more famous after involvement of latest technologies in businesses. It has completely changed the old marketing methods and compelled marketers to stay connected with their buyers or customers via internet for selling their products and services. There has been an immense growth in the digital marketing India. It is spread across all the business sectors starting from shopping, online transaction, bank payments, e-commerce, online tracking etc. The geographical barriers have now disappeared and everyone has become a potential customer and marketer. The means of communication has become very easy and fast. In a country like India, the economy is huge and increasing rapidly. The usage of the digital platform is also increasing similarly. In the year 1996, the business to business marketing was established in India. The spendings for digital marketing in the year 2013 was $0.57 Billion on the other hand in the year 2018 the total spendings is $1.78 Billion. This figure is expected to increase up to $2.17 Billion in the year 2019. The present study, then, concentrates upon the impacts of internet-fostered interactive spaces on marketing practice. The paper starts with defining online marketing and reviewing historical background to utilization of online marketing; different kinds of internet marketing, then, will be shed light upon the digital marketing scopes in future and opportunities. The study continues with challenges, such as problems of security, privacy, etc, emerged in the field of marketing from implementation of virtual space produces. Contemplating the solutions to tackle the challenges ahead, we provide the conclusions.

Keyword: Digital marketing, online marketing, internet marketing, web marketing, scopes, opportunities and challenges.

ISEE Seminar/2019/ABS/031

Impact of Cluster Front Line Demonstration on the Yield of Chickpea in Bundelkhand region of U.P.

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ABSTRACT

Bundelkhand region of Uttar Pradesh is a major pulse growing area of India. The livelihood of farm households in the Mahoba district is fully dependent on the agriculture and particularly on pulses. The major growing pulses during *kharif* season are *urd, mung* and *arhar* and *field pea*, *chickpea* and *masoor* are growing during *rabi* season. District occupy 27842 ha area and constitute 217340qproduction and productivity 7.81 qha^{-1}. under chickpea crop. Due to lack of improved cultivation practices like improper crop geometry, no use of treated seed, biofertilizers and heavy infestation of insect-pest and diseases are the major limiting factors for achieving potential yield of chickpea. Keeping these problems in mind, Krishi Vigyan Kendra, Mahoba has taken steps to minimize the problems and conducted Cluster Front Line Demonstration (CFLD) on 40 ha area and 115 farmer's field to demonstrate the impact of Integrated Crop Management technology on chickpea production over last four years during *rabi*2015-16 to 2018-2019, respectively. The demonstration was carried out in six villages of Mahoba district. The technology comprises improved high yielding and location specific varieties of seeds (KWR-108, JG-14and RVG202)with seed rate 80 kg/ha, line sowing, seed treatment with FIR, applied balance dose of fertilizers on the soil test basis, timely weed management, irrigation scheduling and plant protection measures. Adoption of improved technology of ICM achieved higher yield and recorded mean yield 18.84 qha^{-1}, which was 38.2 percent higher than the yield obtained with farmers practices i.e. 12.9 qha^{-1}.

Keyword- Chickpea, Production, Integrated crop management

ISEE Seminar/2019/ABS/032

Problems Faced by the Farmers of Samastipur district (Bihar) while Adopting ICT for Agricultural Development

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ABSTRACT

In India, most of the population live in village and depend on agriculture for their livelihood. Information and communication technology (ICT) play a very important role in all fields of life. In order to implement information and communication technology (ICT) successfully in the field, it is very important to understand minute factors that influence adoption of modern technologies to improve agriculture production. As per TRAI Media nama in may 2017 India had 1,019.5 million active mobile connections where as Bihar had 60.73 million during 2011-12 and is the 5th largest mobile phone subscriber among all states. In India it got added with 4.67 million active mobile connections in May 2017. But how far we have developed in terms of our G.D.P, this is more haunting question in front of us. Through, adoption of ICT important information can be spread to a large segment of population quickly. This University is surrounded by local villages where cultivation is main occupation. Henceforth, to analyse the impact of research done in this university so far this study was formulated. This research intends to study the problems that influence the successful adoption of modern technologies pertaining to agriculture. Study was carried out in Samastipur district. Information was gathered through a set of questionnaires from 80 respondents. Poor literacy level of the respondents, lack of pertinent knowledge about new innovation, lack of knowledge about using modern communication techniques i.e. computer etc, high cost of agricultural tools, and Mobility problems, accessibility of ICTs tools and lack of scientist visit to the farmers field were major problems which affected adoption of ICT in agricultural development.

Keywords: ICT, Information and Communication Technology, Adoption, Development

ISEE Seminar/2019/ABS/033

Factors Affecting the Extent of Knowledge about Post-Harvest Management Practices in Mango fruits

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ABSTRACT

At present, India is the second largest producer of fruits in the world. Diversified agro climate across the country provides a unique advantage for fruit production through extended period of availability and differential quality. Mango is the king of fruits. In India, Lucknow is playing a vital role in import and export of mango. Post harvest management practices are inter disciplinary "Science and Technology" applied to mango after harvest for its protection, conservation, processing, packaging, distribution, marketing and utilization to meet the nutritional requirements of the people in relation to their needs. The majority of respondents 68 percent were found having medium level of knowledge, 8.50 percent respondents who were low and 23.50 percent high level of knowledge respectively, the majority of mango growers have 92.25 percent knowledge along with grading practice. This conclusion reveal that out of 14 variables, only one variable was moderately significant and rest of all variable

were found greatly significant nature influenced the extent of knowledge. The study shows that majority of mango growers were dominated in average category of knowledge.

Key word: Mango post harvest practices, mango growers, Knowledge of mango growers

ISEE Seminar/2019/ABS/034

Factors Affecting the Extent of Adoption about Mango Post Harvest Management Practices

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ABSTRACT

Fruits are of great importance in human nutrition. India is the second largest producer of fruits. Mango is world's leading fruit-crop. India occupies 1.62 million hectares area under mango fruit with a production of 12.78 million tonnes, which is 37.6 per cent of total production under fruits. Malihabad and Mal block were selected on the basis of maximum area under mango cultivation. Twenty villages having maximum area under mango cultivation were selected from each identified blocks. The result shows that majority of the respondents adopted mango cultivation technologies at medium level. The level of adoption was noted high in the category of literate farmers. This may be on account of possession of high extent of knowledge by the mango growers who are treated as literates in the present investigation. It was also found that there was a highly significant difference in level of adoption between about mango cultivation technology. The study showed that majority of mango growers were dominated in medium category of adoption.

Keywords: Post harvest practices, Mango growers, Adoption

ISEE Seminar/2019/ABS/035

Relevance and Utility of Different Training Needs of Input Dealers in Jhansi District of Bundelkhand region

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ABSTRACT

Agri-input dealers play a vital role in guaranteeing that farming communities have access to some of the essential and critical agricultural input that contribute in boosting the agricultural productivity. Besides this, they also contribute towards strengthening the Agricultural Extension System by providing valuable agro-advisory services to the farmers. It is essential that they are equipped with latest scientific know how through refresher training courses. The present study was conducted during 2018-19 in Jhansi district of Bundelkhand region to ascertain training needs of agri-input dealers. Data was collected personally by using well-structured interview schedule of 57 agri-input dealers. Respondents were found to be young age group (50.88%), one-third had higher secondary education (35.09%), sought financial assistance from bank and other financial institution (36.84%) and identification of

trade name, chemical name and properties of pesticides have emerged as the most needed training area. Around 84.21 per cent of the respondent's priorities vegetable among crop specific training needs and 84.21 per cent of the respondents had expressed 'most needed' training needs on micro nutrient fertilizers. More than two-third of respondents had expressed their training needs on improved varieties or hybrids of crops for cultivation (89.47%) and training in computer and its application in business is another preferred area. Lack of technical knowledge of different brands of product, fluctuation of sale on season basis and lack of need based training were some of the major constraints faced by agri-input dealers while delivering services.

Keywords: Agro-input dealers; Training Need; Farming community

ISEE Seminar/2019/ABS/036

Extension Strategies for Farm Sustainability through Livestock Activities

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ABSTRACT

Sustainable farming is farming ecologically by promoting methods public and practices that are economically viable, environmentally sound and protect health. Livestock plays multifaceted role in maintaining farm sustainability in terms of providing nutrition, fulfilling family needs, create employment and maintain soil fertility. Livestock contributes its share to the extent of 25.60 per cent to national GDP. Nowadays livestock population is decreasing gradually because the central and state Government agencies have kept livestock extension education at a low priority as hardly 1% of the total budget for the sector is allocated for extension activities, the NSSO in its survey of 51,770 households, only 5.1% of farmers access information on the livestock production against 40.4% of households accessing information on modern technology for crop production and There is only one veterinarian for every 10,000 livestock units in our country. Some of the extension strategies for strengthening livestock production to achieve sustainability in farming are promotion of awareness of policymakers among the farmers about sustainability in farming, reformation of the institutional set upto improve the livelihood of livestock owners, revitalization of extension education system, up scaling the use of ICTs for effective coverage and dissemination of livestock outreach programme to the farming communities, promotion of livestock keepers group and strengthening the role of KVK for upgrading the skills of the farmers like demonstration to promote good husbandry practices and to develop the close coordination between KVK and ATMA can be further useful for effective dissemination of good technologies.

Keywords: Sustainability, Revitalization, Dissemination

ISEE Seminar/2019/ABS/037

Impact of Integrated Farming System Approach on Doubling Farmers' Income in Hamirpur district of Bundelkhand

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ABSTRACT

In India, the farmers maintain different enterprises for their complimentary and supplementary nature and for

ensuring sustainable livelihood. The integrated farming system once very popular among the farming communities started loosing its importance after green revolution in late-1960s and then further declined drastically after the economic liberalization in early 1990s. The role and factors associated with integrated farming system have been studied as a potential option to improve farmers' income and ensure their sustainable livelihood. Krishi Vigyan Kendra adopted two villages Barua and Pachkhura household families 259 and 142 respectively under Kurara block in Hamirpur districts of Uttar Pradesh. The Average income of the farmer were Marginal-(<1 ha)-15000-16000, Small- (1-2 ha) 38000-40000, Semi- medium (2-4 ha)- 41000-62000,Medium- (4-10 ha)- 65000-70000, Large- (>10) - 100000-150000.The focus of government is on doubling farmers' income by 2022. The contribution of different combinations of enterprises such as poultry, fishery, sheep and goat and horticulture; with crop and dairy as base enterprises have been analyzed for their impact on farmers' total income. The financial benefit of adopting different enterprise combinations will increase the income of farmers. The adoption of multiple farm enterprises in an integrated manner can ensure a substantial income generation to sustain the livelihood of farmers over the meager income from self-standing enterprises. The adoption of IFS is the right approach in this direction and should be supported through institutional, extension, policy and marketing interventions in a system approach. Indian agriculture needs a relook with a special focus on farm income through productivity/efficiency enhancement coupled with cost reduction, better price realisation and income risk coverage to be on the track of DFI by 2022.

Keywords: Farmers, Farming system, Enterprise

ISEE Seminar/2019/ABS/038

Empowerment of Rural Women through Adoption of Non Agro Based Enterprises

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ABSTRACT

Rural women are key agents for development. They play a catalytic role towards achievement of transformational economic, environmental and social changes required for sustainable development. But limited access to credit, health care and education are among the many challenges they face. These are further aggravated by the global food and economic crises. Empowering them is essential, Empowerment in the context of women‟s development is way of defining, challenging and overcoming barriers in a women's life through which she increases her ability to shape her life and environment. Women entrepreneurs have been making a significant impact in all segment of economy of the world. The dissemination of complete package of homestead technologies is being taken care of through Internship/Industrial Attachment of Home Science (IAHS) programme of College of Home Sciences. The present study was conducted on 200 women from four villages *i.e.* Sundawas, Bichpari, Shikarpur, Shapur villages from Hisar district of Haryana state adopted during 2015-18 under internship attachment of Home Science programme of College of Home Science. Women are actively participating in various agro based and non agro based enterprises *viz.* fruits and vegetable preservation , stitching, embroidery, knitting, fabric painting, candle making, soft toys making, etc. Apart from these activities women also carry out burden of household work. The results indicate majority of the respondents were adopted (75.5%) stitching and (55.5%) fabric paintings were main enterprises by the rural women. In stitching majority enterprise preferred the salwar kamiz, followed by kurta, lahnga, frock, etc. and the fabric painting majority of the respondents preferred the bedsheet painting followed by cushion cover painting.

Keywords: rural women. Empowerment, enterprises

ISEE Seminar/2019/ABS/039

Level of Stress among Working Women in Hisar

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ABSTRACT

Work and family are the two most important aspects in women's lives. Balancing work and family roles have become a key personal and family issue for many societies. There are many facets in working mother's lives that subject to stresses. They deal with home and family issues as well as job stress on a daily basis. Imbalance between work and family life arises due to a number of factors. Various factors appear to strengthen the brunt of pressure on women. The continued by saying body malfunction originally triggered by psychological forces or not, can exert a profound on mental behavior. Stress is an occasional attribute of every person's ecology. The present study was undertaken in Hisar district of Haryana state. Three villages of rural areas and two hospitals, two collages of urban area selected randomly as per demand of the study. A sample of 200 rural and 200 urban working women were taken, thus making a total sample of 400 working women. Perceived Stress Scale (1983) was used to assess stress among working women. The study revealed that the stress level was higher in rural women as compared to urban women. There was significant association between stress level and age of the participants among both rural and urban women. The association between stress level and type of family revealed significant association among rural working women and non-significant association among urban working women. The association between stress level and family income revealed significant association among urban working women and Non-significant association among rural working women.

Keywords- Level of stress, Working women, Perceived Stress Scale

ISEE Seminar/2019/ABS/040

M-Learning Module –An effective Digital Approach for rural adolescent girls

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ABSTRACT

Extension researchers are always trying to find effective methods to diffuse information and technologies to rural areas. In the present digital era, there are various means and approaches to reach population. There are numerous websites and apps providing information on agriculture and rural development. But the utility of these are restricted due to poor networks in the rural areas and also cost to some extent. Keeping this in mind the present experimental study was planned and executed during 2017 in Dharwad district of Karnataka state for rural girls. Mobile learning module (m-learning module) is the lesson / information recorded on memory cards and provided to the specific respondents to learn by hearing/ viewing through their mobiles. Four m-learning modules on the topic Health and Hygiene of adolescent girls in Kannada language were developed using different formats. The four formats were *viz*; Audio-Lecture, Video-Lecture, Video-Drama and Video-Animation. These four formats were distributed to four different groups of adolescent girls in two different villages. The girls were given one month time to listen/ watch these modules. Pre-test on knowledge was conducted before giving them the m-learning module and post-test after one month of giving the module. The results showed that there was significant difference between the

pre-test and post-test knowledge mean in case of all the four formats with 't' values 23.26, 20.23, 15.66 and 9.56 for Audio-lecture, Video-lecture, Video-Drama and Video-animation respectively. This clearly indicates that all the four formats are effective in adolescent girls gaining knowledge about their health and hygiene. The comparison made among all the four modules with respect to gain in knowledge showed that there was no significant difference among the four modules in their effectiveness. Hence, we can conclude that irrespective of the format m-learning modules are effective – cost-wise and diffusion-wise in transferring knowledge to rural adolescent girls.

ISEE Seminar/2019/ABS/041

Ecological, Economical and Social Sustainability of Organic Farming

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ABSTRACT

Study was conducted in Bengaluru rural and Chikkballapur district of southern Karnataka to assess the sustainability of organic farming. Data were collected from 120 organic farmers. Ex post facto research design as employed for the study. The results revealed that 47.50 per cent of the respondents opined that organic farming is highly sustainable followed by less sustainable (29.16%) and sustainable (23.33%). With respect to ecological sustainability of organic farming is concerned, 47.50 per cent of respondents responded that organic farming is highly sustainable followed by less sustainable (28.33%) and sustainable (24.16%). While economical sustainability of organic farming is concerned, it can be noticed that 52.50 per cent of respondents felt that organic farming is sustainable followed by highly sustainable (30.00%) and less sustainable (17.50%). In case of social sustainability of organic farming, 47.50 per cent of organic farmers considered organic farming as highly sustainable, 28.33 per cent of organic farmers considered organic farming as sustainable and 24.16 per cent perceived organic farming as less sustainable.

Keywords: Organic farming, ecological sustainability, economical sustainability, social sustainability

ISEE Seminar/2019/ABS/042

e-SAP: An ICT Solution in Agricultural Extension

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ABSTRACT

Electronic Solution against Agricultural Pest (e-SAP) is a ground-breaking application built on the backdrop of agricultural pest management. The study was carried out in the UAS, Bangalore. 50 final year B.Sc (Agriculture) students undergoing Rural Agricultural Work Experience Programme were selected for the study. Data was collected using structured schedule. Ex post facto research design was used for the study. Results revealed that about 60.00 per cent of the respondents responded that e-SAP devise is moderately useful in resolving pest problem, 76.00 per cent of respondents uttered that devise is useful. With respect to ability to diagnose the pests in the field condition using e-SAP system, about 74.00 per cent of the respondents opined that they were able to diagnose the pest in the field condition. With respect to confidence level in handling e- SAP devise, 88.00 per cent of respondents were confident in handling the device and 12.00 per cent of them were not confident. About 88.00 per cent of

respondents perceived that e SAP devise is comfortable and convenient to use, 66.00 per cent of students had responded that they required one week to get acquaint to e SAP device, 94.00 per cent of the farmers were satisfied with the e SAP in diagnosing and management of pests. Some of the advantages mentioned are on spot diagnosis and management, practical without expert assistance in handlings field device, Accuracy, identification of pest and disease specimens, on spot print and quick solution, easy to operate and convenient and image based data capture.

Keywords: e SAP, mobile, agricultural extension, pest.

ISEE Seminar/2019/ABS/043

Performance Evaluation of Chabro Birds under Field Condition

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ABSTRACT

Backyard poultry rearing has always been accepted as a viable enterprise for poverty reduction, employment generation and nutritional security for rural communities. BYP farming is an important venture and integral part of mixed farming in most of the villages of Lalitpur District of Uttar Pradesh. The meat and egg of backyard poultry are more highly valued than that of farms produced birds due to its comparatively superior taste and texture. Traditionally, the village poultry in rural areas is based on non-descript breeds of poultry and their productivity is also very low as compared to improved BYP. India ranked 3rd in egg production (88.14 billion) and 5th in chicken meat production (5.1 MT) in the year 2017. According to livestock census 2012 (GOI) total poultry population has increased by 12.39 % over the 2007 census and total poultry population estimated to be 729.2 million in 2012. Out of these 18.58 millions are desi/improved chicken under backyard poultry in rural areas. Chabro, a multicolored dual purpose birds developed by Central Poultry Development Organization, Chandigarh. The birds have potential to produce more eggs and meat than desi chicken. This breed has multi-colored plumage, longer shank, high general immune competence, faster growth than desi hen and more eggs which are brown in color. The present investigation is based on the on farm trials (OFT) conducted to promote the backyard poultry in Lalitpur district. 105 day old chicks of Chabro birds were supplied in three different villages of the District. The mean values of body weight at 0 days, 4th, 8th, 12th and 16th week of age were estimated as 34.72 ± 0.59, 548.30 ± 3.18, 1020.37 ± 5.47, 1822.51 ± 8.21 and 2474.06 ± 9.31 g, respectively in Chabro birds maintained under field condition. Age at first lay was found to be 154.35 ± 2.33 days and average egg production up to 90 days was recorded as 65.42 ± 1.65 eggs. Egg weight up to 40 weeks of age and the survivability of Chabro birds was recorded as 54.40 ± 1.22 g and 92.25 percent, respectively under field condition.

Keywords: BYP, Poultry, Nutritional Security, Evaluation

ISEE Seminar/2019/ABS/044

Factors Influencing the Prospects of Zero Till Technology in Punjab

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ABSTRACT

The zero-tillage technology is widely maintained as an integrated approach to conserve resources that can tackle the

problem of wheat yield stagnation in the rice-wheat zone by improving planting time, reducing weed infestation, and enhancing fertilizer and water use efficiency. An attempt was made to assess the prospects and problems of zero till technology in Punjab. A sample of 50 adopter farmers was selected by following cluster sampling design from Faridkot, Fazilka, Ferozepur, Gurdaspur, Hoshiarpur, Ludhiana, Mansa and Sangrur districts of Punjab state. The findings revealed that more than half (56.00%) of the farmers wanted to discontinue zero till drill in coming years. About one fourth (24.00%) of the farmers willing to keep area constant under zero till drill. Majority of the farmers (68.00%) indicated to have favourable attitude towards zero till drill. Regarding functioning of zero till drill, it can only be used after straw removal (28.00%). Functioning of zero till drill also affected by stubbles (16.00%) as it needs fields to be cleaned properly. Determinants significantly influencing the prospects of zero till technology were age, operational land holding, family type, innovativeness, risk orientation and economic motivation of farmers.

Keywords: Zero till Drill, Problems, Prospects, Attitude, Impact, Resource Conservation Technology.

ISEE Seminar/2019/ABS/045

Xeriscaping: A Short Review

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ABSTRACT

Xeriscaping means to develop landscape plans by using water conserving ideas and drought resistance plants to reduce water usage. Originally, it was developed to conserve water in drought areas only but nowadays it became an important way to promote water conservation as water is now considered as one of the precious and expensive resource. Xeriscape type landscape reduces the water consumption more than 50 percent without disrupting the asthetic value of a landscape. Xeriscaping not only reduces water consumption, it also reduces fertilizer requirement, require less maintenance, saves time and energy without compromising with the beauty of landscape. Xeriscaping already adopted in developed countries, now days we also need to focus on xeriscaping. In this review paper we are discussing about the basics of xeriscaping,its benefits and plants that are used in xeriscaping.

Keywords –Drought, Landscape, Water conservation, Xeriscaping

ISEE Seminar/2019/ABS/046

Constraints Faced by the Beneficiaries of Citrus Estates in Citrus Cultivation

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ABSTRACT

Citrus is a non-traditional crop in Punjab state, hence, it became evident to promote citrus crop and to give knowledge to the farmers about most up-to-date techniques of citrus planting, management, harvesting and marketing of this crop. Therefore, the Punjab Government through the State Department of Horticulture has established five Citrus

Estates in natural citrus growing area of the Punjab during 2007. Present study was planned with an objective to identify the constraints faced by the beneficiaries of citrus estates in citrus cultivation in Punjab.To select the area and sample beneficiaries, a stratified multistage random sampling design was used and 200 beneficiaries were selected from five citrus estates societies in the three selected districts of Punjab.The findings from this study revealed that the averageoperational land holding of all respondent beneficiaries was recorded 10.00 acres whereas relatively higher proportion (43.00%) of the total respondent beneficiaries were falling under the age group of 37-46 years. The study also showed that amongst the five areas, technical constraints got first rank followed by storage & marketing constraints with average mean score 2.271 and 2.244. Under different five areas, susceptibility towards disease & insect-pest, unfavourable weather conditions, seasonal glut in market, lack of preservation industry in the area and lack of mechanization in citrus processing were the major constrains their respective areas.

Keywords: Beneficiaries, Citrus, Citrus Estates, Constraints, Preservation industry

ISEE Seminar/2019/ABS/047

The Digital Agriculture at Globe: A Brief Review

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ABSTRACT

Agriculture has undergone a series of revolutions that have driven efficiency, yield and profitability to levels previously unattainable. The first agricultural revolution (ca. 10,000 BC) enabled humanity to settle, leading to formation of the world's first societies and civilization. Further revolutions introduced mechanization (between 1900 and 1930), the development of new, more resistant crop varieties and the use of agrochemicals ("The Green Revolution" of the 1960s), complemented (from 1990 to 2005) by the rise of genetic modification technologies. The latest, so called "digital agricultural revolution" could help humanity to survive and thrive long into the future. Digital agriculture offers new opportunities through the ubiquitous availability of highly interconnected and data intensive computational technologies as part of Industry 4.0 (Schwab, 2016). The rise of digital agriculture could be the most transformative and disruptive of all the industries, because digital agriculture not only will change how farmers farm their farms, but also will transform fundamentally every part of the agrifood value chain. Digital agriculture will affect the behavior of farmers, and also affect the way that input providers, processing and retail companies market, price and sell their products. It can be applied to all aspects of agrifood systems and reflects a change in generalized properties of the data, and with that on who will haveaccess to the data and what can be done with it.It is important to note that this is disparate scenario,in which large international companies predominantly use digital transformation in agriculture in a context of agribusiness. This process also affects other organizations, such as governments, public sector agencies and local agripreneurs, which are involved in tackling societal challenges such as rural livelihood, women and youth unemployment and agripreneurship. In addition, this process generates a challenge in terms of how to take advantage of these emerging disruptive technologies that may affect the economic, social and environmental areas. The next section presents a framework in which the different elements we have identified in the transformative process of digital agriculture are related, to provide a holistic structure in their analysis. Even when this model is not explanatory, it allows establishment of different levels of analysis and evaluation of the current state of the art of digital technologies in agriculture and food.

Keywords: Agriculture, Digital technology

ISEE Seminar/2019/ABS/048

Resource Conservation Technologies to Achieve Sustainability

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ABSTRACT

Nowadays conventional farming practices are not sustainable and produce harmful effects on the environment. In many developing countries, environmental degradation is mainly takes the form of nutrient depletion and reduces the potential of food production. Challenges demand that the issues of efficient use of resources and adoption of resource conservation technologies (RCTs). Cropping system which enhance the maintenance of a permanent soil cover, minimum disturbance of soil, diversification of crop species, improvement of biodiversity and enhance natural biological processes above and below the soil is known as conservation agriculture. Conservation agriculture has four principles: 1) minimizing mechanical soil disturbance and seeding directly into untilled soil with improve soil organic matter content and soil health; 2) enhancing soil organic matter using cover crops and crop residues. This protects the soil surface, conserves water and nutrients, promotes soil biological activity; 3) diversification of crops in associations, sequences and rotations to enhance system resilience that complement reduces tillage and reduce retention by breaking cycles of pests and diseases; 4) controlled traffic that loosen soil compaction. These RCTs are in the form of reduced tillage, residue management, laser land levelling and site specific nutrient management etc. These technological components also play an important role to decrease the greenhouse gases by decreasing the use of fossil fuels. There is a need to adopt these resource conservation techniques under diversified cropping system and appear to be appealing options to achieve sustainable and intensive crop production under different agro-ecological environments. Now, a move from conventional to conservation farming system is highly warranted to maintain the ecological balance for future generation.

Keywords: Resource Conservation, Ecology, Environment, Diversification

ISEE Seminar/2019/ABS/049

Increasing Green Gram Production through Cluster Frontline Demonstrations in Fatehabad District of Haryana

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ABSTRACT

Green gram (*Vigna radiata*) commonly known as moong, is an important pulse crop in India and more than 70 % of world's green gram production comes from India. To increase the area and productivity of green gram in the district, Cluster front line demonstrations on summer moong were conducted by Krishi Vigyan Kendra, Fatehabad in eight different villages of district during summer season, 2019. 100 demonstrations in 40 hectare area were conducted to demonstrate the Integrated Crop Management (ICM) technology of greem gram in summer season. The study was conducted at farmers' field in eight villages viz. Chandrawal, Bhutan Kalan, Gorakhpur, Dhani Bikaneri, Berseem, Basti Bhima, Bhirdana, and Bhodia Khera of the district to demonstrate production potential and economic benefit of improved production technologies comprising of newly improved variety (MH-421), seed treatment with fungicide (carbandazim) and culture (Rhizobium and PSB), pre-emergence weed management, soil

test based fertilizer application and IPM practices. The findings of the study revealed that higher yield (5.90qtl./ha.) in demonstrated field was observed as compared to farmer's practice (4.25qtl./ha.) which was 28 percent higher than farmer's practice. The economic analysis of CFLD's reveals that higher net income can be obtained by adoption of improved production technology of summer moong which reflects from the net income of demonstrated field (Rs. 44, 500/ha) over farmer's practice (Rs. 38225/ha). Further analysis of data revealed that benefit cost ratio of 1.96 was obtained in CFLD fields in comparison to farmer's practices (1.57). So, on the basis of above findings it can be concluded that the adoption of improved technologies significantly increases the yield as well as yield attribute traits of green gram crop and also net returns of farmers. Hence there is need to disseminate the improved technologies of summer moong among farmers by using effective extension methodologies like FLD and trainings. Farmers' should be encouraged to adopt the ICM technologies for getting higher returns.

Keywords: Adoption, cluster front line demonstration, green gram, ICM technology

ISEE Seminar/2019/ABS/050

Entrepreneurship Development in Agriculture

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ABSTRACT

One in every two Indians relies on agriculture for live hood. Agriculture landscape has changed significantly, since this intervention that a second green revolution is going to need a completely new approach and a totally new set of technology. Productivity of agriculture increased drastically as a result of new and advance technology. We believe entrepreneurs are the key drivers of tomorrow innovations and integral to creating a booming economy. Globalization and greater market integration that have been occurring in recent years, the rural economy is more influenced by farmer-entrepreneurs who are more responsive to shifts in market demand related to changes in preferences. Farmer-entrepreneurs are more connected to supply chains, integrated in industry, and in the creation of new networks compared with traditional farmers. Research over the past decades discusses the sources of agricultural wealth creation provide a number of strategies for developing the rural economy that are aimed at generating entrepreneurial capacity, while also acknowledging that each strategy also depends on that entrepreneurial capacity. Entrepreneurship has been named as one of the key driver for economic growth. During an economic crisis, when development is negative, the significance of entrepreneurship development has increased. In developing countries like India for raising the living standard of the majority of the backward regions, planning and implementation for development of entrepreneurial programmes are essential because of their over-dependence on agriculture for employment Thus entrepreneurship development in rural industries appears to be the greatest potential alternative to find employment avenues for the rural population. It is clear that there is a huge scope for entrepreneurship in agriculture. The agriculture sector has very large potential to contribute to the national income while at the same time provide direct employment and income to the large and vulnerable section of the society.

Keywords: Agriculture, economy, farmer-entrepreneurs, development

ISEE Seminar/2019/ABS/051

To Study Challenges Related to Sharing, Exchanging and Disseminating Knowledge and Technologies in Agriculture

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ABSTRACT

The twenty-first century marks the beginning of a knowledge-based economy, and knowledge has become the engine of economic development (Peng and Hsieh, 2006). For the agricultural sector this knowledge engine is used to develop new technologies to improve the quantity and quality of products it can produce. The first challenge is the poor mechanisms and infrastructure for *sharing and exchanging* agriculture knowledge generated from research at national and regional levels. Many research activities are repeated due to the lack of such mechanisms and infrastructure at the national level. Researchers can find research papers published in international journals and conferences more easily than finding research papers published nationally in local journals, conferences, theses and technical reports. The second challenge is the inefficient mechanisms and infrastructure for transferring technologies produced as the result of research to growers either directly or through intermediaries (extension subsystem). Knowledge and technologies fostering agricultural production and environment conservation are examples. Although many extension documents are produced by national agriculture research and extension systems to inform growers about the latest recommendations concerning different agricultural practices, these documents are not disseminated, updated or managed to respond to the needs of extension workers, advisers and farmers. This is also true for technical reports, books and research papers related to production. The third challenge is keeping the indigenous knowledge as a heritage for new generations. It is available through experienced growers and specialists in different commodities. These inherited agricultural practices are rarely documented, but they embody a wealth of knowledge that researchers need to examine thoroughly. The forth challenge is easily accessing and availing economic and social knowledge to different stakeholders at operational, management and decision-making levels, so that those responsible will be able to make appropriate decisions regarding the profit making of certain technologies and their effect on resource-poor farmers.

Keywords: Knowledge, Technology, Transfer of Technology, Decision-Making

ISEE Seminar/2019/ABS/052

Need and Stages of Farmer Entrepreneurship in Agriculture

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ABSTRACT

It deals with the different benefits received by the farmers, when they implement entrepreneurship in agriculture. There will be an increase in employment and income generation, development of rural areas, reduction of poverty, and building up of village republic. Entrepreneurship has the potential to contribute to a range of

social and economic development such as employment generation, income generation, poverty reduction and improvements in nutrition, health and overall food security in the national economy. Stages of entrepreneurial development are Early Socialization stage is short duration vacation camps, visits to industries and interactions with entrepreneurs/ achievers from different fields are organized Projection of Business Role Models and success stories are also organised. Emergence stage is entrepreneurship education; entrepreneurship training, business plan teaching/ training, entrepreneurship orientation, technical training, management skills development, technology demonstrations and trade fairs are organized. Survival stage is guidance on accounting systems, marketing and product promotion, management of human resources, seminars and workshops on technology, operations and machine safety are organized. Growth stage an entrepreneur can go for export marketing, research and development, innovation, value addition, diversification, cluster development, internationalization, brand building, and succession planning. So, key components of entrepreneurship are entrepreneur, enterprise and environment. An entrepreneurship is a combination of entrepreneur, enterprise and environment. To promote economic development in post-liberalization-reform India, central and state governments are pursuing growth and development policies that encourage entrepreneurship and self-employment.

Keywords: Entrepreneurship, Education, Growth, Economy

ISEE Seminar/2019/ABS/053

Rainbow revolution for sustainable agricultural development

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ABSTRACT

Agriculture is the main pillar of our country and essential for national growth and prosperity of our rural areas occupies the centre stage of India's social security and overall economic welfare.It is changing the socio-economic environments of the population due to liberalization and globalization ''If agriculture survives, India survives" is not an exaggeration at all. The strategy of economic development can succeed only if the agriculture is given due focus. In the 1960s there were large-scale concerns about the world's ability to feed itself. However, widespread adoption of "green revolution" technology led to major increases in food-grain production. The allied sector in India comprises of following activities: Dairy, Poultry, Fisheries, Sheep rearing, Sericulture, Bee keeping etc. Unfortunately the Agriculture allied sector has remained neglected in the past due to commercialization of crop production with the up rise of "GREEN REVOLUTION" up to late 80s. Now with the focus on allied activities new concepts has emerged out and the "WHITE REVOLUTION", "RED REVOLUTION", "SILVER REVOLUTION", "BLUE REVOLUTION" and "PINK REVOLUTION" are major areas of thrust by the government respectively for Dairy, Meat Industry, Egg industry, Fisheries and Shrimps production. All these became possible owing to the application of cutting edge of science coupled with the positive policy support, and hard work of Indian farmers. The Indian Council of Agricultural Research (ICAR), an apex organization for conducting and co-coordinating agricultural research, has been at the forefront to lead these agricultural revolutions in the country, making India not only self-sufficient in food but also with surplus. As a forward looking organization, fully realizing the emerging complex challenges, ICAR has set a vision to attain Rainbow Revolution covering the entire spectrum of activities in agriculture which will make India a developed nation free of poverty, hunger, malnutrition, and environmental safety.

Keywords: Agriculture, Technology

ISEE Seminar/2019/ABS/054

Extent of Volunteering Work on School Vegetable Garden by Students and Teachers

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ABSTRACT

India is the second largest producer of vegetables in the world, our productivity levels are abysmally low. Agricultural activities have produced a variety of educational benefits in primary school students. It has deepened the recognition of the importance of feeling nature, enhanced the ability of self-control and widened the understanding toward work. At disabled children's schools and in classes of disabled children, agricultural activities have immensely contributed to the development of these children, academically and socio psychologically. It is a living laboratory where lessons are drawn from real-life experiences rather than textbook examples, allowing students to become active participants in the learning process. Extent of volunteering for students and teachers were measured in terms of their involvement in school vegetable gardening and was expressed as hours per week. It was observed that 60 per cent of the students and teachers belonged to high 'extent of volunteering' work inside the school, with special reference to school vegetable gardening and 40 per cent of the students and teachers belonged to low 'extent of volunteering' work inside the school. Apart from extent of volunteering work in school, observations were recorded for 'number of days' per week of involvement of students in school gardening activities. Result of the study showed that 70 per cent of schools involved in 3 days per week undertake vegetable gardening activities followed by 20 per cent of schools involved in 2 days per week and 10 per cent involved in 4 days per week

Keywords: Vegetables garden, volunteering.

ISEE Seminar/2019/ABS/055

Comparative Study of Different Varieties of Sugarcane

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ABSTRACT

Krishi Vigyan Kendra (ICAR-IIVR), Sargatia, Seorahi, Kushinagar assessed the comparative performance of different sugarcane varieties at KVK farm in district Kushinagar U.P. in the year 2013 to 2015. Under investigation, varieties like CoSe 5451, CoSe 96436, UP 5125, Co 86032 and CoSe 1434 have been taken. Results show that planting of sugarcane in paired row in trenches variety Co 86032 gave higher yield i.e.625.35q/ha.in comparison to rest other varieties. The yield of other varieties respectively is 605.55, 515.45, 525.35 and 505.25 as UP 5125,CoSe 5451, CoSe 1434 and CoSe 96436. Sowing of sugarcane in paired row save seed, fertilizer, fuels, water and man power and increases the productivity of crop. The weight of per sugarcane average is maximum recorded in the variety Co 86032 i.e. 1.30 to 1.38 kg. The plant height, softness, nutrient use efficiency, water use efficiency and weight in per trolly of sugarcane average is maximum recorded in the variety Co 86032.

Keywords: Sugarcane, yield and varieties

ISEE Seminar/2019/ABS/056

Cropping Intensity in Kushinagar

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ABSTRACT

KVK, Kushinagar assessed the technology of intensification and diversification of irrigated rice-wheat cropping system at 5 farmers' field. Cropping intensity of district Kushinagar *i.e.* 155.25 % due to sugarcane as sole crops in a years, in case of rice –wheat system only 200% . During Kharif season Rice var P-2511 gave 40.25 q/ha in 125 days in comparison to farmers practice i.e. BPT-5204 gave 22.75 q/ha in 147 days due to dry spell and un scattered rainfall and save 20 days of cropping period so that in rabi season farmers take advantage and timely sown –Toria var. PT-303 and Uttara) and got 7.45 q/ha from PT-303 and 6.25 q/ha from Uttara respectively in comparison to farmers practice i.e. Wheat var. HUW-234 gave yield 20.15q/ha due to delayed in sowing due to delay harvesting of paddy and preparation of land. During Zaid season, farmers sown Cowpea variety Kashi Kanchan after harvesting of Toria as vegetables crop. In the trial T_1 cropping intensity increased 300 % (Paddy var.P-2511- Toria var. PT-303/Uttara- Cowpea var. Kashi Kanchan) in comparison to farmers practice i.e. 200 % (Paddy var. BPT-5204- Wheat var HUW-234- followed by fallow land).

Keywords: Crop Intensification, Diversification

ISEE Seminar/2019/ABS/057

Characteristics of Different Sugarcane Varieties at Krishi Vigyan Kendra (ICAR-IIVR), Sargatia, Seorahi, Kushinagar, U.P.

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ABSTRACT

Krishi Vigyan Kendra (ICAR-IIVR), Sargatia, Seorahi, Kushinagar assessed the comparative performance of different sugarcane varieties in district Kushinagar U.P. during the year 2015 to 2019. Under investigation, varieties like Co 0238, CoS 08272 and CoSe 8452 have been taken. Results shows that planting of sugarcane in paired row in trenches variety Co 0238 gave higher yield i.e. 725.35q/ha. in comparison to rest other varieties. The yield of other varieties respectively is 610.55, and 610.45 as CoS 08272 and CoSe 8452. Sowing of sugarcane in paired row save seed, fertilizer, fuels, water and man power and increases the productivity of crop. The weight of per sugarcane average is maximum recorded in the variety Co 0238 *i.e.* 2.30 to 3.35 kg. The plant height, softness, nutrient use efficiency, water use efficiency and weight in per trolly of sugarcane average is maximum recorded in the variety Co 238.

Keywords: Sugarcane, Yield and Varieties

ISEE Seminar/2019/ABS/058

Modern Approaches in Agricultural Extension

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ABSTRACT

Agricultural extension explains the services that provide rural people with the access to knowledge and information they need to increase productivity and sustainability of their production systems and improve their quality of life and livelihoods. It incorporates, yet isn't restricted to, the exchange of learning produced by agricultural research. It has helped nations move towards gathering food needs, preserving natural resources and developing human and social capital. The term extension has changed with changing world and is shifting away from the dominant emphasis on technology transfer towards a more spacious concept that involves developing the skills and management capacities of farmers and the learning capacity of both farmers and extension organisations. Agricultural and social scientists have contributed to the consensus that has recently emerged on a need for multi-faceted agricultural extension and innovation systems that provide varied information services to rural peoples and share information among and between a range of stakeholders, including farmers themselves. Across the globe there are numerous developing approaches of extension like, Strengthening local agricultural innovation systems, Modern ICTs to access and exchange technical information on Agriculture, Virtual outreach to farmers, Developing crop protection research promotional strategies, Strengthening capacity for agricultural research and development, etc. And most of these are emerging and location specific approaches for the effective delivery of extension services.

Keywords: Modern approaches, Agriculture Extension, ICT's, Extension service.

ISEE Seminar/2019/ABS/059

The Role of Women in Agriculture Field

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ABSTRACT

Agriculture is the backbone of the Indian economy. Women play a vital role in building this economy. Over the years, there is a gradual realization of the key role of women in agricultural development and their vital contribution in the field of agriculture, food security, horticulture, processing, nutrition, sericulture, fisheries, and other allied sectors. As per Census 2011, out of total female main workers, 55 per cent were agricultural labourers and 24 per cent were cultivators. However, only 12.8 per cent of the operational holdings were owned by women, which reflect the gender disparity in ownership of landholdings in agriculture. Moreover, there is concentration of operational holdings (25.7 per cent) by women in the marginal and small holdings categories. Economic Survey 2017-18 says that with growing rural to urban migration by men, there is 'feminisation' of agriculture sector, with increasing number of women in multiple roles as cultivators, entrepreneurs, and labourers. Globally, there is empirical evidence that women have a decisive role in ensuring food security and preserving local agro-biodiversity. Rural women are responsible for the integrated management and use of diverse natural resources to meet the daily household needs. This requires that women farmers should have enhanced access to resources like land, water, credit, technology and training which warrants critical analysis in the context of India.

In addition, the entitlements of women farmers will be the key to improve agriculture productivity. The differential access of women to resources like land, credit, water, seeds and markets needs to be addressed. In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84%. Women make up about 33% of cultivators and about 47% percent of agricultural laborers. These statistics do not account for work in livestock, fisheries and various other ancillary forms of food production in the country. In 2009, 94% of the female agricultural labor forces in crop cultivation were in cereal production, while 1.4% worked in vegetable production, and 3.72% were engaged in fruits, nuts, beverages, and spice crops.

Keywords: Indian economy, Women, Horticulture, Processing, Nutrition, Sericulture, Fisheries

ISEE Seminar/2019/ABS/060

Associations of Socio-Economic Variables with Fluid Intelligence of Twins in Bagar Zone

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ABSTRACT

The fluid intelligence is general ability to think abstractly, reason, identifying patterns, solving problems and discerns relationships. The present study was conducted in four districts namely; Hisar Fatehabad, Rohtak and Jind of Haryana state with the purpose of availability of maximum numbers of twins in the required age group. A sample of 296 pairs of twins in the age group was selected for the study. Fluid intelligence was taken as dependent variable and socio-economic variable was taken as independent variable. Fluid intelligence was measured with the help of Cattle Culture Fair Intelligence Test (Scale-I and II developed by Cattell and Cattell, (1959). Scheduled was developed to assess the socio-economic variable of twins. Result revealed that Fluid intelligence of twins was non-significantly associated with age (χ^2=0.31), gender (χ^2=0.13), family type (χ^2=1.36), family size (χ^2=2.01), caste (χ^2=3.66), mother's education (χ^2=7.44), father's education (χ^2=4.24), mother's occupation (χ^2=6.55), father's occupation (χ^2=4.07) family income (χ^2=4.95) and number of sibling (χ^2=2.24) of twins.

Keywords: Fluid Intelligence, Socio-Economic Variables, Behaviour, Children Development

ISEE Seminar/2019/ABS/061

Role of Self Help Groups in Rural Development

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ABSTRACT

Rural development is the process of improving the quality of life and economic well-being of people living in rural areas, often relatively isolated and sparsely populated areas. Self help groups play an important role in rural development process. SHG is a group of people having a common goal of socio-economic sustainable development discussing their problems and resolving it through appropriate participation decision making. "The motto of every SHG member is saving first- credit later"."The principle of SHG is one for all and, all for one", "Benefits of SHGs are based on Co-operation rather than competition". Some of The Basic Principles of the SHG are Group approach, Mutual trust, Organization of small and manageable groups, Group cohesiveness, Demand

based lending, skill training, capacity building and empowerment. There are different models of SHG which helps in the development of the rural people. The SHG performs the functions like generation of additional employment, impart and mobilize technical and entrepreneurial skills, Raise the income level of the poor in the rural system and creation of habit of savings, Utilization of local resources, act as a media for socio-economic development of the village, Creation of awareness about rights, assisting the members financially at the time of need. Role of SHG is important as they serve as the most important element to create awareness among the rural poor. They should give wide publicity to rural banking and its linkage programmes at local level and must enable the Rural Indians to participate in the decision making process at the bottom level. These measures can significantly make the Self Help Groups effective and efficient in order to boost the Rural Economy of India. *Keywords: Group Cohesiveness, Skill Training, Capacity Building, Empowerment*

ISEE Seminar/2019/ABS/062

Instant Messenger - An Useful Tool for Delivering Health Services to Pig Farmers in Hilly Region of Meghalaya under Biotech-KISAN Programme

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ABSTRACT

Biotech-KISAN (Krishi Innovation Science Application Network) is a programme sponsored by Department of Biotechnology, Ministry of Science and Technology, Govt. of India. The programme is being implemented in ICAR Research Complex for NEH Region, Umiam, Meghhalaya (Main Hub) with two partner Institutes /Centres with an idea for Establishment of Biotech-KISAN Hub at ICAR Research Complex for NEH Region, Umiam, Meghalaya. The programme is running in the aspirational District Ri-Bhoi of the state Meghalaya in four clusters with two villages in each cluster. Atotal of 120 numbers of farmers are being covered in this programme @ 15 farmers per village and among them eighteen farmers per cluster were selected as piglet beneficiaries. The piglet beneficiaries were given piglets free of cost @ two piglets per beneficiary and thus 144 numbers of piglets of aged 2 months (Appx.) were distributed in these four clusters. It is very much essential to monitor the health of these piglets as various diseases of pigs (viral, bacterial, parasitic etc.) have been reported to occur in pigs of this region along with other health problems. There should not be any mortality of these piglets as increase the numbers of piglets/pig populations in villages/clusters and hygienic pig rearing for production of safe pork are the two major objectives of the project. But, as these villages are situated in remote and hilly region of Meghalaya, so it is very much difficult to look after the health and other aspects of these distributed piglets by frequent visit to these villages by Hub Facilitator/PIs/CoPIs/project staff of the programme. So, to monitor the health of these piglets and control the diseases, communication through WhatsApp (photoes/videos/messages) have been used. In addition to use of individual WhatsApp, two WhatsApp groups – One for Hub Facilitator, all PIs and CoPIs involved in the project and project staff named as 'Biotech-KISAN, Umiam, Barapani' and another one including 'Mahila Kisan Bioteck Kisan'(MKBF) holders, Headman of different villages/ project staff and Hub Facilitator named as 'Biotech-KISAN Cluster' were created from the very beginning of the programme. In this regard, 'MKBF' holders of respective villages/project staff (JRFs etc.) served as senders of WhatsApp photoes/videos/messages to Hub Facilitator/Co-PIs/project staff (JRFs etc.). Communications among Hub Facilitator and Co-PIs to discuss regarding a clinical case to take a decision about the treatment also made. With the use of WhatsApp, a total of 10 numbers of various health problems of piglets of different clusters were solved. Besides, monitoring the administration of medicines in the field, monitoring of activities of 'MKBF' holders/, time to time advise to project staff regarding treatments and monitoring of construction of pig houses etc. through WhatsApp have been done and discussed. It can be concluded from the present study that instant messenger particularly WhatsApp played a vital role, to know about.

Keywords: WhatsApp, Monitor, Pig Diseases, Hilly, Remote, Meghalaya, Control

ISEE Seminar/2019/ABS/063

Cane DES: An Expert System for Diagnosing Disorders in Sugarcane Crop

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ABSTRACT

Sugarcane is one of the most important commercial crop of India but it suffered badly due to number of abiotic and biotic stresses, leading ultimately to poor crop growth, low production and productivity. The production and productivity of sugarcane crop causes 100 per cent loss which can be managed with efficient strategies of crop protection, which requires good knowledge of crop disorder at different crop growth phases along with their symptoms to identify the disorder. A web based software known as '**CaneDES**' which is an Expert System for Disorder Diagnosis in Sugarcane Crop has been developed by ICAR-Indian Institute of Sugarcane Research, Lucknow to assist stakeholders in diagnosing sugarcane crop disorders which occurs due to various abiotic and biotic stresses. The CaneDES has number of special features like textual and visual symptoms based diagnostic tool, unique E learning platform in sugarcane, bilingual (support both English and Hindi languages) platform independent, remote acceptability using internet and generic (may be reused in other crop environment). Expert System provides all useful knowledge on sugarcane insect-pests, diseases and nutritional disorders and their diagnosis. The system can be used bilingual (Hindi and English language) using registered User ID and Password. Five major modules of the software are sugarcane crop, sugarcane advisory, disorder diagnosis, glossary and login. Modules on sugarcane crop provide basic information on sugarcane production, utilization and major insect-pests, diseases and nutritional disorders. Module on sugarcane advisory provides information on crop protection in the form of integrated approach for pests and diseases management, frequently asked questions, production/protection schedule and state-wise advisory for crop production/protection. Module on disorder diagnosis is the most important component of the software covers the modules for diagnosis of sugarcane disorders using textual and visual symptoms of disorders and symptoms confidence factor. Further, a short cut method of diagnosis using Photo Gallery has also been incorporated. Glossary module assist user in understanding the technical agricultural terms and their meaning both in English and Hindi. User may get registered through Login module and further log in to use the system. Software is accessible from all major web-browsers. Home page of the sytem contains links to various modules. Diagnosis using first approach (detailed text and visual symptoms) may be carried out in various steps. Diagnostic settings of the system display appropriate symptoms in categories of object (symptom location) and system attributes, symptom sub-group, visuals and confidence factor, select disorder category and enter keyword. After that disorder symptoms (textual and visuals) along with confidence factor may be selected. It infers one or most possible disorders of the crop based on the symptoms and confidence factor selected. Explanation/reasoning of diagnosis can be judged and confirmed using explanation screen. Details and control methods of selected disorder can be seen by clicking the appropriate button. Second appearance of diagnosis shows classified photo gallery of sugarcane disorders on selecting the photo resembling the disorder appeared in the crop system predicts possible disorder and further given its explanation. Accessibility of the software is User ID and Password based for which user needs to be member of the system. Necessary online user registration for membership is available in the software. The Expert System is a basis for sugarcane research, education, development, extension and farming who could be client of the system for diagnosing the sugarcane disorders and educating themselves in sugarcane crop protection.

Keywords: Sugarcane, Modules, Expert system

ISEE Seminar/2019/ABS/064

Adoption of Improved Dairy Management Practices by the Women Dairy Farmers in Deoghar District of Jharkhand

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ABSTRACT

Study was conducted in deoghar district of Jharkhand to ascertain the extent of adoption of improved dairy management practices by the women dairy farmers. The data were collected from santhal region of Jharkhand. From santhal region one district was selected purposively on the basis of large number of people doing dairy farming and the milk procuring union of state is also situated in the district. Then from deoghar district deoghar block was selected purposively on the basis of maximum number of dairy farmers. From deoghar block Top five villages with maximum women dairy farmers was selected purposively. From each village 24 women dairy farmers were selected randomly. Thus, in total, 120 women dairy farmers were selected, as the respondents for this study with the help of structure interview schedule. From the study it was observed that majority of the respondents (93.30%) ensure the sufficient supply of clean and fresh water to the animal, followed by 75.83 per cent having awareness of heat symptoms, 86.60 per cent segregation of sick animals from healthy ones and 80.83 per cent keeping of animal loose in the shed. It was also observed that majority (56.66%) of respondents have medium level of adoption about improved dairy management practices followed by (22.5%) respondents have low level of adoption and 20.83 per cent have high level of adoption about improved dairy management practices.

Key word: ***Adoption, Breeding, Feeding, Management, Improved practices***

ISEE Seminar/2019/ABS/065

Review of Gender Issues in Agriculture

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ABSTRACT

Agriculture occupies a key position in the Indian economy providing a source of livelihood for a majority of the population. Successes in agricultural front with high production levels, especially in food grains have indeed been achieved. But more energy in the form of mineral fertilizers, chemical pesticides and farm machinery are required every year to produce the same quantity of farm products. Historically, women have been the managers of natural resources as they are dependent on them for their livelihood and their family's needs. The consequences of over exploitation of these resources have rendered them scarce. The rural women collect over 28% of all energy consumed in India in the form of firewood. Most of the 140 million tonnes of firewood burnt annually come from forests. Poverty and unemployment in rural areas have resulted in large-scale migration to urban areas. Women are being forced to take up more drudgerous jobs as a source of livelihood as most of the migrants are absorbed into the construction sector. Women form the largest work force in agricultural sector. Caring for livestock comes naturally to women. The most drudgerous jobs in livestock production like cleaning of the cattle sheds, feeding the cattle, collection of fodder etc. always fall on the woman. Care for young animals and backyard livestock is also largely done by women. In caring for sick young animals women have evolved several ethno veterinary practices. Despite recent agricultural innovations there is no respite for rural women. While agricultural innovations leads to the reallocation of family labour and the assignment to men of complete control over output and income, without associated changes in the allocation of obligations, welfare and nutritional status of the family may actually decline.

Keywords:Indian Economy, Poverty , Pesticides , Natural resources.

ISEE Seminar/2019/ABS/066

Strategies for Mainstreaming Gender in Agriculture

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ABSTARCT

Gender is the social dimension of being male or female, it is socially constructed roles for men and women. Gender-based inequalities all along the food production chain "from farm to plate" impede the attainment of food and nutritional security. Maximizing the impact of agricultural development on food security entails enhancing women's roles as agricultural producers as well as the primary caretakers of their families. Women are crucial in the translation of the products of a vibrant agriculture sector into food and nutritional security for their households. They are often the farmers who cultivate food crops and produce commercial crops alongside the men in their households as a source of income. When women have an income, substantial evidence indicates that the income is more likely to be spent on food and children's needs. Gender equality goals and strategies are a key obstacle to addressing gender issues in development activities. Mechanism for addressing gender issues such as effective strategies for activity design, implementation and monitoring of agricultural related activities, incorporate gender equality objectives into activity, programme or project objectives, ensure that responsibilities for implementing

gender equality objectives are explicit in job descriptions, Scopes of Services and Terms of Reference. These strategies are required for mainstreaming gender in agriculture.

Keywords: Gender, agriculture, strategies, gender mainstreaming

ISEE Seminar/2019/ABS/067

Role of Digital Empowerment in Agriculture

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ABSTRACT

Prime Minister Narendra Modi launched Digital India on July 1, 2015 to create digital infrastructure for empowering rural communities, enabling digital delivery of services and promoting digital literacy. Given that 68 per cent of India's population is rural and agriculture is the main source of livelihood for 58 per cent of the population, one must consider the role of Digital Agriculture within Digital India. Digital Agriculture can be defined as ICT and data ecosystems to support the development and delivery of timely, targeted information and services to make farming profitable and sustainable (socially, economically and environmentally) while delivering safe, nutritious and affordable food for all. Rural connectivity will be key to providing low cost data and access to information. It would empower rural youth to realize their full potential, farmers to increase their profitability by accessing equitable markets and rural businesses to offer value added services. Digital technology will be key to increasing agriculture productivity by delivering tailored recommendations to farmers based on crop, planting date, variety sown, real time localized observed weather and projected market prices. The greatest impact Digital Agriculture will have is on democratization of market pricing and compressing transaction costs so that farmers capture a higher portion of the produce's marketable value. Agricultural value chains are complex with several actors along the chain but information asymmetry between the farmer and aggregator or intermediaries results in farmers having to sell into saturated, weak markets that are not based on standards. Digital Agriculture will also leverage social media platforms to build human capacity. One of the best examples originating from India is Digital Green. It uses participatory videos that have farmers explain best management practices to other farmers. This approach is ten times more cost effective than traditional extension services as farmers trust other farmers more given they can better relate to someone like them who are building a livelihood under similar circumstances.

Keywords: ICT, Digital Technology, Digital Green, Livelihood

ISEE Seminar/2019/ABS/068

Screening of Black Gram and Green Gram Cultivars against Mosaic Virus and Their Management under Bundelkhand Region

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ABSTRACT

Black gram and Green gram is one of the important pulse crops grown throughout India. Mosaic disease caused by Mungbean yellow mosaic virus (MYMV)poses significant economic losses in India as it reduces the crop

yield in both crops. Mungbean yellow mosaic virus is belonging to Gemini group of viruses, which is transmitted by the whitefly (*Bemisiatabaci*). The tender leaves show yellow mosaic spots, which increase with time leading to complete yellowing with less flowering and pod development. In the present study, different Black gram and Green gram growing areas of Jhansi district, Uttar Pradesh come under Bundelkhand region were surveyed in the months of July-August during *Kharif* 2019. During this survey 4 blocks of the district were covered viz; Babina. Badagaon, Bangra and Chirgaon and disease incidence were recorded. The village wise surveys conducted during 2019 *Kharif*cropping seasons revealed that the disease infestation was invariably present in all surveyed villages. A total of 18 villages were visited come under four blocks of district Jhansi. It was observed that maximum Mosaic disease incidence was observed in villages Bhojla (72%) come under Badagaon block and second highest disease incidence was observed in village Birgua with 65%. Eight cultivars of Black gram (Urd Partap-1, Uttara, PU-31, PU-40, Sekhar-1, Sekhar-2, IPU-2-43 and Azad-2) and 8 cultivars of Green gram (Versha, Knika, MSJ-118, Samrat, Virat, PM-5, IPM-2-3 and IPM-2-14 were screened against Mungbean yellow mosaic virus under natural condition. It was observed that black gram cultivars namely PU-31, PU-40 showed the highest disease incidence 68% and 72% respectively. Both black gram cultivars were showed a susceptible reaction to Mungbean yellow mosaic virus. However, less mosaic disease incidence was observed in other Black gram cultivars. In Green gram highest disease incidence percent (8%) was observed in cultivar MSJ-118. Spray of Imidacloprid @0.1% was found effective for control of virus vector.

Keywords: Black gram, Green gram, Mosaic.

ISEE Seminar/2019/ABS/069

Knowledge of Farmers Regarding the Application of Soil Health Card and Constraints Faced by them in its Use

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ABSTRACT

India's cropping intensity is highest in the world and has achieved grain self-sufficiency but the production has gradually turned resource intensive, cereal centric and regionally biased. The resource intensive ways of Indian agriculture has raised serious sustainability issues. The practice of mono-cropping (wheat rice regime) and burning wheat and rice straw in the fields has augmented a gradual decline in soil fertility. Soil health and fertility is the representative for sustained high crop productivity and profitability of the farmers. For fertility evaluation, the common process used is soil testing. Although soil testing is a regular feature of the Department of Agriculture Cooperation and Farmer's Welfare but after the launch of Soil Health Card Scheme, soil testing is taken up on a mission mode. The study was undertaken to study the knowledge of farmers regarding the application of Soil Health Card issued under Soil Health Card Scheme and constraints faced by them in its use. Data were collected using an interview schedule. Findings of the study revealed that majority of the beneficiaries had knowledge regarding ideal time for the collection of soil sample and regarding the collection of soil sample from the place where a heap of FYM is placed. About 73 per cent of the beneficiaries were having knowledge regarding different macro nutrients displayed on SHC and majority of the respondents had knowledge regarding judicious use of fertilizers and various soil testing laboratories available for soil testing. About 84 per cent of the beneficiaries were having knowledge regarding application of macro and micro nutrients based on recommendation given in SHC. Majority of the beneficiaries had medium level of overall knowledge regarding the application of SHC. Difficulty in operating internet to access soil health card portal, delay in receiving SHC and lack of mobile soil testing vans were major constraints faced by the farmers in the application of SHC.

Keywords: Application, Constraints, Knowledge, Soil Health Card, Soil Health Card Scheme

ISEE Seminar/2019/ABS/070

E-Marketing in Agriculture Sector

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ABSTRACT

The internet has taken over the world. In a survey it has been stated that about 65% of the Indian population depends directly on agriculture considering as primary sector and it holds for about 22% of GDP of India. Using internet as a way of marketing channel in the agriculture industry has opened doors for farmers to reach the large number of customers. E-Marketing tends to reduce the gap between farms and non-farming sector as a means for communication. Rural telecom subscriber base has grown faster in comparison with urban telecom subscriber base. The survey conducted as of March 2015 stated that the national density for telecom subscriber was 79% and for rural 46.5%. In today's era, smart farmers are considering online services that are required for their business like fertilisers, pesticides, farm equipment's, machinery, product transportation and post-harvest services. The ultimate aim of e-marketing in agriculture industry is targeting large audience at cost effective and measurable way. Likewise, creating awareness among customers and entering into their eco system through viral content is the key to success in agribusiness. E-marketing is growing at the rate of 51% per annum in the world. E-Marketing provides the stage to encounter personalized feeds of the customer increasing the transparency of the product or service. Henceforth, it plays an important role in the growth of the economy and stability of the agribusiness.

Keywords: Agribusiness, E-Marketing, Internet, Online Services, Telecom

ISEE Seminar/2019/ABS/071

Accessibility of ICT Tools by the Extension Personnel in Allahabad Mandal of Uttar Pradesh

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ABSTRACT

Information and Communication Technology (ICT) in Agriculture is emerging field focusing on the enhancement of agricultural and other development in India. The Agriculture sector is gearing itself to make optimal use of the new information and communication technologies. ICTs offer opportunities to reach more people and to carry out various functions within extension systems more effectively and efficiently. Keeping in view of these a study was carried out in Allahabad mandal of U.P to assess the accessibility to ICT tools by the Extension Personnel covering four districts 140 extension personnel. Descriptive survey research design was followed to describe accessibility to ICT tools by the extension personnel. The data were gathered by personal interview technique with the help of pre-tested structured interview schedule. The collected data were processed, classified, tabulated and analyzed by using descriptive and inferential statistical tests, interpreted and logical conclusions were drawn in the light of the objectives set forth. The findings inferred that 43.57 per cent of the respondents were middle aged, annual earning was ranged between Rs. 4,00,000-6,00,000 as their income, holding medium size land, 42.14 per cent educated up to UG followed by 39.64 per cent post graduate level, psychologically majority of the respondents

(69%) , also had medium level of scientific orientation. Extension personnel have the accessibility of ICT tools like Mobile cent per cent, Television (92%), Telephone (70%), computer (49.64%) followed by Radio (63%) and Video Camera (25%), Internet (68%), e-mail (62%). It was also found that 68.93 per cent respondents have Web based Agricultural information Portals, Decision Support System (38%) and e-newspapers (15%) followed by e-Agril magazines (15.36%). In the order of priority were mobile (100%), Television (100%), Telephone (97.5%), radio (92.5%), computer (82.5%), internet (88%), Video Camera (78%) followed by e-mail (90%), web based agricultural information portals and decision support system (66%) etc. It is concluded that majority of the respondents were found to have had accessibility of ICT tools like mobile, television, telephone, radio however the tools like e-mail, internet video camera were not found to be popular.

Keywords: ICT, Agriculture, Extension Personal.

ISEE Seminar/2019/ABS/072

Weather Threat on Different Kharif Crops of Nicra Village in Jhansi District of Bundelkhand Region

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ABSTRACT

Krishi Vigyan Kendera, Bharari Jhansi is adopted two villages for NICRA project come under block Badagaon. A research experiment was deigns during *Kharif* 2018 and 2019 in both village to know crop damage due to biotic and abiotic factors. Sesame, Blackgram, Greengram and Groundnut are the major *Kharif* crops of both NICRA villages. During the *Kharif* 2018 and 2019, abnormal rainfall hampered the production of all the crops. It was observed that, *Kharif* 2018 the yield reduction per cent of Sesame, Blackgram, Greengram and Groundnut was 35, 38, 26 and 46% respectively. Similarly, *Kharif* 2019 all the crops suffered due abnormal rainfall and yield reduction per cent of Sesame, Blackgram, Greengram and Groundnut was 78, 82, 28 and 36% respectively. In 2019, rainfall was continuous upto first week of October and Blackgram mature pod germinate on the plant. The crops plant was also severally infected with many fungi and viral diseases due to this weather. Mosaic disease of Blackgram and Greengram showed dominant reaction and caused huge losses, similarly tikka disease and collar rot of groundnut played a role in yield reduction per cent.

Keywords: NICRA, Sesame, Blackgram, Greengram, Groundnut and disease

ISEE Seminar/2019/ABS/073

Gender Role and Participation in Agricultural Operations

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ABSTRACT

As people grow older gender differences and gender inequalities get distinguished and demarcated with differing consequences. As regard the volume of workload is concerned, women work longer hours than men. In addition to family responsibility they also under take agriculture and share community responsibility. Agriculture is the backbone of the Indian economy. In rural areas, the major occupation is agriculture so both male and female

perform their agricultural activities for economic profit. Present study was conducted in Hisar district of Haryana state in randomly selected two blocks. Total 180 rural households (i.e. 60 from each small, medium and large land holding category) were taken as sample for present study. Out of 13 agricultural activities field preparation, irrigation, plant protection and marketing were done by 100% of the male members where as harvesting 11.5%, 48.3%, 28.3% were done by women in small, medium and large land holding categories. Whereas picking of cotton and fruit and vegetables were done by majority of the male and female both irrespective of category. It was heartening to note that all marketing and income generating activities were done by male members in all categories. In decision making majority of the male members were taking decision in sowing and transplanting (66.7%), weeding (66%), harvesting (68.1%) in small 100%in medium category and 36.6%, 53.3% and 63.3% in large land holding categories whereas decisions regarding marketing of grains/vegetables and whole sale products were done by male members in all land holding categories.

Keywords: Gender, Economy, Role, Decision Making, Operations

ISEE Seminar/2019/ABS/074

Extension Personnel can Become A Good Researcher Too When Worked In Collaboration With Farmers and Intern Farmers Can Become A Good Agri-Preneurs

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ABSTRACT

Several decades **Prawn (Shrimp-Vannamei)** culture is being cultivated in India as a solo crop and with clean cultivation on its Tank bunds because of its highly sensitive animals and its huge financial investment. However based on fish cum paddy cum horticulture crops integrated cultivation results during 2014-2016 under my supervision at our KVK, Undi, Bhimavaram, West Godavari District of Andhra Pradesh as well as keeping in view of the bad experience of cotton farmers suicide cases in India, this advance precautionary step is being initiated in order to rescue the prawn farmers in advance, with the available alternatives without disturbing the ongoing process with a principle of "Symbiosis of Flora and Fauna and its mutual benefits to the mankind by environmental non polluting behavior. An Integrated Technology to get three times more income to the farmers with high quality produce and environmental friendly output just by growing paddy organically with local varieties in the middle of the Prawn tank and at the same time getting good quality prawn by growing it in trenches all around the same pond and simultaneously growing vegetables, fruits and flowers on the same tank bunds to get Triple Income and make the farmer sustainable and be on **Entrepreneur.** As it is a first of its kind tried by extension personnel in a farmer's field successfully, now it can pass on to research system of multiple departments for further refinement process and at the same time it will be further tried in farmers fields for its large scale adoption and its quick multiplication. Thereby farmer can be motivated towards integrated farming for getting more returns and to make him an **Agri-preneur.**

Keywords: Agri-preneurship, Entrepreneurship Development, Behavioural Skills

ISEE Seminar/2019/ABS/075

Adoption Behaviour of Farmers on Recommended Wheat Production Practices in Prayagrag District of Uttar Pradesh

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ABSTRACT

India is one of the main wheat producing and consuming countries of the world. After the green revolution in the 1970's and 1980's the production of wheat has shown a huge increase. The major states that are involved in the cultivation of wheat are those located in the plains like Uttar Pradesh, Punjab, Haryana, Rajasthan and Bihar. The present study was conducted to find out the adoption behaviour of farmers on recommended wheat production practices in Prayagraj district of Uttar Pradesh. One hundred twenty respondents were selected randomly from six villages of Jasra block of Prayagraj which was selected purposively. Data were collected by the researcher himself through pre structure interview schedule. The collected data tabulated, analyzed and interpreted with the help of appropriate statistical tools. The adoption of individual package of practices was studied and inferred that majority of farmers were having medium level of socio-economic status. It was also found that the majority of the respondents (52.50%) have medium level of adoption of recommended production practices of wheat crop. Age, Education and annual income, farming experience, innovativeness and progressiveness were found positive and significant correlation with their adoption level. Extension strategies like organization of training programme on advanced wheat production practices and demonstration to be conducted at village level, proper planning to be followed for better adoption.

Keywords: Adoption, Production practices, Wheat

ISEE Seminar/2019/ABS/076

Strengthening the Farmers through Digital Marketing

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ABSTRACT

Agriculture plays a vital role in the Indian economy and primary source of livelihood for about 58 per cent of India's population. India is currently witnessing major regulatory reforms that have the potential to transform Indian agriculture. Agricultural digital marketing has become quite important these days as the gap between the farm and the non-farm sectors are merging due to digital marketing platforms and consumers are also becoming aware of the quality of the farm produce. On the other hand, today's smart farmers are also looking out for services online that they require for their business like agriproduct transportation, storage, milling or processing, packaging, fertilizers, pesticides, farm equipment, machinery, electricity and repair services. This has made agriculture and allied enterprises necessary to be present online. In addition, through the launch of e-NAM, govt of India is planning to create a unified national market for agricultural commodities. Recent emphasis on digitalization also ushers in a new avenue to strengthen market information system by involving private sectors in ICT services. It is revealed that up to May 2018, 9.87 million farmers, 109,725 traders were registered on the e-NAM platform. Whereas, 585 mandis in India have been linked while 415 additional mandis will be linked in 2018-19 and 2019-20. New trends such as weather forecasts measures can be taken to minimize the impact of drought and climate changes, post-harvest management technologies etc., in the digital marketing will help in generating better results in the future.

Keywords: e-NAM, climate changes, digital marketing and ICT

ISEE Seminar/2019/ABS/077

Assessment of Level of Knowledge of Various Stakeholders about Good Nutrition Practices, Nutrition Oriented Agricultural Technologies and Related Government Schemes

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ABSTRACT

The interest in food mapping and knowledge level has generally been driven by the acknowledgement that diet is a key determinant of health and nutrition. There is need to identify the predominant foods consumed by the population by studying their food consumption and production patterns in order to identify their nutritional vulnerability. Food production and consumption pattern is directly influenced by their knowledge level. Hence, an attempt was made in this study to assess the knowledge level of stakeholders about Good Nutrition Practices, Nutrition Oriented Agricultural Technologies and Related Government Schemes. The research locale, Telangana, was selected purposively, because, it is a home of many tribes, who are suffering from nutritional problems. Considering the criteria of nutritional vulnerability, two major districts namely Mahbubnagar and Adilabad districts were selected purposively; and two blocks namely Madhanapura and Balmur from Mahbubnagar, and Utnoor and Narnoor blocks from Adilabad were selected randomly. From each block, two villages, from each selected village, 25 households (Total N=200) have been selected randomly. Apart from this, 40 stakeholders like Anganwadi workers, KVK scientists and Agriculture Officers (AOs) have been selected. Thus, the total sample size is 240. Data collection tools were structured interview schedule, modified scheduled questionnaire (NSS 66th round) and secondary data sources. Knowledge test results reveal that, 14.50 per cent of tribal respondents fell under high knowledge level category. In case of Anganwadi workers, it was 12.50 per cent, whereas, in case of agricultural officers and scientists, it was 56.25 per cent. Knowledge level of stakeholders about good nutrition practices, government schemes and nutrition-oriented technologies will be helpful in developing appropriate Behavioural Change Communication (BCC) strategies for ensuring nutritional security of vulnerable areas/communities.

Keywords: Knowledge Level, Government Schemes, Nutritional Security, Good Nutrition Practices and Nutrition Oriented Agricultural Technologies.

ISEE Seminar/2019/ABS/078

Impact of Vocational Training Programmes and Its Association with Socio Economic Attributes of Ex-trainees: A study in Gwalior (M.P.)

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ABSTRACT

The Government of India is emphasizing skill development and self employment as a priority programmes to combat the increasing rate of unemployment. The Government has created a separate department of skill development

and established Agriculture Skill Council of India (ASCI). The ASCI has taken upon itself the responsibility of transforming Indian Agriculture through developing the skills of country's manpower in emerging areas of agriculture. The KVKs are mandated to conduct skill oriented vocational training programmes for rural youth as one of the most important activities of KVKs which enables rural youth with necessary entrepreneurial skills in various income generating areas. KVK Gwalior is engaged in organising vocational training programmes since its inception in 1999. In this backdrop, a research study was conducted to assess the impact of vocational training programmes and its association with socio economic attributes of ex-trainees of KVK Gwalior. The study was conducted on 150 randomly selected ex-trainees of KVK Gwalior who have participated in vocational training programmes of the KVK during last five years. The association of *socio-economic, communication and psychological characteristics of the trainees was measured by calculating t*he correlation coefficient and test of significance. The attributes of the respondents namely Occupation, Information sources had significant relationship with impact of vocational training programme at 0.05 level while education, annual income, extension participation, economic motivation had significant relationship with impact of Vocational training programme at 0.01 level of probability whereas variables namely age, innovativeness, risk orientation, entrepreneurial behaviour had non-significant relationship with impact of vocational training programme.

Keywords: Skill, KVK, Trainee, Vocational Training, Communication

ISEE Seminar/2019/ABS/079

Participation and Problems of Tribal Farmers in Employment Generation Activities: An Analytical Study

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ABSTRACT

This study was attempt to get the response regarding extent of employment generated among tribal beneficiaries and constraints faced by the tribal farmers in taking up employment generation activities organized by KVK in Dungarpur district of Rajasthan. A complete list of vocational training beneficiaries of KVK Dungarpur was prepared and 100 respondents were selected randomly in the sample of the study. Findings revealed that majority of respondents i.e. 56.00 percent of total respondents reported participation in training on dairy management to a great extent, whereas, 63.00 per cent respondents reported participation in training on propagation of plant to some extent. It may be concluded that participation in most of the employment generation trainings of KVK was moderate and more efforts are required to encourage their participation in these training which can provide employment to beneficiary farmers in a real meaning. Results found that lack of skill about employment generation activities, timely unavailability of seeds, lack of credit facility, lack of training institution for training of farmers/ farm women, fatalistic attitude towards employment generation activity etc. were important problems perceived by the tribal farmers in taking up employment generation activities.

Keywords: Tribal, Farmers, KVK, Employment Generation, Dairy Management, Employment

ISEE Seminar/2019/ABS/080

Access and Use of Information Communication Tools by the Tribal Farmers of Laitryngew Village of Cherapunjee District of Meghalaya

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ABSTRACT

The twenty-first century is known as the age of Information, so the more informed we are the better we can keep pace with fast growing world. Information communication technology refers to technologies that provide information through telecommunication. It is similar to Information Technology, but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums. In the past few decades, information and communication technologies have provided society with a vast array of new communication capabilities. The present study was conducted in the Laitryngew village of Cherapunjee district of Meghalaya to determine the access and use of ICT tools by the tribal farmers. The study inferred that majority of the of respondents were of young age (55.7%), nuclear type (67.14%), maximum respondents were female (62.85%) as it was matriarchy society and around half of the tribals were neo-literate.(48.57%), the major occupation of the respondents were business (62.86%), annual income upto Rs.40 thousands (68.58%). The major ICT tools that were found accessible by the respondents were radio, television, mobile and newspaper. The major purpose of using ICTS tools were for communication, marketing, transportation and health. The major constraints faced by the respondents were poor technical knowledge, lack of internet connectivity, erratic power supply etc. It is concluded that ICT tools are playing an important role in the day to day activities and fulfilling the needs of the tribal people. Govt. should take proper steps and suitable extension strategies to be followed for proper accessing and use of ICT tools which will lead the all-round development of the Tribal people.

Keywords: ICT tools, Accessibility and Use

ISEE Seminar/2019/ABS/081

Occupational Health Hazards and Drudgeries Perceived by the Women Farmers in Western Zone of Uttar Pradesh

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ABSTRACT

Rural women form the most important productive work force in the economy of majority of the developing nations including India. The farm women usually use long static postures while performing farm and allied activities, which increase the static muscular effort resulting in high drudgery, physiological cost, low productivity and low work efficiency. However, the drudgery of farm women is not yet precisely been identified and quantified. Therefore, present study was conducted to find out the extent and magnitude of drudgery and gender gap perceived by farmwomen of the western zone of U.P. Investigation was carried by eight KVKs namely Pilibhit, Shahjahanpur, Baghpat, Muzaffarnagar, Bulandshahar, Meerut and GB Nagar. Further, from the selected KVKs' operational areas, two villages from each KVKin which KVK was implementing the activities since last two years were selected. Twenty farm women/village from each enterprise i.e. crop production, livestock and post harvest were selected for the study purpose comprising total sample of 960 respondents from 16 selected villages. The results indicate that female involvement was seen maximum during collection of fodder from fields (88%), weeding (85%), winnowing

(82%), feeding of animals (79%) and sowing of seeds (72%). Male and female were equally occupied in storage of grains and fodder (43%), threshing (42%) and harvesting (33%). Most of them faced discomfort/ Injury during farm/ allied activities (90.71) specially in transplanting (71.86).They complained that their tools not helps in reducing the force (61.67), feel tired after performing work (74.56), facing joint problems in farm/ allied activities (76.55), feel difficulty in bending in farm/ allied activities (83.1) and got scratches/ cuts/ injuries in farm/ allied activities (62.14). Cent percent farmwomen were suffered from numbness in feet /hands, backache, headache, pain in knees, shoulders and other joints followed by blisters on palm (85.25) and heat exhaustion/ heat strokes (69.69) due to farm/ allied activities. 69.62 per cent of them reported that they go to the doctor after injuries/ allergies/ infections only when condition is serious. Based on it, the detailed interventions have been synthesized in the form of on farm trials, front line demonstrations, trainings and extension for drudgery reduction.

Keywords: Drudgeries, Occupational Health, Women, Demonstration

ISEE Seminar/2019/ABS/082

Effective Interactiveness of Two-Way Vs One-Way Ict Tool For Agricultural Information Dissemination

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ABSTRACT

Effective interactive communication is transmitting and receiving information clearly and communicating actively with others in a manner that is effective and consistent with the organizational objectives. Presently, numerous communication tools available with the advancement of Information communication and Technology (ICT). With App based interactive communication enhancement, the rapidity and utility of information increases but reliability is question of concern. The dependency of farming community and other stakeholder's increases on advanced communication tools for their information needs. Simultaneously, it is important to test their effectiveness for the groups of farmers using for agricultural purpose. Thus, an OFT conducted at KVK, Jalaun to assess the effective interactive of two way communication media viz. *Whatsapp* and *messenger* with one way as M- Kisan. For this purpose, total 75 android phone users were selected from three villages. From each village, 25 selected user were either connected with KVK Whatsapp group or State Department's M-Kisan message services. Reliability, rapidity and utilization of three groups of farmers were estimated through focus group discussion conducted in the selected villages. It was found that, more than 80 percent of android users responded rapidity and utilization of two way interactive media found more effective than one way whereas,73 percent quoted credibility of one way media higher than two way. While assessing the credibility of media in the groups of farmers, group within 10-30 respondents showed highest credibility of m-Kisan over Whatsapp. The respondent perceived as the group size increases the rapidity and utility of two way media increases while credibility decreases. This might be the reason that Whatsapp also featured with one way interaction. Further, the usage of two way media has an added advantage for information need of local market (mandi rates), district based agriculture advisors and other stakeholders whereas one way media restricted to weather information, distant mandi prices and generalized practice of packages. Overall, respondent considered two way interactive media more effective for small group than one way.

ISEE Seminar/2019/ABS/083

Challenges and Opportunities in Digital Marketing

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ABSTRACT

Digital Marketing has become more famous after involvement of latest technologies. It is rising in India with fast pace. It is the promotion of products, services or brands via one or more forms of digital media. It has completely changed the old marketing methods and compelled marketers to stay connected with their buyers or customers via internet for selling their products and services. Success of marketing campaign cannot be solely achieved by digital marketing only, rather for success of any marketing campaign it should fully harness the capabilities of various marketing techniques available within both the traditional and modern marketing. Consequently, the marketers must consider and analyse both advantages and disadvantages of digital marketing while planning the best marketing and setting business goals. Digital activities are an increasingly important part of any marketing and sales strategy. No doubt, Digital Marketing is an expansion tool for the businesses but it is facing some challenges or hindrances such as limitation of internet access, high competition of brands. There is a paradigm of shift in how business is conducted from traditional model to e-commerce model. There is under expansion of products and markets and at the same time challenges are emerging to make the players; more competitive in the field. Today, most companies are either thinking about or pressing ahead with digital change initiatives. Due to high efficiency and effectiveness, Digital Marketing has recognized by all business entities and now it is growing faster with every passing day. Soon, it will become easier for small businesses to compete their large-scale competitors at the same platform. It has turn out to be crucial part of approach of many companies. Digital marketing may achieve something more if it considers consumer desires as a peak priority. So digital marketing has become a crucial need of small as well as large scale businesses in today's digital environment.

Keywords: *Digital marketing, Opportunities, Challenges, Efficiency.*

ISEE Seminar/2019/ABS/084

Digital Strategies and Approaches for Sustainable Agricultural Development

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ABSTRACT

Agriculture is a gigantic sector of the Indian economy as its share to gross domestic product (GDP) is almost 17 per cent. Over 60 per cent of the population adopts agriculture as main occupation. In spite of a large of Indian economy, agriculture is lagging behind many aspects and characterized by poor connectivity and disintegration of market, unreliable and delayed information to the farmers, small land holdings, non adoption or less adoption of improved technology and so on. India is the world's largest sourcing destination for the information technology (IT) industry, accounting for approximately 67% of the US$124 – 130 billion market. Sustaining food security in India holds a larger implication for global markets. India's agricultural export value growth rate was the highest in the world for the decade ending 2013. The impact of technology in unlocking value for the people at the bottom of the pyramid and improving access to critical services is well demonstrated in the healthcare sector in India, as observed in the case of mobile technology–enabled telemedicine and low-cost devices that can address health conditions such as anemia in a large section of the population. Direct applications of digital technology include remote sensing (via satellites), geographic information systems, crop and soil health monitoring, and livestock and farm management, among other applications. At the pre-harvest stage, digital technology can recommend crop and input selection and assist in obtaining credit and insurance. At the on-farm stage, there is need for weather advisories and disease- and pest-related assistance; and at the post-harvest stage, real-time data on both domestic and export markets are needed. The growth of competitive markets and demand for consistent food quality is making the adoption of such tech based solutions imperative for the Indian farmer.

Keywords: ICT; agriculture; agriculture related information, India, digital, sustaining, farmers

ISEE Seminar/2019/ABS/085

A Study on the Perception of the Respondents towards the ICT Based Extension Services in Prayagraj District of Uttar Pradesh

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ABSTRACT

ICT is an important pillar of agricultural extension system has been recognized as an essential mechanism for delivering required information. Recently researchers have argued about the role of intrinsic factor such as perception in the process of decision-making and which can be induced by intervention of extension educational exposure. The present study was carried out in Prayagraj district of Uttar Pradesh covering one block, four villages which were selected purposively and 180 respondents were selected randomly. ICT based mobile application project IFFCO Kisan Sanchar Limited from cooperative sector was taken for the study. Pre structure and pre tested interview schedule was used for the collection of data. The study inferred that the overall socio-economic

condition (54.00%) and overall perception level (57.55%) of the IKSL (IFFCO Kisan Sanchar Limited) users were medium level and respectively. It was found that age, education, family size, land holding, occupation, economic motivation, scientific orientation, risk preference orientation and knowledge were found positively correlated with perception towards ICT based extension service delivery. It is concluded that majority of the respondents have medium level of perception about usefulness of ICT based extension service delivery. Government should take proper steps to improve the perception of the farmers towards usefulness of ICT which will lead more production and productivity in agriculture sectors.

Keywords: ICT, Perception, IKSL, IFFCO.

ISEE Seminar/2019/ABS/086

Analytical Study of Communication Pattern of Agro Input Dealers of Haryana

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ABSTRACT

Research findings clearly indicated that progressive farmers as well fellow input dealers were the regular used personal localite information sources by dealers for acquisition of technologies followed by friends while among personal cosmopolite sources viz. sales representatives and agro-input companies were the most used sources by dealers. They least utilized or never utilized the sources such as office calls, group discussions and scientists. They regularly utilized impersonal cosmopolite sources such as krishi melas, brochures, news paper and mobiles for acquisition of effective as well efficient technologies. A vast majority of input dealers i.e. 91.11 percent evaluated the acquired information in the light of past experience followed by discussion with farmers, firm representatives or executives (82.22%) and fellow input dealers (62.22%) while least used method were degree of complexity, discussion with local leaders, friends and neighbours. Information was stored in form of memories followed by brochures and hints in note book while they had not used at all the audio-video cassettes and CDs and DVDs which are permanent as well most efficient information storage devices in digital era of information. The information transformation was done by adding personal experience, followed by paralanguage and answering the questions of customers while, the least used techniques by them were leaflets or handouts, actual demonstrations and casual talks. Answering questions of the customers directly was top ranked method of TOT with mean score of 3.53 by input dealers followed by personal calls (mean 3.13) for technical matters were attended by sales representative or field assistant of company while others by themselves, distribution of Brochures (mean 2.88), informal chat during social functions (mean 2.82), group discussions in collaboration with companies (mean 2.82) and meeting (mean 2.73) conducted by companies, field days and demonstrations in collaboration with agro-input companies were the most used TOT methods while least used or not used methods/media were Whats App social media and organization of film shows/songs/skits for transfer of technologies to farmers.

Keywords: Communication pattern, Input dealers, Transfer of technology methods

ISEE Seminar/2019/ABS/087

Impact Assessment of Vocational Training on Dairy Farming in Hisar District of Haryana

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ABSTRACT

Vocational training is education or training that prepares a person for the day-to-day duties that he will be doing in his specific trade, craft, profession, or role. It equips him with real skills, as opposed to theoretical knowledge only. Decades ago, it used to refer solely to such fields are welding and automotive service, but today it can range from hand trades to retail to tourism management. Vocational training is education only in the type of trade a person wants to pursue, forgoing traditional academics. In the same context, KVKs are providing vocational trainings to rural unemployed youth on various aspects so that he will be able to do some kind of small scale business for his livelihood. The present study was undertaken on 50 rural youth of Hisar district of Haryana state who participated in a 5-day vocational training programme on dairy farming. The data indicated that majority of trainees (92.00%) had not participated in such a training programme in the past. An overwhelming majority liked the training (96%) and felt that the duration of training should have been a week or more. Participants came to know about the vocational training through newspaper advertisement (86.00%) and rest were through KVK scientists' contact. All the trainees were self-motivated (100%) to attend the training. The vocational training on dairy farming brought about significant gain in knowledge and attitudinal change among rural youth of the area. About 80 % of the respondents were confident and motivated to start their own professional dairy farming unit after getting loan from the bank because they were made aware about the loaning facility of the banks during training programme.

Keywords: Vocational, training, dairy farming, knowledge etc.

ISEE Seminar/2019/ABS/088

Assessment of Different Weed Management Techniques in Tomato Cultivation under Bundelkhand Region

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ABSTRACT

Bundelkhand region has been adversely affected due to climate change and experienced severe drought conditions during most of years in last decade. Efficient utilization of available natural resources are only way to sustain crops in changed climate condition. .Weeds are major distractive factor for vegetable cultivation in the region, Keeping view in the mind Krishi Vigyan Kendra, Mahoba on farm trail at farmer field on five different locations in Mahoba district of the region during 2018-2019. Effect of two different combinations of weed management practices viz. raised bed with pre emergence application of Fluchlorlin 50% (T_1) and raised bed with plastic mulching (T_2) were assessed against farmer's practice of cultivating tomato on flat bed (T_3). The various parameters recorded were fruit weight; weed mass, number of irrigations, marketable yield and BC ratio. The marketable yield obtained varies between 287.50 to 569.60 quintals per hector. The maximum gross yield (602.50 qha^{-}1) and marketable yield (569.60 qha^{-}1) observed in plots with raised bed and plastic mulching whereas minimum yield was recorded in flat bed cultivated tomato plots. Raised bed with plastic mulching has drastically reduced weed mass to 330gm/

m^2 and frequency of irrigation to 16 during the crop season. Equal numbers of irrigations (21) were required to both the unmulched plots. However maximum weed mass was recorded in flat bed cultivated plots (2080g/m^2) followed by raised bed with pre emergence application of Fluchlorlin (1060g/m^2). Maximum average fruit weight (93g/fruit) was recorded in plots with raised bed and plastic mulching, while minimum average fruit weight (78g/fruit) was recorded in flat bed cultivated plots. Among the assessed techniques best benefit cost ratio 3.33 and net return (Rs.318880/ha.) was also recorded unde raised bed and plastic mulching. Whereas BC ratio and net return of raised bed with pre emergence application of Fluchlorlin was recorded 3.14 and Rs.220660/ha, respectively. Minimum BC ratio 2.38 with lowest net returns of Rs.133540/ha. was recorded in flat bed cultivated tomato.

Keywords: Raised bed, Weed management, Mulching, Fluchlolin

ISEE Seminar/2019/ABS/089

Drumstick- A High Profitable Vegetable Crop for Food and Nutritional Security for Rural Communities of Arid Kachchh-Gujarat

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ABSTRACT

Drumstick (*Moringa oleifera* L.) is one of the world's most nutritious crop and is one of the most popular vegetable grown throughout India. It has helped mankind in combating malnutrition in children and increase immunity. It provides pods and leaves for vegetables, and has various nutraceutical values. This tree easy to cultivate and resistant to drought and produces a high concentration of proteins, vitamins and minerals: 100 grams of fresh leaves provide the same amount of protein as an egg, more iron than spinach, as much vitamin C as an orange, and as much calcium as a glass of milk. In Kachchh Gujarat, the crop has been just introduced due its suitability in arid conditions of the region. Krishi Vigyan Kendra, Kuchchh (Gujarat) has taken up the awareness and training programmes for its successful cultivation by conducting Front Line Demonstrations, training, both on-campus and off-campus on different aspects and visits to drumstick growing farmers field. Many farmers of Bhuj, Anjar, Mundra, Raper and Bhachau taluqs have planted this crop in an area of more than 60-70 hectares. It is the rare horticulture crop which begins fruiting within six months of planting, and continues to do so for a period of eight to nine years. One of the most successful farmer from village Madhapar, Bhuj have realized a net profit of Rs 2, 06,700 /ha from this crop with minimum input cost of Rs. 55000/ha and a benefit cost ratio (BCR) 4.76 within a single year of cultivation. Out of many cultivars, PKM-1 is the most popular among the farmers due to its suitable pod length and high productivity.

Keywords: Drumstick, Cash crop, PKM-1, Arid region and Kachchh.

ISEE Seminar/2019/ABS/090

Agricultural Extension and Advisory Services in India: An analytical view

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ABSTRACT

Agricultural extension (also known as agricultural advisory services) plays an important role in boosting

agricultural productivity, increasing food security, improving rural livelihoods and promoting agriculture as an engine of pro-poor economic growth. In a dynamic world, innovations are important to remain competitive, protect the environment, keep pace with development and improve well-being. Innovations do not occur in a vacuum, however. They occur when innovators acquire knowledge and process it to come up with new ideas, practices or objects that can be successfully introduced into economic or social processes. The concept of innovation has changed in recent times from a research-driven process to an interactive process with a much broader range of activities, actors, practices, policies and context. Innovativeness as a driver of social and economic change can bring significant developments in the rural sectors of developing countries the home of most of the vulnerable communities of the world and also major environmental resources. Farmers' views on research and extension services (RES) included in the Agricultural Knowledge and Innovation system is rarely investigated. Despite a wide range of improvement initiatives in agricultural extension in India in the past decades, the coverage of access to and quality of information provided to marginalized and poor farmers is uneven. This paper aims to find out why farmers are not accessing information and where information gaps exist, despite the variety of extension approaches in India. With information provision and access as the basis for analysis, the paper reviews some of the major agricultural extension programs in India by considering their ability to present information and help information sharing and use in farming communities. The review gives a broad summary of the current extension scenario in India while providing a synthesis of recent debates and the observations of various authors as well as effective groups in the Ministry of Agriculture and the Planning Commission. As a result of this study, opportunities are identified for rising extension services' effectiveness and efficiency in reaching smallholder farmers. The paper concludes that there is a rising need to work in partnership and to allocate knowledge and skills in order to improve local extension services that meet the information desires of marginal and smallholder farmers in India.

Keywords: Agricultural Extension, Advisory Services, Innovation, Research-Driven

ISEE Seminar/2019/ABS/091

Educational and Occupational Aspirations of Students of Prayagraj District of Uttar Pradesh

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ABSTRACT

Aspiration can be well defined as a goal or objective that is strongly desired. Having a high educational and occupational among the students is the need of the hour in fast changing world we are living in.The present study was carried out in Prayagraj district of Uttar Pradesh to analyze their educational and occupational aspirations and the effect of various factors on aspirations. The study covered 120 students of Intermediate level of Prayagraj district were selected randomly. Descriptive survey research design was employed for the present research. The study inferred that most of the respondents aspired to complete education at least to graduation level. This shows that students were well aware of the importance of the education. About 52 per cent of the youth aspired to acquire professional education. On further analysis of the professional courses the students intended to join Bachelor of Technology and allied courses (44.16%), followed by Medicine (26.66%) and 20.83 per cent respondents preferred agricultural related courses. This showed that, students from farming family are disinclined to join agriculture related jobs. Occupational aspirations revealed that only 16.66 per cent of the respondents preferred agricultural and allied industries as their preferred occupation. Majority of the respondents preferred government employment (48.33%) followed by private employment (26.67%), business (13.33%) and other non farm activities (8.33%). Parental influences (65.83%) and Annual income (24.17%) were the most influencing factors in the study area. A more detailed study of the several factors is needed to understand its variation in India to frame certain extension strategies to bring the youth to agriculture field.

Keywords: Aspirations, Educational, Occupational, Uttar Pradesh.

ISEE Seminar/2019/ABS/092

Impact of Skill Development Training on Low Cost Mushroom Production Technology in Panipat District of Haryana

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ABSTRACT

The present study was undertaken with an objective to assess the impact of skill development training on knowledge gain about Low Cost Mushroom Production Technology as an enterprise. A total number of 90 trainees who have under gone through five days skill development training at Krishi Vigyan Kendra, Panipat were selected as a sample for the study. The impact of training programme was assessed by pre and post evaluation testing in terms of improvement in knowledge on various aspects of Low Cost Mushroom Production Technology. It was observed that pre-training knowledge score was not much satisfactory for all the aspects of training programme. However, the knowledge score gained by respondents after training was more satisfactory in all aspects. The study revealed that experience to training had increased the knowledge of SC/ST Farm Women and Rural Youth regarding Low Cost Mushroom Production Technology. In pre-evaluation test, the knowledge range of different participants was 4.4 per cent regarding disease of mushroom and its management to 46.6 percent in case of knowledge nutritional importance of mushrooms. Post training score of various practices ranged from 86.6 per cent in case of chemical used for sterilization of casing mixture to 100 per cent in case of various practices like nutritional status of mushroom, method of spawning, method of casing, moisture Content in prepared Compost, Seed rate i.e. spawn required for 100 Kg prepared compost, harvesting Method, No of days for harvesting, value addition of Mushroom, marketing channel, storage of Mushroom, No. of days required for pin head initiation etc

Keywords: Mushroom production, Gain Knowledge

ISEE Seminar/2019/ABS/093

Socio-Economic Profile of the Rice Growers and Adoption of Recommended Package Practices Of Rice

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ABSTRACT

The present study was conducted in Palghar district of Konkan region of Maharashtra state. Two tahsils namely Wada and Palghar selected purposively for this study on the basis of maximum area under cultivation of rice crop. From each selected tehsil, six villages were selected on the basis of higher production of rice. Total twelve villages were selected randomly. From each selected village 10 rice growers were selected from each village making a total sample of 120 farmers. The data were collected through personal interview method. Rice (*Oryza sativa L.)* is one of the most important cereal grains in the world today. India is facing the challenges of food and fodder production to meet the demand of rising human and cattle population. It was cultivated on the area of 43.95 million hectares with production of 106.54 million tons in the year 2013-2014. The package of practices of rice cultivation is being

recommended by DBSKKV, Dapoli since 1972. In *Konkan* region the area is about 0.44 million hectares with a production of about 15.10 lakh tons in the year 2013-2014. The area, production and productivity of rice crop in Palghar district was 14980 ha., 36641 qtls, 2446 kg / ha. respectively, in the year 2014. The association between profile of rice growers and their adoption namely, area under rice cultivation, rice yield, annual income, experience of rice cultivation, input availability and knowledge level about rice technology and their extent of adoption of selected agricultural technologies was significant. However, the association of age, education, family size and extension contact, with extent of adoption of selected agricultural technologies was non-significant.

Key word: Socio Economic Profile, Association, Farmers, Rice, Adoption

ISEE Seminar/2019/ABS/094

Doubling Tribal Farmers Income through Agro- Eco Tourism

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ABSTRACT

The Agri-tourism concept was formally launched on 1st May 2004. The concept of Agri- Eco tourism consists involvement of private sector, the farmers / Agri-tourism service providers based on public private partnership. Agri-tourism service provider's act as both hosts and guides to the visiting tourist. Agri-tourism centres have clean, hygienic environment with modern facilities for comfort of visitors. Agri-tourism service provider is supposed to provide home cooked food, stay facilities and show the visitors the Agricultural practices such as floriculture, harvesting, bee keeping, dairying etc. and introduce to him the village way of life through various participatory activities. Tribal farmer faces many facilities for developing there socio economic problem. There do not reach the different scheme for development of their life style. In India, have many agro -eco tourism centre but this investment cost is more. But we developed AET in tribal area, there have already available of natural resources for establish the agro eco tourism for increase socio-economic status of tribal farmers. When establish agro eco tourism in tribal area that help full for promote Agriculture tourism to achieve income, employment and economic stability in rural communities in India, help boosting a range of activities, service and amenities provided by farmers and rural people to attract urban tourists to their areas, thus providing opportunity for urban people to get back to the roots, Employment generation. Agri tourism helps to improve their livelihoods, traditional forms of art in rural area and increasing awareness of local Agricultural products.

Key word: Agro-Eco Tourism, Tribal Farmers, Doubling Income

ISEE Seminar/2019/ABS/095

Utilization of Irrigation Mobile apps by university and KVK scientists

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ABSTRACT

The mobile phone has became most ubiquitous technological device in the human history. In India number of

smartphone users has surpassed 204.1 million in recent past. Many most popular mobile properties are accessed via mobile apps in present days. This study was conducted on Irrigation Mobile Apps developed by Mahatma Phule Krishi Vidyapeeth, Rahuri. The study was conducted during 2016-17 on Utilization of Irrigation Mobile Apps by University and KVK Scientists. Purposive sampling procedure was employed to select 70 university and KVK scientists working under Mahatma Phule Krishi Vidyapeeth. The results revealed that more than half (52.86%) of the university and KVK scientists were having medium level of knowledge regarding irrigation mobile apps. Both the irrigation mobile apps i.e Phule Jal and Phule Irrigation Scheduler were utilized by the majority (72.85%) of university and KVK scientists. In case of Phule Jal App it was found that, 24.28 per cent of university and KVK scientists were 'very frequently' using 'evapotranspiration calculation' feature, majority (62.86%) were 'frequently' using 'online mode'. The 'offline mode' feature was 'less frequently' used one by 57.14 per cent of them, while 67.15 per cent of them 'Not at all' used 'ETr by Taluka' feature. In case of Phule Irrigation Scheduler App 80.00 per cent of respondents were using "registering Farm' feature 'frequently'. The 'less frequently' (62.86%) used feature of this app was 'Irrigation Event'. 20.00 per cent of university and KVK scientists were 'Not at all' using 'ETr report' feature.

Keywords: Irrigation mobile apps, Phule Jal, Phule Irrigation Scheduler, University scientists.

ISEE Seminar/2019/ABS/096

The One Stop Digital Agri-Solutions Platform: Solution to Every Farming Problem

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ABSTRACT

Agricultural advisory services are a vital element of array of market and non-market entities and are the agents that provide critical flow of information that can improve farmers and other rural household's welfare. After a period of neglect agricultural advisory services have returned strongly to the international and national development agenda. Apart from conventional function of providing knowledge for improved agricultural productivity, agricultural advisory services are expected to fulfill a variety of new functions. 'Pluralistic Extension' now a days is becoming more popular and can be utilized for solving farmer's problems more effectively. India today is having dual goals of raising income for smallholder farmers and to strengthen the competitiveness of Indian agriculture. The digital transformation is the only means by which it can be achieved. In the world of 'Digital India' it is necessary to provide digital solutions to farmers so as to empower them. Hence, the concept of 'One stop digital agri-solutions' is to provide a 'best fit' approach for every farmer by introducing a whole new platform consisting of features like university recommendations, need specific inputs, weather advisory, disease diagnosis, experts interaction, location specific consultancy, market advisory, digital marketing etc. This will lead to transform agriculture the way it is today.

Keywords: Advisory Services, Pluralistic Extension, Digital Agri-Solutions, Agriculture.

ISEE Seminar/2019/ABS/097

Knowledge of Protected Cultivation Technology by Capsicum Growers

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ABSTRACT

Capsicum (*Capsicum annuum* L.) is one of the most popular and highly remunerative annual herbaceous vegetable crop. India contributes one fourth of world production of capsicum with an average annual production of 0.9 million tons from an area of 0.885 million hectare with a productivity of 1266 kg per hectare. The present study was conducted in Rahata and Rahuri tahsil of Ahmednagar district where capsicum is extensively grown under protected cultivation. The present study was conducted with the objectives to study the characteristics of capsicum growers, the extent of knowledge of protected cultivation technology by capsicum growers. The sample was constituted 120 capsicum growers drawn from fourteen villages. The respondents were interviewed with the help of a specially designed schedule. The ex-post facto research design was used for the present study. Regarding protected cultivation structure 67.50 per cent of the respondents had complete knowledge about polyhouse and 63.33 per cent of respondent had complete knowledge about shadenet house. Regarding type of polyhouse according to their shape 70.00 per cent of the respondents had complete knowledge about open ventilated type of polyhouse. Further in construction related aspects majority (89.16 %) of the respondents had complete knowledge about topography of land and 87.50 per cent of the respondents had complete knowledge about location. Complete knowledge regarding other aspects include accessibility of site for the market (77.33 %), climate (67.50 per %), labour supply (65.83 %) while, 60.00 per cent of the respondents had complete knowledge about orientation of polyhouse. Majority of respondents had complete knowledge regarding plant spacing, supporting system, plastic mulching, pinching system and fertigation management.

Keywords: Knowledge, Capsicum, protected cultivation,polyhouse.

ISEE Seminar/2019/ABS/098

Study on Knowledge, Adoption and Constraints Faced by Farmers about Soil Health Card based Fertilizer Application in Ratlam District, India

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ABSTRACT

Indian government launched soil health card program in the year 2015-2016 in order to increase agricultural production and sustain soil health. Since inception of soil health card program, a huge number of soil health cards have been given to the farmers. In order to know the knowledge, adoption and constraints of soil health card, the present study was carried out. The farmers who were issued soil health card were comparatively more aware about various soil health card aspects like major nutrients (N, P & K), soil pH and Soil EC and micronutrients as compared to farmers without soil health card. Data shows that maximum no. of respondents had medium knowledge score that is 56.95 % followed by respondents with low knowledge score (23.61%) and only 19.44 percent respondents had high knowledge score about soil health card. Major constraints faced by the farmers in adoption according to soil health card were difficulty in having knowledge about the importance of micronutrients, the prices of fertilizers being too high and on non-availability of organic manure.

Keywords: Soil Health Card, Knowledge, Constraints, Fertilizer Application

ISEE Seminar/2019/ABS/099

Fieldpea (var. KPMR 522) Production Technologies in Lalitpur District of Bundelkhand Region

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ABSTRACT

Lalitpur district is a part of Jhansi Division of Uttar Pradesh state of India. The district occupies an area of 5,039 km^2.The district lies between latitude 24°11' and 25°14' (North) and longitude 78º10' and 79º0' (East). The climate of the district is sub-tropical, which is characterized by a very hot dry summer and a cold winter. Among the agronomic crops, pulses are the dried edible seeds of certain plants in the Fabaceae family. Pulses are very high in protein and fibre, and are low in fat. Pulses are also nitrogen-fixing crops which improves the environmental sustainability of annual cropping system. Fieldpea were grown in the district during last year of 2017-18 in the area of 48,627 ha, production obtained 87,577 Metric tonne with productivity of 1801 kg/ha. ClusterFront Line Demonstrations (CFLDs) on fieldpea were undertaken by the Krishi Vigyan Kendra, Lalitpur in the district for 2017-18 during *Rabi* season in 12 villages spreading over 4 blocks for dissemination of improved technologies of fieldpea (var. KPMR 522) to increase productivity and to assess the economic viability and technological feasibility of the recentfieldpea production technologies over the existing one. The average highest seed yield (2040 kg ha^{-1}) was recorded under CFLDs in the year 2017-18over1420 kg ha^{-1} under farmers' practices. Forty three percent increase in the yield were observed under CFLDs over farmers' practice. The economic viability and profitability showed that the benefit cost ratio (B: C) was higher in case of improved agro-technologies (CFLDs) with 4.2 against 3.6 in farmers' practice (FP). The net return from improved agro-technologies (CFLDs) was Rs. 49630 ha^{-1}which is significantly higher thanfarmers' practice (Rs. 45440 ha^{-1}). The variation in agro-climatic parameters as well as locations of CFLDs programme was effective in changing the attitude, skill and knowledge of the farmers for adoption of improved technology/ HYV of fieldpea and further wide scale diffusion to the other farmers. It also improved the relationship between farmers and scientists and built confidence among them.

ISEE Seminar/2019/ABS/100

Smart Farming: A Way for Sustainable Agriculture

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ABSTRACT

Agriculture is undergoing through a fourth revolution triggered by the exponentially increasing use of information and communication technology (ICT) in agriculture. Sustainable agriculture refers to the capacity of agriculture over time to contribute to overall welfare by providing sufficient food and other goods and services in ways that are economically efficient and profitable, socially responsible, while also improving environmental quality. To feed the growing population in India, current technologies should focus on sustainability issues. Water, soil, climate and technology are essential for agricultural practices. Proper use of technology in conjunction with experience can lead to precise use of water and fertilizer and proper use of climate and soil which will help to tackle sustainability issues. Autonomous, robotic vehicles, lightweight and powerful hyperspectral snapshot cameras, decision-tree models, Virtual fence technologies are the technological improvements help for technological revolution in

agriculture. Access to new technologies in amalgamation with a diversity of crop and livestock systems, as well as the pertinent markets and policies, can farming in the digital era become smart farming. Smart farming can help to increase accountability among farmers, consumers and traders and enables farmers to exchange information, establish cooperation and peer review which will help to develop informal communication and the present communication gap due to formal agriculture delivery system can be reduced.

Keywords: Sustainable Agriculture, Smart Farming, Information and Communication Technology

ISEE Seminar/2019/ABS/101

Role of Information and Communication Technologies for Agricultural and Rural Development: Uses and Issues

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ABSTRACT

In many developing countries like India, agriculture is seen as the vehicle for development in present century. Information Communication Technologies (ICTs) has found multiple applications in the field of Agriculture and rural development. ICTs in agriculture is an important pillar for the effective transfer of extension services include natural resources, improved agricultural technologies, effective production strategies, markets, banking and financial services etc. Thus ICT play a crucial role in uplifting the livelihood of rural small landholder farmers. ICT comprises of many technologies like wireless technologies-Global Positioning System (GPS), Geographic Informative System (GIS), Smart phones, Mobile Apps in agriculture, E-Commerce etc. These technologies plays a vital role in improving agricultural production and value chain and it ensure the speedy dissemination of information to the farmer. These technologies may help to overcome against illiteracy, unemployment, poverty, agriculture and other developmental problems. It can be said that information processing and dissemination have played a crucial role to overcome these problems. Many studies have revealed that non-availability of ICTs, electricity and tele-communication facilities are the major obstacles in dissemination of information in agriculture and rural development.

Keywords: Agriculture, ICTs, Information, and Rural Development.

ISEE Seminar/2019/ABS/102

Farmer's Perception towards over Exploitation of Ground Water in Central Zone of Punjab, India

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ABSTRACT

Over-exploitation of ground water is a very serious threat to natural resources. It may lead to disrupt the various

important activities and functions for living beings. Majority of population is dependent on water for numerous purposes that include domestic works, agricultural activities, industrial functions and many more. The objective of this study is to understand the relationship between socio-personal characteristics of farmer with their perception towards over-exploitation of groundwater. This study is based on interview schedule conducted in central zone of Punjab comprising 150 farmers. It includes the information related to the socio-personal characteristics of the farmer such as age, education, operational land holding, annual income, mass media exposure and extension contacts etc. and the items related to the perception of farmers towards over-exploitation of ground water. The findings revealed that total earnings, mass media contacts, extension contacts and extension participation have highly significant relationship with the perception of farmers towards over-exploitation of ground water. The data revealed that 45 per cent of the farmers were having medium level of perception (2.4-2.6) while 44.17 per cent of farmers were in the category of high level of perception (2.7-3.0). Thus, it can be said on the basis of above findings that the large majority of farmers had perceived that there is over exploitation of ground water in the central zone of Punjab. Also, to mitigate ground water losses, government should procure low water consuming crops (coarse crops) by the provision of Minimum Support Prices. Farmers should opt for joint ownership of tube well, that would keep less burden on the ground water table. Duration of running pumps should be minimized. The government has announced minimum limit to run the pump in both of the season. Farmers should move from *katcha* channel to underground channel this would prevent the irrigation water from conveyance losses.

Keywords: Over-exploitation, Ground water, Socio-personal characteristics, Perception

ISEE Seminar/2019/ABS/103

Sustainable Livelihood to Enhance Household Food Security and Nutritional Diversity through Kitchen Garden in Rural Areas of Hamirpur District (U.P.)

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ABSTRACT

Kitchen gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis.. Thus the study were planned keeping in view to Improved food security, Increased availability of food and better nutrition through food diversity and enhanced rural employment through additional or off-season production in rural areas of Hamirpur district. To fulfil the objectives of the present study the purposive experimental study was planned. The study was conducted in 4 villages of under FLDs programme and 2 villages under NICRA progrmme in Hamirpur District. Total 120 farm families were selected for the study having area near the house of 100 - 150 m^2. It was found that area available for kitchen garden in most of farm families in cultivated area near the house (29.17.%) and Unused land snear the house (35.83%) which were not used before intervention of this programme due to lack of awareness. It was observed that all the farm women have no knowledge about seed rate, majority of the respondents were having no knowledge about IPM techniques (91.67 %), Stages of irrigation (85.00%) and variety of seeds (81.67%) followed by Transplanting distance (61.67%) and Sowing time of vegetables seed (57.50%). It was also found that from 150m^2 area of kitchen garden fulfilled the more than 100 percent requirement of vegetable in daily routine diet for Small Family 5 Members followed by 76.63 per cent for medium family (6-8 members) and 59.60for big family (9 or more than 9 members). It was also observed that after introducing kitchen garden people save money in buying vegetables and use fresh and organic vegetables so, that health problems also reduced due to use of balance dose of vegetables in daily routine diet.

Kyewords: Sustainable Livelihood, Malnutrition, Nutritional diversity, Food Security, Requirement

ISEE Seminar/2019/ABS/104

Effect of Moisture Conservation Technology in Cultivation of Brinjal Under Rainfed Condition of Bundelkhand Region

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ABSTRACT

An adaptive research on effect of moisture conservation technology in cultivation of brinjal under rainfed condition of bundelkhand region was carried out by following randomized complete block design in participatory mode with 10 famers having three technology options (Plastic mulch, Straw mulch and No mulch) of Hamirpur district of Uttar Pradesh during cropping seasons of *Kharif*, 2018-19 & 2019-20. The observations recorded revealed that the highest saving on weed management and water management were observed in plastic mulching followed by straw mulching. Fruit yield and benefit: cost ratio were also recorded higher in crop having mulch (plastic followed by straw) than no mulch. On the basis of observations recorded it was concluded that mulching is a useful technique to minimize the competition between crop and weed and water stress during long rainfall interval. This technique may help the farmers to minimize the cost of cultivation and maximize more benefits.

Keywords: Moisture conservation, mulching, brinjal, rainfed, bundelkhand

ISEE Seminar/2019/ABS/105

Digital Divide and Digital Opportunities

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ABSTRACT

Internet connectivity is the great enabler of the 21st century global economy. Studies worldwide unequivocally link increases in Internet penetration rates and expansion of Internet infrastructure to improved education, employment rates, and overall GDP development. For many, high-quality Internet services are simply cost-prohibitive. Low-quality infrastructure and devices, unreliable connectivity, and low data rates relegate millions to a global online underclass that lack the resources and skills necessary to more fully participate in the global economy. First recognized as early as the 1990s, these persistent *quantitative inequities* in overall availability, usability, etc., demarcate a world of Internet "haves" and "have not's" known commonly as the "Digital Divide". Before the 1990s century, *digital divide* referred chiefly to the division between those with and without telephone access. After the late 1990s the term began to be used mainly to describe the split between those with and without Internet access, particularly broadband. A digital divide is any uneven distribution in the access to, use of, or impact of information and communication technologies (ICT) between any number of distinct groups which typically exists between those in cities and those in rural areas; between the educated and the uneducated; between socioeconomic groups; and, globally, between the more and less industrially developed nations. Even among populations with some access to technology, the digital divide can be evident in the form of lower-performance computers, lower-speed wireless connections, lower-priced connections such as dial-up, and limited access to subscription-based content. Government has taken many initiatives to bridging digital divide through implications of different technologies. Present study focused on studying many technologies launched to bridge the digital

divide by connecting nation digitally which can help in improving social and economic condition of people through development of non-agricultural economic activities apart from providing access to education, health and financial services.

Keywords: ICT, Digital Divide, Bridging, Internet

ISEE Seminar/2019/ABS/106

New Opportunities in Digital Marketing

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ABSTRACT

Marketing is a way for businesses to reach out customers and interact with them for promoting products and services. Digital marketing also does this, but here the marketing is done by the Net using digital technologies. In the online era, the digital version of shop is website and the aim of the marketing is to increase awareness of the site and bring over more people to it. As more and more people have a preference to purchase online, the significance of digital marketing is gaining strength nowadays. The digital marketing is not an easy task- it includes managing multiple technologies and channels (email, website, social media etc). It is an umbrella word that encompasses several components. The digital marketing domain gives you several options: banner advertising on different search engines/websites/apps, email marketing, content marketing and so on. As Internet becoming more widely accessible and used, Electronic commerce and e marketing have become mainly popular. Well over one third of consumers who have Internet accessibility in their homes repot using the Internet to make purchases. E-Mail marketing, as the term itself suggests marketing through electronic mails, is becoming highly predominant in recent times for most of the companies as they are using it for their benefit. It is outline of direct marketing for commercial communicating or fund raising messages to customers. The core of e-mail marketing conceder very email sent to potential customers or a targeted client. E marketing concerned with using digital technologies to help sell you goods or services. Email marketing is also a form of direct marketing that allows the brand to connect with a huge database of customers. It is more effective and inexpensive manner of communication.

Keywords: E marketing, Marketing, digital, technologies

ISEE Seminar/2019/ABS/107

Theme: Initiatives for food and nutritional security for rural communities
Effect of different coagulant on yield of paneer

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India is the largest milk producing country in the world with 155.5 million tones milk production and per capital availability 337gms/day. There is scope for expanding and improving the indigenous confections by introducing a variety of products adopting improved methods and technology. Paneer is Heat-acid Coagulated and an important indigenous milk product, which is extensively used as base material or filler in preparation of large number of culinary dishes. Paneer is good source of animal protein to the vegetarian food.

Value addition of milk (paneer making) was undertaken by KVK Jalaun in Nainpura and Harkka Villages where purposively selected ten women to assess the performance of two coagulants viz. Lemon juice and citric acid in manufacturing of paneer. The results indicate that the Paneer prepared from T1- Citric acid (1%) was found very good in terms of percentage increase in yield 2.04 %, colour, flavor, taste, and texture as compared to T2- Use of lemon juice (farmers practice). whereas BC Ratio was maximum in Paneer using citric acid (1:1.3) followed by lemon juice (1:1).

Key Words: milk, Paneer, citric acid, lemon juice

ISEE Seminar/2019/ABS/108

Constraints Faced By the Under Graduate Agricultural Students in ICT Use

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ABSTRACT

The present study was conducted in S.K.N. Agriculture University, Jobner. There are four constituent colleges of S.K.N. Agriculture University, Jobner out of these two colleges, namely S.K.N. College of Agriculture, Jobner (Jaipur) and College of Agriculture, Lalsot (Dausa) were selected purposely due to having sufficient ICT infrastructure for the use of agriculture students. Majority of the under graduate agricultural students in both the SKNCOA, Jobner and COA, Lalsot faced the constraints about "Lack of repairing facilities in villages" among the various physical constraints, "Service breakdown created problem in internet access" among the technical constraints, "Lack of training and practical exposure toward ICTs" among the various operational constraints, "Lack of awareness of benefits of ICT" among the various psychological constraints. Majority of the under graduate agricultural students of SKNCOA, Jobner faced the constraint "High cost of computer, modem etc., whereas majority of the COA, Lalsot, students faced constraint of "High cost of internet training" among the various economic constraints.

Keywords: ICT, Skills, Constraints, Higher Education,

ISEE Seminar/2019/ABS/109

To Assess the ICT Utilization Pattern of the Under Graduate Agricultural Students

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ABSTRACT

The present study was conducted in S.K.N. Agriculture University, Jobner. There are four constituent colleges of S.K.N. Agriculture University, Jobner out of these two colleges, namely S.K.N. College of Agriculture, Jobner (Jaipur) and College of Agriculture, Lalsot (Dausa) were selected purposely due to having sufficient ICT infrastructure for the use of agriculture students. Majority of the under graduate agricultural students in both the SKNCOA, Jobner and COA, Lalsot were used mobile very frequently, had used mobile whatsapp facility daily for 2 to 3 hours and did not study any course to know the use of ICT, had studied Certificate course in computer application in computer programme, used ICT for education purpose, mostly use facebook for internet and e-resources, had experience more than 5 years of internet use, had above average in internet skill. Majority of the under graduate agricultural students of SKNCOA, Jobner have experience from 2-4 years, the most popular method of acquired the necessary skills to use internet was through learn by self, prefer hostel to access internet, search in education/academic activities area for utilize ICT, whereas Majority of the COA, Lalsot have experience from 6-12 months, the most popular method of acquired the necessary skills to use internet was through course by university, prefer home to access internet, search in entertainment activities area for utilize ICT.

Keywords:- ICT, Skills, Utilization, Internet

ISEE Seminar/2019/ABS/110

Effect of Different Combination of Farm Machineries for *In Situ* Paddy Residue Management & Its Effect on Yield of Wheat

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ABSTRACT

The rice-wheat cropping system is the major cropping system in Haryana. A large portion of paddy residues in Haryana are burnt in the field primarily to clear the field and to ensure sowing of wheat.As per estimates, 75 per cent of paddy harvest, harvested by combine harvester is burnt in open field. In Fatehabad district, Rice is being grown over an area of 117000 ha and practice of burning rice crop residue has been quite rampant during the last decade.

In order to manage paddy residue in field & sowing of wheat, a field demonstrations were conducted using variety HD-2967 at farmers' field in village Dangra of district Fatehabad using combination of different machineries like harvesting with Super SMS combine harvestor & than mixing of paddy residue in soil with rotavator & sowing with Seed cum fertilizer drill, manual harvesting of paddy & sowing with zero seed drill, mixing of paddy residue with mulcher & sowing with Seed cum fertilizer drill , cutting of paddy residue with shrub master, mixing with rotavator & sowing with Seed cum fertilizer drill , incorporating paddy residue with MB Plough & sowing with Seed cum fertilizer drill. The demonstrations at farmers' fields were regularly monitored at different stages of crop by a multi-disciplinary team of KVK scientists. The yield data and economics of demonstrations were recorded and analysed.

The results of the wheat demonstrations conducted at farmers' field reveals that among different combination of farm machineries for *In Situ* paddy residue management , the average net income was highest (Rs. 29266 /-) in case of cutting of paddy residue with shrub master, mixing with rotavator & sowing with Seed cum fertilizer drill & lowest (Rs. 28210 /-) in case of incorporating paddy residue with MB Plough & sowing with Seed cum fertilizer drill field. The benefit cost ratio which provides the economic viability of intervention was observed highest i.e. 3.14 under cutting of paddy residue with shrub master, mixing with rotavator & sowing with Seed cum fertilizer drill, while it was lowest i.e. 2.84 under incorporating paddy residue with MB Plough & sowing with Seed cum fertilizer drill field. It was also observed from field observation that incorporating paddy residue in soil with MB Plough proved to be most effective in its decomposition. From the above results it can be concluded that different combination of farm machineries can be used for managing paddy residue in field. It not only managed paddy residue in field but also enhance organic matter content & improve soil physical, chemical & biological properties of soil.

Keywords: Demonstrations, Farm machineries, Paddy residue, MB Plough, Rotavator, Mulcher, Shrub master

ISEE Seminar/2019/ABS/111

e-NAM: A Reform in Agricultural Marketing

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ABSTRACT

Marketing of the agricultural produce plays a vital role in economic development of farming community. But

the irony is that at present scenario Indian farmers face several problems for getting remunerative prices of their produces. Many challenges like, fragmentation of state into multiple market areas, multiple levy of mandi fee, requirement for multiple licenses for trading in different APMCs, opaque process of price discovery, information asymmetry etc. are tremendously hampering the economic growth of small and marginal farmers. To overcome all these challenges Ministry of Agriculture & Farmers' Welfare, Government of India launched online trading platform for agricultural commodities in India i.e. e-NAM, National Agriculture Market. e-NAM is not a parallel marketing structure. It is a device to create a national network of physical mandis which can be accessed online. It seeks to leverage the physical infrastructure of mandis through an online trading portal, enabling buyers even outside the state to participate in trading. It helps the farmers in better price discovery for sales, transparent e-bidding, to get real time information on price and trade, information of quality of commodities. It attempts to curb artificially hiked price and provide supervised environment for market. It caters needs of various stakeholders & academic institutions by providing agricultural marketing related information via a single window. It is featured with various technology like gate entry, mobile app, shopping cart, logistic portal, FPO modules, online payment, inter-mandi & inter- state trading , e- learning modules, warehouse integration etc. e-NAM is a revolution in agricultural marketing which is happening slowly & silently that can be regarded as technological intervention to modernise the entire marketing structure. It will help to bring the social change in relationship & networks that work between buyers & sellers and the traditional markets will be transformed into technology enabled digital agricultural markets.

Keywords:e-NAM, Digital marketing, Remunerative price,

ISEE Seminar/2019/ABS/112

Nutritional Garden: A Sustainable way to Integrate Gender and Nutrition

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ABSTRACT

Gender based inequalities in India translate into greater importance being placed on the health and empowerment of males than the females. In spite of constituting half of population, they are considered as marginalizes group and second-class citizen. Findings of world economic forum indicate that India is one of the worst countries in the world in terms of gender inequality. Gender and nutrition are inextricable parts of the vicious cycle of poverty. Gender inequality can be cause as well as effect of hunger and malnutrition. Gender and nutrition are not stand-alone issues; agriculture, nutrition health and gender are interlinked and can be mutually reinforcing. Recently, the reciprocal relationship between the two issues was affirmed, giving rise to various efforts that seek to mainstream gender into nutrition policy and programming. Women continue to face discrimination and often have less access to power and resources, including those related to nutrition. Nutritional diversity is one of the key areas that a developing country should address. Nutritional garden is another mechanism through which we can introduce highly nutritious feed. With varying local opportunities and challenges, the nutritional garden can address food insecurity and bring in self-reliance, sovereignty and dignity. Nutritional garden has the ability to improve food security and nutritional diversity. Even with the dwindling land recourses small area around the house as a small as ten square meters can make the difference in the lives of many. An attempt has been made to find out those factors which are responsible for nutrition base gender in equality in India. Here it is tried to suggest some relevant strategies and policies implications for integrating gender and nutrition.

Keywords: Nutrition garden, gender and nutrition, nutrition security, gender equality

ISEE Seminar/2019/ABS/113

Impact Assessment of Compact Disc regarding Vegetables Cultivation Practices on Rural Women of Haryana

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ABSTRACT

The study was purposively conducted in Hisar and Bhiwani districts of Haryana in 2014-15. One block from each district viz., Hansi block from Hisar district and Bawanikhera block from Bhiwani district were selected randomly. From the selected blocks two villages from each block, *i.e.*, Pali and Bhimnagar villages from Hansi block, Milkpur and Bawanikhera village from Bawanikhera block were selected randomly. Fifty rural women from each villages were selected purposively thus comprising of total sample of 200 respondents. A media was prepared in form of CD regarding vegetables cultivation practices for rural women for impact assessment. CD was exposed to 120 rural women out of 200 women in selected villages *i.e.* 30 rural women from each village. The impact of media was assessed in terms of gain in knowledge and change in attitude of rural women. The overall impact assessment of CD regarding vegetables cultivation practices on rural women speaks of the fact that calculated impact was found to be 45.37per cent which is less than 66 per cent lies in moderate level.

Keywords: Impact assessment, CD, vegetables cultivation, rural women, media

ISEE Seminar/2019/ABS/114

Correlational Analysis of Impact of Media on Socio-Demographic Profile of Rural Women Regarding Vegetables Cultivation Practices in Haryana

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ABSTRACT

The present study was conducted in four villages namely, Bhimnagar, Pali, Milkpur and Bawanikhera of Hisar and Bhiwani district of Haryana state. Fifty rural women who involved in vegetable cultivation practices from each village were selected purposively, thus comprising a sample of 200 women. The impact of CD was found to be significant for gain in knowledge and change in attitude in all selected villages for all the messages regarding vegetable cultivation. There was a significant difference in the knowledge of rural women at pre and post-exposure stage for all the messages. Socio-demographic profile like Education (r=0.257*), occupation (r=0.190*), income (r=0.241*), landholding (r=0.179*) and area under vegetables cultivation (r=0.180*) had positive and significant relationship with knowledge acquisition. Attitude change of rural women was found to be positively and significantly related to education (r=0.296*), landholding (r=0.180*) and area under vegetable cultivation (r=0.185*). Therefore, It may be inferred that respondents who were having cultivation as their main occupation, educated, having higher income, large landholders and more area under vegetable cultivation had acquired knowledge and favourable attitude when exposed them to CD on vegetable cultivation practices.

Keywords: Media, C.D., Attitude, economics, knowledge, rural women, vegetable.

ISEE Seminar/2019/ABS/115

Initiatives for Food and Nutritional Security for Rural Communities- Case Studies from Rural Kerala

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ABSTRACT

Lack of nutritious diet is a major problem to the health and well being of people in rural community. Organic farming is done by the use of fertilizers of organic origin such as compost manure, green manure, and bone meal and places emphasis on techniques such as crop rotation and companion planting. An action research has been carried out in selected households in rural areas of Thiruvananthapuram, based on the baseline survey done in order to assess the nutrient consumption of the people. Case studies on 5 families under BPL category were carried out to understand the effect of the intervention. The study revealed that the economic and nutritional status of the respondents were very poor and they were suffering from many nutrient deficiency diseases. Intervention on practicing kitchen gardens has helped the families to have easy accessibility and availability of organic vegetables free of cost. It has helped the families to start practicing the cultivation of more vegetables and fruits.

Keywords: Food and nutritional security, rural community, organic farming.

ISEE Seminar/2019/ABS/116

Climate Change and its Impact on Rainfed Crop Yield

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ABSTRACT

Climate change has a serious impact on the availability of different type of resources on the earth especially water, which sustains life on earth. Changes in the biosphere, biodiversity and natural resources are adversely affecting human health and quality of life and it is concluded that there is high impact on agriculture compared to any other sector in the country. Climatic variation such as occurrence of drought have high level of impact on the yield of Rainfed crops. Rainfed agriculture is practiced over 90 m ha. area out of 142 m ha. Of total net cultivated area in India. The farmers face a high impact of climate change on the crops grown in Rainfed condition, such as yield reduction and reduction in net revenue. The impact of climate change is intensifying day by day it should be addressed through policy perspective at the earliest to avoid short term effect such as yield and income loss and long-term effects such as quitting agricultural profession by the Rainfed farmers. Assess the impact of drought on the yield of Rainfed crops, to identify the level of awareness on the climate change and to identify the factors influencing in decision making on the coping mechanism to mitigate the impact of climate change. Major impacts of climate change will likely be on Rainfed crops (other than rice), which account for nearly 60 percent of crop land area. In India, poorest farmers often practice Rainfed agriculture so there is an urgent need for coordinated efforts to strengthen the research to assess the impact of climate change on agriculture specially for the farmers under Rainfed condition.

Keywords: Climate Change, Rainfed, Drought, Net Revenue, Yield

ISEE Seminar/2019/ABS/117

Strengthening Agricultural Extension System through Participatory Video

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ABSTRACT

Participatory video is a useful means of sharing knowledge with farmers, scientists, extension workers, agricultural journalists and other rural development professionals. Here the extension professionals made video with the help of farmers in their realistic situation and share information among their peers. This process made the communication easier, accessible and cheaper. Realizing its need and importance various projects has been running all over the world to reduce the knowledge gaps between farmers and extension professional. Some of them are Digital Green, World Cocoa Foundation Video Viewing Clubs (VVCS), Agro-Insight, Insight Share; and in India, Video SEWA, WAVE etc. Agricultural extension videos are an effective tool for the accurate transmission of homogeneous information from a technical source to a low-literacy population, for instance when a technical expert or high-quality trainer is not available or too expensive. Participatory video is an innovative solution to improve the efficiency of extension programmes by delivering targeted content to a wider audience and enabling farmers to better manage their farming operations with reduced field support. The present study will highlight the significance of participatory video in agriculture extension and communication.

Keywords: Participatory extension approach; Participatory video; Communication development; Information Exchange

ISEE Seminar/2019/ABS/118

A Comparative Study of Attitude Level of Beneficiaries and Non-Beneficiaries on Pulse Production Technology under FLD in Kaushambi District of Uttar Pradesh

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ABSTRACT

The present study explores the attitude of Beneficiaries & Non-beneficiaries on pulse production Technology. Pulses are the cheapest source of protein. Pulses have the potential to reduce the problem of malnutrition. Pulses constitute an integral part of human diet as it caters the protein requirement of majority of human beings. The study was conducted in Kaushambi district of Uttar Pradesh. Total 158 beneficiary and 158 non-beneficiary farmers were selected on the basis of purposive sampling method from the identified district. Ex-post-facto research design was used for the present research. Data were collected by personal interview method. The result revealed that 13.29 per cent beneficiaries and 56.33 per cent non-beneficiaries had least favourable attitude towards FLD on pulse production programme where as 61.39 per cent beneficiaries and 5.07 per cent non-beneficiaries had favourable attitude towards FLD on pulse production programme while 25.32 per cent beneficiaries and 38.60 per cent non-beneficiaries were having most favourable attitude towards FLD on pulse production programme. There was a significant difference between beneficiaries and non beneficiaries as regard to their attitude towards FLD on pulse production programme.

Keywords: Frontline Demonstration, Attitude, Malnutrition, Pulses

ISEE Seminar/2019/ABS/119

Utilization and Role of Social Media in Information Empowerment of Farming Community: A Case from Punjab State

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ABSTRACT

Agriculture has gone through the process of change in terms of production, productivity and profitability. A new approach has come which provides new opportunities for the sustainable agriculture development and help humanity to survive and thrive long into the future. Now, to equip the farmers with recent technologies, and innovations various tools of cyber extension are being used by the farming community; social media is one such area. To understand the utilization pattern of these social media tools used by farmers for agriculture purpose the study was conducted. Punjab state was taken as the universe. Descriptive research design was used for the study. A total of 50 respondents were selected by simple random sampling technique. The data were collected with the help of well-structured pre-tested interview schedule. The results revealed that two third of the respondents (66%) used Youtube always for agriculture related information followed by 22 percent who used it sometimes. Majority of the respondents (52%) used PAU Kisan App 'sometimes' whereas 34 percent used it 'always' for getting information regarding agriculture. Regarding activities performed by the respondents on social media, majority (58%) of the farmers post queries on social media platforms. About 68 percent of the farmers contribute to discussions held in social media and two third of the respondents (66%) shared agriculture information on social media. Most of the farmers (74%) revealed that social media fulfills their information needs. Regarding purpose of using social media, majority of the respondents used social media for seeking information related to agriculture such as new varieties, trainings etc.. Sharing information was the second purpose for which farmers were using social media. Networking with the fellow farmers was ranked third by the respondents. Hence, it can be concluded that social media can be a new age solution to cater to the challenge of less availability of extension personnel by complementing the personnel for quick and effective dissemination of agriculture related information ultimately empowering farming community.

Keywords: Social Media, Agriculture Information, Utilization, Credibility, Farming Community

ISEE Seminar/2019/ABS/120

Role of Communication Network in Mobilizing Farming Youth in Patna District of Bihar

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ABSTRACT

Communication network is considered as the basket of technologies which assists or support on storage, processing of data/information or dissemination of information can be through radio, T.V, newspaper, e-portals, social media or mobile phones. Communication network integrated at a single place and for a specific aim or target would facilitate scientist and decision makers on suggesting to the farming community. The present study was conducted

to explore out the constraints faced by the respondents in using communication network and seek their suggestion for better use of networking. Descriptive research design and PRA technique was used to identify the problems of farming youths. Two hundred respondents were selected through the purposive sampling method. The major communication network used by the respondents was kisan call centre (61%), Electronic media (44.50%), Internet (29.50%), Friends (18.50%), and neighbours (15.50%). It was found that communication network was highly mobilizing youth in adoption of improved farm technologies, in medium level of adoption were found in wheat and rice crops. The variables like education, size of family, land holding ,annual income, social participation and extension contacts were positively associated with mobilization of youth in adoption of improved farm technology .Whereas age was found to have negative association and caste was found no association with the mobilization of youths in adoption of improved farming technologies. The major constrains faced by the respondents were speed and connectivity, call cost was high, internet cost was high etc. The majority of the respondents suggested that the properly electricity supply should be provided, cost of internet and cost of call should be minimize, which will leads maximum use of communication network among the farming youth as a result agricultural production and productivity of the crops will be increased .

Keywords: PRA, ICT, Dissemination

ISEE Seminar/2019/ABS/121

Happy Seeder A "happy" solution for Climate Smart Agriculture (CSA) through In-situ Crop Residue Management in Ambala District of Haryana

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ABSTRACT

India has 1.3 billion populations which account 18 per cent of the world's total population and it is estimated to reach 1.6 billion by 2030. Clearly, Indian agriculture systems have a huge responsibility to ensure food security. Rice-wheat (RW) cropping system of the Indo-Gangetic Plains has played a significant role in the food security of India. The sustainability of this system is at risk due to deterioration of soil health and decreasing the productivity. The reasons are burning of the crop residue in general and rice residues in particular. Rice residue management is of utmost important as it contains plant nutrients and improves the soil-plant-atmospheric continuum. Burning biomass not only pollutes environment and results in loss of appreciable amount of plant essential nutrients. Climate Smart Agriculture (CSA) aims to respond to these challenges andit represents a strategy that could help to increase farmers' resilience to weather extremes adapting to climate change and climate variability, whilst decreasing agriculture's greenhouse gas (GHG) emissions. The Govt. of India has initiated Central Sponsored Scheme entitled, "Promotion of Agricultural Mechanization for In-situ Management of Crop Residue in the state of Punjab, Haryana, Uttar Pradesh and NCT of Delhi" with an outlay of 1152 crores for this scheme. Information, Education and Communication (IEC) is the important components. In this scheme, farmers were appraised to set up Custom Hiring Centres (CHCs) at subsidized rates. In KVK-Tepla (Ambala) this scheme was implemented with sanctioned budget of Rs. 29.14 laks. We have conducted 100 demonstration on in-situ crop residue management in the adopted villages. We have found that the yield of wheat was at par in Happy Seeder sown plots as compared to conventional sowing methods. But due to reduced cost of cultivation the net return and benefit cost ration was higher under Happy seeder than conventional method of wheat sowing.

Keywords: Happy Seeder, Climate Smart Agriculture, In-situ, Crop Residue Management

ISEE Seminar/2019/ABS/122

Strategies for Entrepreneurship Development in Agriculture

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ABSTRACT

What is entrepreneurship? Entrepreneurship is a key factor for the survival of smallscale farming in an ever-changing and increasingly complex global economy. But what is entrepreneurship in agriculture? How does it relate to small-scale farmers who operate on the edges of the economy? Farmer-entrepreneurs see their farms as a business. They see their farms as a means of earning profits. They are passionate about their farm business and are willing to take calculated risks to make their farms profitable and their businesses grow. The entrepreneurial environment Farmer entrepreneurs operate in a complex and dynamic environment. They are part of a larger collection of people including other farmers, suppliers, traders, transporters, processors and many others. Each of these has a role to play in producing products and moving them through to the market – through the value chain. Each one needs to be an entrepreneur. They also need to respect each other and work together to make the whole system work better and be more profitable. Entrepreneurship dynamics. But beyond this, successful farmer-entrepreneurs are technically competent, innovative and plan ahead so they can steer their farm businesses through the stages of enterprise development – from establishment and survival to rapid growth and maturity. However, there are many challenges that these farmers face: social barriers, economic barriers, regulations, access to finance and information, and their own managerial capacity to cope with risks and changes and to seize opportunities. Strategies for producer groups for developing farmer-entrepreneurs. Farmers should lead the forming and strengthening of producer organisations. Be sure farmers can see and realise clear social or economic benefits. Formation should be voluntary; potential member farmers need to be aware of the pros and cons of being part of the group and then decide for themselves whether or not to join. Membership should be small enough for face-to-face contact among members, but large enough to be able to benefit from collective action. Members must see that forming local organisations will further their own objectives and respond to their needs. Ensure there is no domination by powerful members. Encourage groups to evolve at a pace that is comfortable for the members. Farmers need to agree on lines of authority and responsibility; leaders must be held accountable to the members. Groups should run on democratic principles and function within a set of formal rules and procedures. Protect farmer-entrepreneurs' instincts to explore, experiment and reflect. Ensure there is good and transparent communication between members. Ensure that leaders have the technical and management skills required for effective performance. Management training for both leadership and members should be part of group formation.

Keywords: Entrepreneurship, Strategies, Agriculture

ISEE Seminar/2019/ABS/123

Big Data Analytics in Agriculture

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ABSTRACT

Farming sector is undergoing digital revolution worldwide. To tackle with growing population and associated

global challenges like climate change, poverty, food insecurity; it is the important to use modern data analyzing tools for smart farming. Big data analytics is a promising technique to address these issues. Big data analytics in agriculture is defined as a combination of technology and analytics that can collect and compile novel and large data, process data in a more useful and timely way to assist decision making regarding farming and allied activities. The big data represents the data sets characterized by high volume, velocity, and variety which require specific technology and analytical methods. Big data is defined in terms of 3Vs, *i.e.,* volume, velocity, and variety, refers to the exponential growth in the amount of data collected, speed of data collection and the large number of data sources and formats, respectively. Different types of huge data generated in agriculture are historical data, sensor based data, web and social data, industrial data, *etc.* Big data in agriculture assist decision making at descriptive, prescriptive, predictive and proactive levels. A set of procedures are used to analyze the data including the dataset collection, pre-processing, integration, reduction, classification, visualization, and performance analysis. The result thus obtained can be used in better decision making, risk assessment, yield prediction, food security *etc.* in farming sector in a cost effective, reliable and accurate way. Many national and international organizations are making efforts to use big data to solve major problems in farming sector. The weather prediction model developed by International Centre for Tropical Agriculture (CIAT) and the FOSCOLLAB platform by World Health Organization (WHO) to ensure food safety *etc.* are some of the attempts using big data. More emphasis on big data analytics needs to be given by strengthening institutional and sector wise linkages.

Keywords: Big data, Data analytics, Digital agriculture, Smart farming, Digital Revolution in Agriculture

ISEE Seminar/2019/ABS/124

Seed Production Potentiality of European Carrot (*DaucusCarota L.*) in Punjab State

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ABSTRACT

Root crops like carrot are well adapted to cool season but its seed production is being done in hills as well as in plains during winter or after over wintering. Seed production of European carrot is done in hilly areas. The European types need vernalizaton of 4-5˚C temperature for 40-60 days duration for bolting depending upon the range of temperature. Seed formation of European carrots takes place at 12.2˚-21˚C. Therefore, the present study was undertaken to investigate the ability of seed setting of diverse genotypes of carrot in Punjab conditions. The study was conducted at two locations of Punjab *viz.,* Vegetable Research Farm, Punjab Agricultural University, Ludhiana (L1) with average temperature 21˚C and KVK langroya, Shahed Bhagat Singh Nagar (L2) having 15.6˚C average temperature. Steckling transplantation of fifteen genotypes (G1-G15) of European carrot was done at three different dates of sowing as December (D1), January (D2), February (D3) at both locations. Observations like number of primary umbels, secondary umbels, tertiary umbels and seed yield per plant were recorded. Number of primary umbels were non-significant in both locations at every sowing date but during second date of sowing, Genotype 15 showed highest number of secondary umbels in L2 and G1 had highest number of tertiary umbels at L1 whereas seed yield per plant of G11 were observed best in D1 at L2. Interactions between locations and genotypes, date of sowing and genotypes, locations and date of sowing and genotypes were significant in all the given parameters. As a result, seed of European carrot can be produced in plain regions with low temperature.

Keywords: Seed Production, European Carrot, Punjab

ISEE Seminar/2019/ABS/125

Carrot: A Perk to Humankind

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ABSTRACT

Carrot (*Daucus carota* L.) is a member of Apiaceace family. Carrot is the one of the major vegetable crops cultivated worldwide. Different colors of carrot define the compounds it may contain. Orange colored carrots are rich in β-Carotene, purple colored carrots contains highest amounts of anthocynin, lycopene is mostly present in red carrots and yellow carrots consists of lutein whereas white colored carrots do not contain any pigment. Carrot has extraordinary nutritional and health benefits. Orange carrots are rich in carotenes which are greatly beneficial to human body. Carrots of yellow colors contain lutein and xanthophylls which are best for the mucus membrane of human eye. Red carrots consists of lycopene alongwith small traces of lutein, carotene. Black carrot is the boon for humankind as it contains a lot of antioxidant pigments like anthocynin, flavonoids which helps to cure various severe diseases. Carrot should be essential in human diet as it is enriched with catenoids, phenolic compounds and vitamins. Experimental evidences proved it to be antioxidative and anticarcinogenic. Carrot compounds lower the risk of various diseases like diabetes, cancer, hypersensitivity. The cardio- and hepatoprotective, anti-bacterial, anti-fungal, anti-inflammatory, and analgesic effects of carrot seed extracts are also noteworthy. Carrot is the best medicine for various diseases as it contains antioxidant pigments. Hence, carrot is a perk to humankind and is the basic necessity of human life.

Keywords: Carrot, Health benefit, Nutritional Security

ISEE Seminar/2019/ABS/126

Science and Technological Innovations for Agripreneurship in Northern India

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ABSTRACT

Indian agriculture has been evolving since age's farmer subsistence agriculture to exploitive agriculture and to sustainable agriculture write from Iron Age to modern era.Each phase has been marked for revolution of simple technologies and adoptions by agripreneurs mostly in rural areas. Such technology covered field operations, farm cultivating land to showing, intercultural operations, harvesting and processing of the harvested produce for marketing in rural hats or grain mandis. With the augment of green revolution, request of agripreneurs focused on enhancing production by enhancing per day productivity through maximization of input use efficiency. Also the crop rotations, cropping intensity charged with increase possibilities for irrigation and fertigation. This phase necessitated technologies which are for precise mostly energy driven accordingly science and technological

innovations help to create new technologies for all these operations covering production and processing phases. In India, the farmer groups represent small holders, medium holders and large holders. The technologies have also been evolved for each category of agripreneurs for production and processing operations. Natural resource conservation through all these years attracted the attention of agricultural scientists to convert agricultural based into potential resources for plant nutrition and bio-energy. Due to last two decades agriculture is evolving as agribusiness and coming out of the suckles of traditional thinking, technologies, processing and marketing reproduce both nationally and globally. To support agricultural growth which constituted the backbone of Indian economy, the government has taken several initiatives like subsidies, agricultural credit facilities, transportation of farm produce to marketing and processing centres so as to ensure establishment of food supply chain from field to fort for socio-economic upliftment of farmers by enhancing their income. Due to policy planning and agricultural technologies the country has been able to record adequate agricultural growth and sell contribute to produce of alleviate poverty, hunger, mall nutrition and uplift socio-economic status of agripreneurs.

Keywords: Agripreneurs, socio-economic, technologies

ISEE Seminar/2019/ABS/127

Mobile Advisory Service: A Tool for Empowering Farming Community

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ABSTRACT

Digital Agriculture is nerve center for modern food systems that enables democratization of information and provide timely and targeted insight for farmers. These insights are now delivered to the location of a decision on how to optimize profitability, support consumer awareness, rural economy and environmental foot print of agriculture. For this to be realized, gathering from each of the key stakeholders their requirement is critical. A key aspect of a digital agriculture revolution is to recognize when and where farmers will seek information input and to toiler that information in a manner that informs their intuition and meet their analytical questioning much progress can be made in targeting digital agriculture when this aspect is recognized and implemented keeping in mind, the present study was conducted in jhajjar district of Haryana state. Total 100 respondents from five blocks under Krishi Vigyan Kendra, Jhajjar were selected randomly by covering 10 villages i.e 2 villages from each block. Total 52 messages were analyzed which were delivered on various aspects during the year 2015-2017. Majority of farmers self evaluated the message on availability of inputs (m.s.2.88) and relative advantage of the technology. (m.s.082) Utility index of the message was found highest for Resource Conservation Technique 54.85 percent and adoption feasibility was observed 78.42percent for all the messages. The farmers also suggested that there should be consistency in delivery of message reported by 91.15 percent. Quality of the message was recorded on eight parameters namely language and timeliness(m.s.1.37) appropriateness (m.s.2.96), length (m.s 2.83), frequency (m.s.1.34) ,usefulness (m.s.2.63) and applicability of the message (m.s.2.60) respectively for all the messages delivered during the years 2015-2017.

Keywords:Digital Agriculture, Stakeholders, Resource Conservation, Utility Index Feasibility

ISEE Seminar/2019/ABS/128

Assessment of New Promising Weedicide for Weed Control in Rice under Banda Condition

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ABSTRACT

The rice-wheat cropping system is key of success of green revolution; share of both the crops together is rated highest about 65% to food grain production. But this cereal based, high productivity system has high resource demand and is grown in a monoculture fashion over the decades. Monoculture caused the increasing weed seed bank in soil which resulted heavy weed infestation in both the crops and causing concern to sustainability. Rice is the main crop during *Kharif* season in district Banda. Rice crop faces weed infestation mainly of *Oryza sativa* var *fatua, Oryza longistaminata* (Wild rice), *Echino chloacolona/ crus-galli* (jungle rice/barnyard grass) *Cyperus difformis C. Rotundus Amaranthus spinosus*. Considering this particular constrain a few number of adoptive trials on rice (variety NDR-359) were conducted at farmers field of Banda district during *Kharif* 2018-19. Most of the farmers practiced hand weeding or using old weedicide Butachlore for weed control in rice crop, considered as control treatment. A chemical weed management method was evaluated by KVK, Banda at five farmers field's of two villages; Pachnehi and Bargahani. A new herbicide namely, Bispyribac Sodium (Nominee Gold) were tested against the farmer practice (hand weeding). The chemical weedicide increases 8.71% yield in NDR-359 variety of rice. Weed management by bispyribac resulted maximum yield (36.7 q/ha) followed by farmers practice (33.5q/ha). This treatment has also maximum net return (Rs. 42405/ha) and 2.9 B:C ratio over farmers practice. It was concluded that the effective weed control in rice crop can be achieved through applying Bispyribac @ 35 gm/ha. at 35 DAT under Bundelkhand conditions.

Keywords: Rice,Promising weedicide,Bispyribac Sodium methyl

ISEE Seminar/2019/ABS/129

Promising Weedicide For Weed Control In Wheat Under Bundelkhand Condition

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ABSTRACT

The rice-wheat cropping system contributes maximum to national food basket and share of both the crops together is rated highest about 65% to food grain production. But this cereal based, high productivity system has high resource demand and is grown in a monoculture fashion over the decades. Monoculture resulted in heavy weed infestation and causing concern to sustainability. Wheat is the main crop during *Rabi* season in district Banda. In many areas wheat crop has been taken just after rice crop and on the other hand fallow- wheat and pulses wheat cropping system is years of the practice. Wheat crop faces weed infestation mainly of *Phalaris minor, Avena Spp., Anagalis arvensis* and *Solanum spp*. Considering this particular constrain a few number of adoptive trials on wheat (variety Raj 4120) were conducted at farmers field of Banda district during Rabi 2018-19. Most of the farmers practiced hand weeding or using old weedicide isoproturon for weed control in wheat crop, considered as control treatment. A chemical weed management method was evaluated by KVK, Banda at five farmers field's of two

villages. A popular new herbicide combination namely, Chlorimuron+Metsulfuron methyl @ 8 gm/ha + 600 litre of water at 30 DAS was tested against the farmer practice (hand weeding). The chemical weedicide increases 8.95% yield in Raj 4120 variety of wheat. Weed management by Chlorimuron+Metsulfuron methyl resulted maximum yield (32.4 q/ha) followed by farmers practice (29.5 q/ha). This treatment has also maximum net return (Rs. 39206 /ha) with 2.92 B:C ratio over farmers practice. It was concluded that the effective weed control in wheat crop can be achieved through applying Chlorimuron+ Metsulfuron methyl under Bundelkhand conditions.

Keywords: Promising Weedicide, Chlorimuron+Metsulfuron methyl, Wheat, Phalaris minor

ISEE Seminar/2019/ABS/130

Management of Brinjal Shoot and Fruit Borer (BSFB) Using Eco-Friendly IPM Strategies in Farmer's Fields

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ABSTRACT

India's diverse climate ensures availability of all varieties of fresh fruits & vegetables. India ranks second in fruits and vegetables production in the world after China. India has witnessed a large increase in horticulture production over the last few decades. Brinjal eggplant (*Solanum melongena* L.) is an important and major crop of Bundelkhand region and highly cosmopolitan and popular vegetable grown as poor man's crop in India. It contributes 8.3 per cent of the total vegetable production of the country. In India, area under brinjal cultivation during 2017-18 was 0.730 million ha with production of 12801 MT. A large no. of insect pests attacks brinjal from the time of planting till its harvest. Some important insect pests are brinjal shoot and fruit borer (BSFB) (*Leucinodesorbonalis*), coccinellid beetle (*Epilachnavigintioctopunctata*), leafhopper (*Amrascabigutullabigutulla*), aphid (*Aphis gossypii*) and whitefly (*Bemisiatabaci*). Among the various pests which hinder the realization of the yield potential, the most destructive and serious pest is brinjal shoot and fruit borer (BSFB), *L. Orbonalis* Guenee (Lepidoptera: Pyraustidae). It is monophagous and considered a major pest of brinjal in all growing areas. Remarkable reduction in quality and quantity (up to 42 percent) has been observed in bundelkhand region due to heavy infestation of shoot and fruit borer in brinjal (BSFB).Mostly farmers apply cocktail of pesticide in heavy doses in brinjal cultivation and the number of pesticide sprays range from 4 to 8, resulting increasing the cost of cultivation. Paradoxically, the brinjal farmers in Bundelkhand region are resource poor and belong to small and marginal groups, who depend on this crop as an important source of income. KVK, Banda conducted FLD's at 4 locations for two consecutive years of 2018-19 and 2019-20 on integrated management of shoot and fruit borer in brinjal.IPM module *i.e.* removal and destruction of infected plants parts/fruits + Clipping of damaged shoots and early infested fruits at weekly interval + foliar spray of Azadirachtin (1500PPM) @5ml/lit, spray of Trizophos 35%+Delta methrin 1%EC@2ml/ litre+1ml sticker/litre of water at flowering and fruiting time at ETL *i.e.*1-5 fruit damage and second spray at 15 days interval found most effective in managing the fruit and shoot borer in brinjal which increased the 26.4% yield and gave net return of Rs. 54700 over the farmers practice.

Keywords: Brinjal, Shoot and fruit borer (BSFB), Azadirachtin, IPM

ISEE Seminar/2019/ABS/131

Yellow Magic Trap: A Novel Monitoring Technique for Management of Sucking Pest in Mustard in Banda District of Bundelkhand Region

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ABSTRACT

Mustard is the second most important oil seed crop in India after soyabean accounting for nearly 20- 22% of the total oilseeds produced in the country. India is the fourth major producer of mustard seed accounting 11 % of world's total production. Among the various production constraints, high incidence of insect pests is the major limiting factor responsible for low yield in mustard. Among all insect-pest, mustard aphid *Lipaphiserysimi* Kalt. is the most important one causing the yield loss ranging from 10 to 85% and 15% oil reduction in India. Mustard aphids are also responsible to transmit single-stranded RNA luteo-viruses disease in the crop. Considering the above situation KVK, Banda conducted FLD's at 4 different locations for two consecutive years of 2017-18 and 2018-19 on integrated pest management of Aphid in mustard. Small flying sucking pests are attracted by the unique yellow colour, so a trial was conducted as a FLD's used a yellow colour plastic sun pack sheet of 1x1 feet and 2mm thickness and stick to the non dying burned lubricating engine oil which are collected from after servicing of agricultural farm machinery coating the trap by brushes. Peel off the protective coating from the magic sheet and hang 30-45 cm above the plants canopy with the help of stick and thread. Preferably they should be placed facing East-West direction. Continuous monitoring and the data were collected after weekly. The percentage of infestation of sucking pests in mustard was decreased 18 to 32 percent and yield was increased up to 22to37 percent. This trap was non poisonous, environmentally safe and incorporated as a novel tool of IPM/ IDM for management of sucking pests in Mustard.IPM modules tool retained significantly higher population of predatory insects, encouraging number of ladybird beetle population and also favorable effect on honey bees and other the pollinators like bumble bees and butterflies as well asaugmenting biodiversity of beneficial faunas in the mustard eco-system.

Keywords: Yellow magic trap, Aphid, Mustard and IPM

ISEE Seminar/2019/ABS/132

Effectiveness of On-Campus Training Programme on Knowledge Enhancement of Extension Functionaries Regarding Reproductive Management in Dairy Animals

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ABSTRACT

Krishi Vigyan Kendra has mandated activities like training, On-farm trial and Front line demonstration. Among all the three activities training is the most important activity. KVKs has to conduct different types of trainings namely, training for farmers/farm women, training for rural youths and training for extension functionaries. Training

for extension functionaries was mainly conducted for upgrading their knowledge, skills, practice related to any agricultural related activities. This study was conducted at Krishi Vigyan Kendra, Banda, Uttar Pradesh where three days on-campus training programme entitled "Reproductive management of dairy animals for enhancing profitability of farmers" was conducted during 9-11 July, 2018. Total 26 A.I. technicians from BAIF Development Research Foundation working in Banda district; have been participated in the training programme. All the respondents were male and already undergone training programme. Majority of the respondent were middle age (53.85%) having qualifications upto graduation (46.15%). 65.38 per cent of respondent were having low level of knowledge regarding reproductive management of dairy animals. Effectiveness of training programme was assessed through knowledge gain and pre-post score of participants on reproductive management. The knowledge gain was highest in case of heat detection (19.58%) followed by feeding management (17.79%), health care and management (17.28%) and method of breeding (16.52%), respectively. Therefore it could be concluded that the training programme organized by Krishi Vigyan Kendra, Banda was found effective in disseminating the information regarding reproductive management of dairy animals.

Keywords: Reproductive management, A.I. technicians, Training programme, Knowledge gain

ISEE Seminar/2019/ABS/133

Problems Identification of Jakhani Village: A Participatory Approach

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ABSTRACT

The present study was undertaken at Krishi Vigyan Kendra, Banda, Uttar Pradesh where Jakhani village has been selected for doubling farmers income by 2022. A total of 50 respondents were selected randomly who were engaged in agriculture and allied activities. Data were collected through focus group discussion, Participatory Rural Appraisal and a semi-structured interview schedule. The problem identification technique was used to identify and prioritize the problems related to agriculture and allied sectors in the village. The result of study revealed that nearly half of the respondents (46.00%) were belongs to old aged category. Majority of respondents (88.00%) were male, had high experience category (66.00%) and more than half of respondents (54.00%) were having low level of annual income category. The result of problem identification technique revealed that crop losses due to *Anna pratha*, getting less price for their produce (Pusa basmati-1121) and poor yield of major crops (Rice and wheat) were the most prioritized problems of farmers of Jakhani village with RBQ value 94.59, 90.41 and 71.66 respectively. The policy makers of state animal husbandry department can develop plan for breed improvement and should also promote organic farming by use of cow dung and urine to control the *Annapratha.* Farmers should be motivated to use National Agriculture Market (e-NAM) and Farmer Producer Organisation (FPO) platform for marketing of their farm produce to fetch better price for agriculture produce. Timely sowing, judicial use of fertilizer and appropriate use of planting techniques should be adopted by farmers for getting better yield of major crops.

Keywords: Doubling farmers income, FGD, PRA, Problem identification, FPO

ISEE Seminar/2019/ABS/134

Performance of High Yielding Yellow Mustard Variety under Cluster Frontline Demonstrations in Jhansi District of Bundelkhand Region

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ABSTRACT

Mustard is one of the major oilseed of *rabi* season in Jhansi district, grown in 8697 haarea with 8848 MT production and productivity of 7.92 q/ha. During *rabi* 2018-19, cluster frontline demonstrations (CFLD) were conducted on yellow mustard variety "Pitambari" in 20 ha area for 50 beneficiaries of Jhansi district of Bundelkhand region. The demonstrations were carried out for 1 acre area for each beneficiaries selected from 09 villages of 4 blocks in Jhansi district. Among input, seed (2 kg), bentonitesulphur (10 kg), insecticide (250 ml), micronutrient (250 ml) per acre per beneficiary were given in 9.0 clusters for demonstration under CFLD. Line sowing of Pitambari variety released in 2010 by CSAUA&T, Kanpur was done from last week of October to 4th November in different clusters while harvesting was done in 1st week of March, 2019. Total rainfall received during the entire crop growth period was 25 mm. Recommended package and practices were adopted by beneficiaries as and when required. Based on the soil health card, soil sample testing of different clusters revealed that pH was neutral to slightly saline, nitrogen content was low, phosphorus was medium, potassium was high and sulphur was observed in low to medium range. Demonstration findings revealed that the demo plot recorded mean seed yield of 14.35 q/ha as compared to check (9.46 q/ha) resulting in 34.07% higher seed yield. The mean values of economic parameters i.e. gross cost (Rs. 20230/ha), gross return (Rs. 60270/ha), net return (Rs. 40044/ha) and B:C ratio (1: 2.97) were observed in demo plot.

Keywords: Performance, Mustard, Yield, CFLD

ISEE Seminar/2019/ABS/135

Initiatives for Food and Nutritional Security for Rural Communities

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ABSTRACT

In India, maize is the third important food crop after rice and wheat. Maize in India, contributes nearly 9.00 percent in the national food basket and more than 100 billion to the agricultural GDP. In addition to staple food for human being and quality feed for animals, maize serves as a basic raw material and as ingredient to thousands of industrial products that includes starch, oil, protein, alcoholic beverages, food sweeteners, textile, gum, package and paper industry, etc. Quality protein maize is superior to normal maize in its amino acids balance and nutrient composition. QPM can help to reduce malnutrition, communities that are constrained by economic and environmental factors. Very few maize based commercializable products (cornflakes and corn starch) available in India market as compared to Europian countries where more than 100 products are available for the consumers, hence there is a great scope and potential for the maize based value added products in the Indian market. Five quality protein maize products namely ladoos, matar, halwa, sev and pakora were disseminated in four villages i.e. two village from Hisar district and two villages from fatehabad district. Sensory evaluation on five parameters was found highest for maize ladoo (m.s. 2.72) and pakora (m.s. 2.55). Knowledge score was assessed for all products

which was found highest for ladoo 87.11 percent and halwa 86.66 percent. Perceived adoption feasibility was observed highest for cultural and physical compatibility m.s. 2.33 and consistency of use m.s. 2.33 by the users. All products were easily understandable and tribal at household level.

Keywords: Value addition, Malnutrition, Adoption feasibility, Skill acquisition

ISEE Seminar/2019/ABS/136

Rural Youth Aspiration towards Agriculture

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ABSTRACT

Rural youth are very important segment of the rural society and they play a vital role in agriculture and rural development. The present study was conducted in the twelve villages of four Panchayat Samities of Akola and Amravati district in Maharashtra State. An exploratory design of social research was used for the study. A random sample of 120 rural youth was selected as respondents from these twelve villages, those who are in the 15-29 years of age range. The finding revealed that the overall aspiration of the rural youth in agriculture, horticulture and dairy, the data reveals that, nearly half of the rural youth (49.17%) towards agriculture had medium level of aspirations, whereas, 33.33 and 17.50 per cent of the rural youth had low and high level of aspirations, respectively. Majority (47.73 %) of the rural youth about horticulture had medium level of aspiration, while 38.64 per cent had low level of aspirations and 13.63 per cent had high level of aspirations. With regards to dairy farming the data revealed that majority (57.69%) of the rural youth had medium level of aspiration, while 30.77 per cent had low level of aspirations and 11.54 per cent had high level of aspirations. Further data reported that variables education, land holding, annual income, mass media exposure, extension contact, extension participation, achievement motivation, economic motivation and innovativeness were found to be significantly correlated with the aspiration of the rural youth about agriculture. With regards to horticultural activities, the variables like education, land holding, extension contact, extension participation, achievement motivation, economic motivation and innovativeness were found significantly correlated with the aspiration of the rural youth. Regarding dairy farming activities, variables like education, land holding, annual income, mass media exposure, extension contact, extension participation, achievement motivation, economic motivation and innovativeness were found to be significantly correlated with the aspiration of the rural youth.

Keywords: Rural Youth, Aspiration, Agriculture

ISEE Seminar/2019/ABS/137

Yield Enhancenment of Tomato (Lycopersicum esculentum L.) Through Front Line Production Technologies in Banda District of Bundelkhand Region

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ABSTRACT

Tomato (*Lycopersicum esculentum* L.) is one o the important vegetable crop grown by small and marginal

farmers of Bundelkhand region. Major constraints towards its low productivity are poor adoption of improved technologies. Front line demonstration technology is the best method to enhance its productivity in the rainfed as well as irrigated condition. Krishi Vigyan Kendra, Banda conducted FLD's at 50 farmers field to demonstrate production potential and economic benefit of improved technologies comprising of variety resistant to leaf curl virus, proper plant spacing, integrated nutrient management and weed management during *Rabi season* of 2017 &2018 under irrigated condition. The improved technology recorded a mean yield of259 q/ha which was 58.89% higher than that obtained with farmers practice yield of 163 q/ha. The improved technologies resulted into higher mean net income of Rs. 203100/ha with a benefit cost ratio of 4.63 as compared to local practice Rs.115700/ha with benefit cost 3.44.

Keywords: Tomato, Package of practices, B:C ratio, leaf curl virus, HYV

ISEE Seminar/2019/ABS/138

Yield-Gap Analysis of Brinjal Productivity through Front Line Demonstrations in Banda District of Bundelkhand Region

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ABSTRACT

There is much more scope and need for promoting vegetable cultivation as an alternative source of income for small farmers in the Bundelkhand region, for that simple reason vegetable cultivation is far more profitable than cultivation of staple food grain crops. Vegetable cultivation will also help improve nutritional status of families, especially women and children. The brinjal is of much importance in the Banda district, being grown extensively in Bundelkhand region but major constraint for lower productivity in the district is unavailability of quality seed as well as low adoption of improved technologies. . It is a versatile crop adapted to different agro-climatic regions and can be grown throughout the year. Conducting FLD's is the better means of transfer of technology for increasing productivity of brinjal crop in the district. KVK, Banda conducted 30 demonstrations in 20 hectare area on brinjal varieties Kashi Uttam and Azad Brinal- 1 on farmer's field to demonstrate the production potential and advantages of improved techniques namely proper seed rate, planting spacing, INM and timely weed management for two consecutive Rabi seasons i.e. 2017-18 and 2018-19 in 10 villages spreading in 4 blocks. On an average over years about 48.80 per cent yield increase was observed in demonstration over farmers' varieties. The mean yield of 248.5 q/ha was recorded under demonstrations compared to farmers practice of 167 q/ha. The extension gap, technology gap and technology index were observed to be 85.5 q/ha, 301.5 q/ha and 54.81 per cent, respectively. The improved technologies resulted higher mean net income of Rs. 197200/ha with benefit cost ratio of 4.84 as compared to local practice Rs.117600/ha with benefit cost ratio 3.38.

Keywords: Brinjal, Extension gap, Technology gap, Technology index, HYV

ISEE Seminar/2019/ABS/139

Mobile Phone – A Smart Approach For Technology Assessment And Dissesemination Among Farmers

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ABSTRACT

Information and communication issues have been key factors for enhancing the agricultural production. When it came to identifying which ICT tool can be considered as best in of delivering extension services then mobiles phones have shown greater potential. Mobile phones are the important component of ICT . It is growing manifold when compared to other ICTs in rural areas and are considered to be most penetrated ICT which had its roots even in the remote rural areas. Mobiles are becoming affordable and increasing their connectivity among more and more people. Several mobile phone based agricultural extension projects have been deployed in India like, aAqua , Kisan Call Center ,m-kisan portal, BSNL, Reuters Market Light (RML), Nokia Life Tools, Fisher Friend Project, Mobile based Agro-Advisory System in North-East India , kisan kerala , Virtual KVK etc. Using mobile based agro-advisory services enhance the chances of rural income generation to achieve agricultural development goals by supplementary investments, resources, and strategies.With immense development of the technology in the mobiles, the recent advancement was found to be the mobile apps. Mobile apps can promisingly contribute to the field of extension as they have the features like interaction, information delivery, updation, storage etc., which were extremely important in the field of extension. Even m-apps can improve the speed, attractiveness, quality and lower production costs of extension and training support materials. Thus, these could become a source of knowledge and information transfer for the farmers from scientists as well as extension functionaries. With advent of smart technology at their fingertips, farmers can make improved decisions on various aspects. Thus, mobile apps could make a difference in the lives of the information poor farmers by accessing the latest, required and timely information.

Key wo rds ICT, Mobile phones, m- Apps, Extension, Technology

ISEE Seminar/2019/ABS/140

Productivity Enhancement through Improved Variety of Chickpea under CFLD in Jhansi District of Bundelkhand Region

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ABSTRACT

Chickpea is one of the most important pulse crop cultivated in Jhansi district.Its productivity is quite low due to multiple constraints. One of the major constraints of its lower productivity was non-adoption of improved technologies imbalanced use of fertilizers. Cluster front line demonstration on chickpea (*Cicer arietinum* L.) was conducted by Krishi Vigyan Kendra, Bharari, Jhansiof Uttar Pradesh. It was performed in five cluster villages of 3 blocks in Jhansi districtnamely Padri, Dhikoli, Bamaur, Hastinapurand Bhojlain 10 hectare area for 25beneficiaries during *rabi* 2018-19.The recommended dose of fertilizers was applied as per soil health card. The results revealed that improved/high yielding variety (J.G.-14) + seed treatment + improved technologies recorded a mean yield of 16.8 q ha^{-1} which was 37.5 per cent higher over farmers practice (10.5 q ha^{-1}), besides having higher mean net income of Rs.57156 ha^{-1} as compared to farmers practice (Rs. 30560 ha^{-1}). The higher grain yield was recorded in demonstration plots as compared to local check due to higher yield potential and adoption of recommended package of practices by farmers.

Keywords: Chickpea, CFLD, Productivity, Farmer's field, Net returns

ISEE Seminar/2019/ABS/141

Women Empowerment through Floriculture

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ABSTRACT

Women have played and continue to play a key role in the conservation of basic life support systems such as land, water, flora and fauna.Women's role is of multi-dimensional in nature; agricultural fields need sowing, transplanting, weeding, irrigation, fertilizer application, plant protection, harvesting, winnowing, storing etc. Floriculture is an intensive type of agriculture & income per unit area from floriculture is much high. Floriculture is important from *economic, aesthetic and social point of view.In our country women are 65% of the total* workforce involve in the production of flowers. The floricultural activity generates many employments in rural areas. The rural women are engaged in floriculture and garlanding works. This work gives self empowerment among the rural women and their earnings contribute in their family income.

Keywords: Floriculture, Women empowerment, Self-empowerment, Entrepreneur.

ISEE Seminar/2019/ABS/142

A Conceptual Exploration of Research into Dimensionless Paradigm of Potential Rural Research Areas with Gender Perspective

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ABSTRACT

Definition of research extends boundaries as it ages, in the line of research ethics. Ethics in research are those considerations in which meta-research gets twisted in connotative context. Research started with spontaneity, to get the rewarding situations back which researcher got by insight. Overview of generation of research and its different directions can end the mess where the duplicity and plagiarism could be result of complexity in mind of researcher. An overview of outreach of extension and its incompleteness to penetrate the technologies should be discussed. Subsequently, alternative paradigm of research need to be explored from "abrupt and illogical perspective", because presently, the logic is what experts are convinced and to change it, the journey to logo is retrospectively long. Communication is the manifestation of our own desires which we wish to hear from other mouth, or which we intend to bring by help of others. The communication in ancient time can be viewed from many dimensions such as tradition, theology, needs, culture and predominant values of culture, games, leisure time expending, occupation, intended market push to inoculate hardware technology in form of software technology, the technology ageing, anxiety of change- agents and compatibility of receptiveness of clients to technology with the aspect of unfulfilled desires which the monetary gain from technology can yield the physical asset and mental victory. Although, the communication and generation changed frequently, both the medium of communication and receptivity of clienteles in increasing age of knowledge changed the way of perceiving the information. The gap aroused from the known trend of advancement of knowledge to the pace that receiver perceived the urge to ignore one dimension of message and try to explore in other dimension. This change to perceive the change differently gave rise to knowledge as it is philosophical and inter- sectorial. The written communication, for say could be originated not to frequently transfer the message for informative or entertainment purpose, but for caution and warning. But, now extension strategies perceive written communication to fulfill informative and entertaining purpose in rural extension. The ancient literatures had norms and control, but now their writings are used as method of mediation without understanding the intended meaning, by the virtue of credibility which rose from the belief and belief rooted in shunting the interrogative behavior and trusts the historical rituals. In the same time, in parallel to it, social evolution and revolution took place where the role and its role in future changed, say limited or stagnated to focus on 'one' or 'related to one' aspect of social, economic and security related demand. The problems we perceive is hue, first split in to constituent tint and shades of gender perspective.

Keywords: Communication, Knowledge, Research, Rural, Technology.

ISEE Seminar/2019/ABS/143

Women Entrepreneurs and Reason for Taking Entrepreneurial Activities

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ABSTRACT

The present paper describes about the rural women entrepreneurs and reason for taking up entrepreneurial activities

in Faizabad city (Ayodhya) of Uttar Pradesh. The study was conducted in 8 villages of Bikapur block of faizabad district. The sample comprised of purposively selected 80 rural women i.e. 40 women entrepreneur and 40 non women entrepreneurs (5 entrepreneurs and 5 non entrepreneurs from each of the 8 selected villages). More than half of the respondents (52.5%) were engaged in craft related activities. Nearly 48 percent respondents were engaged in agro based units. Women who are the nerve center of the family, vital section of society and backbone of the nation have realized the importance of becoming an entrepreneur and had started entering into the world of profession as the fast changing time has brought many new interest and responsibilities into their orbit. The ever rising price line has made it difficult to maintain the family economically sound. Thus, the participation of women in income generating activities is indispensable not only for survival of individual families but for maintenance of wider socio- economic system.

Keywords: Women, Entrepreneur, Activities

ISEE Seminar/2019/ABS/144

Study on Knowledge Level of Farmers on Chickpea Production Technology in Central Plain Zone of Uttar Pradesh

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ABSTRACT

Chickpea is the world's third most important food legume with 96% cultivation in the developing countries. Chickpea is a major pulse in India which contributed about 35 percent of area of pulse production. Chickpea (*Cicerarietinum*) generally known as "Chana" /"Gram" or "Bengal Gram" is an important leguminous food grains in India. Chickpea is the world's third most important food legume with 96% cultivation in the developing countries. Uttar Pradesh is the fifth rank in chickpea production. The study was conducted in the state of Uttar Pradesh (UP). The economy of U.P. is predominately agrarian. In this region there are sixteen districts, out of which Kanpur Dehat and Unnao were randomly selected for the present study. From each of the selected districts three blocks were randomly selected. From each of the selected blocks three villages were selected randomly and from each of the selected villages, 12 respondents were selected randomly for the so as a total (216) respondents were selected for present study. Finding The findings revealed that majority of 73.611 per cent of respondents had medium level of overall knowledge level, major knowledge about sowing method 98.1 per cent, harvesting time, method and handling 88.175 per cent, suitable soil 83.1 per cent, storage observed 81.7 per cent, land preparation 80.55 per cent and sowing time 78.2 per cent. The independent variable, extension contact had positive and significant association with the knowledge level of the respondents at 5% level of probability. The independent variables viz., education, size of land holding, annual income, attitude, sources of information utilized and training had positive and significant association with the knowledge level of the respondents at 1% level of probability.

Keyword: Chickpea, Knowledge level, determinants, U.P.

ISEE Seminar/2019/ABS/145

Adoption of Recommended Mango Production Practices by the Farmers In Faizabad District Of Uttar Pradesh

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ABSTRACT

Mango fruit *(Mangifera indica)* is one of the most popular, nutritionally rich tropical fruits with unique flavor, fragrance, taste, and health promoting qualities. With this guiding principle, Indian scientists during the last three decades have made sustained research effort which resulted in the development of modem high yielding production technologies. The present study was conducted to determine the adoption of recommended Mango production practices by the farmers in Sohawal block of Faizabad District in Uttar Pradesh. One hundred twenty respondents were selected randomly for the present study and descriptive research design was used for the present research. The study inferred that there are 41.66 per cent trainees and 33.33 per cent non-trainees were having low socio-economic status and 50.00 per cent trainees and 60.00 per cent non-trainees were having medium level, 08.33 per cent trainees and 06.66 per cent non trainees were having high socio-economic status. It was also found that there are 16.66 per cent trainees had medium level of adoption, 25.00 per cent trainees and 53.33 per cent non-trainees have low level adoption of improved mango production practices followed by 33.33 per cent trainees and 25.00 per cent non-trainees having medium level adoption and remaining 41.00 per cent trainees high level of adoption of improved Mango practices. Govt. should take proper steps and appropriate extension strategies to be followed for proper adoption of mango production technology.

Keywords: Trainees, Non Trainees, Adoption Production, Level, Training, K.V.K

ISEE Seminar/2019/ABS/146

Nutrient Composition of Value Added Eggless Muffins Incorporating Full Fat Rice Bran, Mixed Nuts and Sesame Seeds

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ABSTRACT

The present investigation was conducted to evaluate the nutrient composition of developed value added eggless muffins incorporating full fat rice bran, mixed nuts and sesame seed. Value added Type I and Type II eggless muffins contained full fat rice bran at the levels of 10 and 20 per cent, respectively but both contained 10 per cent mixed nuts and sesame seeds. The control had 10 per cent mixed nuts and sesame seeds but did not contain rice bran. It was observed that value addition with rice bran improved the nutritional value of eggless muffins in terms of ash, fat, protein, fibre as well as total minerals. Crude fat content increased from 19.10 to 22.90 g/100g, crude protein increased from 6.90 to 7.70 g/100g while crude fibre increased from 0.94 g/100g in control to 2.98 g/100g in Type II eggless muffins. Dietary fiber content includes soluble, insoluble and total dietary fiber. Soluble dietary fiber content increased from 0.54 to 1.15 g/100g, insoluble dietary fiber content increased from 1.56 to 5.38 g/100g and total dietary fiber increased from 2.10 to 6.54 g/100g. Value addition also resulted in improvement in mineral profile of the products. Calcium, magnesium, iron, potassium and magnesium, respectively ranged up to 100.90, 355.50, 8.02, 376.60 and 237.50 mg/100g. Such developed products can be very useful in combating the micronutrients deficiency problem in population of all age groups.

Keywords: Rice bran, value addition, nutritional composition, fiber, total minerals.

ISEE Seminar/2019/ABS/147

Hydroponics- An Innovative Farming Approach

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ABSTRACT

The worldwide food production system has a great challenge to face over the next few years: to guarantee a food supply to our growing population in a sustainable way. Despite the technological developments improving our industrial agriculture productivity, issues such as land availability, seasonality, high water consumption, and carbon emissions are in fact the main obstacles preventing us from meeting food security and sustainability targets. Therefore, in order to reach these goals, we have to seek some alternative farming methods that could increase agricultural outputs and reduce environmental impacts. One of these solutions is hydroponics, an ancient culture method that allows for soilless food production.Hydroponic agriculture provides many benefits to the ecosystem. Being a soilless production it doesn't need herbicides or chemical pesticides and so, it positively affects human health and the environment. Moreover, commercial hydroponic food production method allows on average four times the amount of crops in the same space as traditional soil-based farming, and it can guarantee a faster growth for many kinds of crops. Furthermore, it can reduce water consumption by up to 90% compared to traditional agriculture's water usage. In addition, hydroponics can be a valid alternative to produce food in areas that are not rich in natural resources, such as deserts or even urban buildings. The word hydroponics comes from hydro meaning water, and ponos meaning labour. It is meant to represent the growing of plants in any medium-sand, gravel, or liquid, with added nutrients, but without soil. It is also referred to as vertical farming, because this type of farming allows for crops to be grown in layers – in shelves or trays, one layer over another. These layers could be as many as you want–from 2 or 3 or even 20 – one on the top of another. Today many young and progressive farmers are earning their living through hydroponic agriculture viz; Somvir Singh from Chandigardh, ArvindDhakar from village Riyavan, Anubhav Das from Nanital, Vijay Krishnamoorthy from Bengluru, DharampalSatyapal and Navin Jindal from National capital Region and dozen more. They are successfully growing Green leafy and other vegetables such as Kale, Spinach, Mint, Tomato, Egg plant, Bitter gourd, Arugula,Lettuce, Cucumber, Spring onions, Bottle gourd, Bell Peppers, where as some are even growing fruits, medicinal plants and flowerslike Italian basil,Stevia, Strawberries, Blueberries, Roses, Jasmine, etc. Hence we can say that hydroponic agriculture can bring revolution in the upcoming years.

Keywords: Hydroponic, Agriculture, Production, Environment and Consumption.

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Competency Framework for Agricultural Research and Extension Scientists in NARES

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ABSTRACT

Competencies are deep seated knowledge, skills and abilities of individuals in organizations that are foundations of workforce behaviors. Besides knowledge and skills, they encompass the individual's motives, attitudes, values

and other personal characteristics. Knowledge and skills are "threshold competencies" commonly used to match people to jobs, but they do not differentiate the average performer from the superior. Personal characteristics are considered "differentiating competencies", as they have been found to be significant drivers of superior performance. Competency based approaches to human resources management have been effectively used by corporate and international research agencies in the past to systematically align workforce competencies with organizational goals and strategy. But their use in India is limited, particularly in institutions of National Agricultural Research & Education System (NARES). This gap in human resource management strategy is providing to be a major bottleneck in accelerating innovation for promoting inclusive and sustainable growth of agriculture in India. Since agriculture interfaces with many other sectors of economy, growth of these sectors is also being constrained. Research has clearly pointed out that as much of 65% of performance problems faced in the organizations are not because of the fact that people do not possess adequate knowledge or skills, but because of the differentiating competencies that go with the individual's personality and attitude which influence to a great extent performance output and outcome of employees. The study revealed that functional competencies viz. Discipline orientation, Research attributes (Cognitive), Research Methodologies, Project Management & Governance skills, Research Communication skills and Research Application & Extension attributes and behavioural competencies viz. Leading & Managing relationship attributes and Networking criteria were used with their relevancy, importance & level to establish the Competency Framework for Agricultural Research and Extension Scientists". A competency management system (CMS) links the human resources processes to desired competencies to enable organizations to shape the capabilities of its workforce for superior performance.

Keywords: Competency, Competency Framework, NARES and Agricultural Scientist

ISEE Seminar/2019/ABS/149

Approaches for Technology Transfer to the Farmers

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ABSTRACT

Technology transfer is a multi-level process of communication involving a variety of senders and receivers of ideas and materials. As a response to market failure, or as an effort to accelerate market-driven social change, technology transfer may combine public and private apparatus or rely solely on public institutional mechanisms to identify, develop, and deliver innovations and information. Agricultural technologies and knowledge largely been created and disseminated by public institutions. But over the past two decades, biotechnology for agricultural production has developed rapidly, and the world economy has become more globalised and liberalised. This has boosted private investment in agricultural research and technology, exposing agriculture in developing countries to international markets and the influence of multinational corporations. But the public sector still has a role to play, particularly in managing the new knowledge, supporting research to fill any remaining gaps, promoting and regulating private companies, and ensuring their effects on the environment are adequately assessed. Technology transfer institutions include universities, government ministries, research institutes, and what may be termed the 'project sector'. Four farm- and village-level change models are considered: traditional community development, adoption-diffusion, training and Visit Extension, and Farming Systems Research. The challenges to technology transfer efforts center on developing indigenous capacity to generate and adapt agricultural technology to local conditions. This is the primary objective of technology transfer in agriculture and the basis for advancing rural development.

Keywords: Agriculture, Dissemination , Extension, Technology transfer

ISEE Seminar/2019/ABS/150

Constraints faced by Beneficiaries of Citrus Estates in Citrus Cultivation

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ABSTRACT

Citrus is a non-traditional crop in Punjab state, hence, it became evident to promote citrus crop and to give knowledge to the farmers about most up-to-date techniques of citrus planting, management, harvesting and marketing of this crop. Therefore, the Punjab Government through the State Department of Horticulture has established five Citrus Estates in natural citrus growing area of the Punjab during 2007. Present study was planned with an objective to identify the constraints faced by the beneficiaries of citrus estates in citrus cultivation in Punjab. To select the area and sample beneficiaries, a stratified multistage random sampling design was used and 200 beneficiaries were selected from five citrus estates societies in the three selected districts of Punjab.The findings from this study revealed that the average operational land holding of all respondent beneficiaries was recorded 10.00 acres whereas relatively higher proportion (43.00%) of the total respondent beneficiaries were falling under the age group of 37-46 years. The study also showed that amongst the five areas, technical constraints got first rank followed by storage & marketing constraints with average mean score 2.271 and 2.244. Under different five areas, susceptibility towards disease & insect-pest, unfavourable weather conditions, seasonal glut in market, lack of preservation industry in the area and lack of mechanization in citrus processing were the major constrains their respective areas.

Keywords: Beneficiaries, Citrus, Citrus Estates, Constraints, Preservation industry

ISEE Seminar/2019/ABS/151

Xeriscaping: A Short Review

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ABSTRACT

Xeriscaping means to develop landscape plans by using water conserving ideas and drought resistance plants to reduce water usage. Originally, it was developed to conserve water in drought areas only but nowadays it became an important way to promote water conservation as water is now considered as one of the precious and expensive resource. Xeriscape type landscape reduces the water consumption more than 50 percent without disrupting the aesthetic value of a landscape. Xeriscaping not only reduces water consumption, it also reduces fertilizer requirement, require less maintenance, saves time and energy without compromising with the beauty of landscape. Xeriscaping already adopted in developed countries, now days we also need to focus on xeriscaping. In this review paper we are discussing about the basics of xeriscaping,its benefits and plants that are used in xeriscaping.

Keywords :Drought, Landscape, Water conservation, Xeriscaping

ISEE Seminar/2019/ABS/152

E-Marketing in Agriculture Sector

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ABSTRACT

The internet has taken over the world. In a survey it has been stated that about 58% of the Indian population depends directly on agriculture considering as primary sector and it holds for about 13.8% of GDP of India. Using internet as a way of marketing channel in the agriculture industry has opened doors for farmers to reach the large number of customers. E-Marketing tends to reduce the gap between farms and non-farming sector as a means for communication. Rural telecom subscriber base has grown faster in comparison with urban telecom subscriber base. The survey conducted as of March 2015 stated that the national density for telecom subscriber was 79% and for rural 46.5%. In today's era, smart farmers are considering online services that are required for their business like fertilisers, pesticides, farm equipment's, machinery, product transportation and post-harvest services. The ultimate aim of e-marketing in agriculture industry is targeting large audience at cost effective and measurable way. Likewise, creating awareness among customers and entering into their eco system through viral content is the key to success in agribusiness. E-marketing is growing at the rate of 51% per annum in the world. E-Marketing provides the stage to encounter personalized feeds of the customer increasing the transparency of the product or service. Henceforth, it plays an important role in the growth of the economy and stability of the agribusiness.

Keywords: Agribusiness, E-Marketing, Internet, Online Services, Telecom

ISEE Seminar/2019/ABS/153

Importance of Information and Communication Technology in Agriculture Development: A Study of Shrawasti district of Uttar Pradesh

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ABSTRACT

Today India is passing through the phase of communication revolution, which has brought about a significant growth of media in mass communication. It has become an important part of development initiatives in health, nutrition, agriculture, family planning, education, community economy and world empowerment. This present study aims to focus on agricultural development with the emergence of the new communication technology. The main objective of the study is to analyze the knowledge level and utilization pattern of ICT tools for agricultural development. The study is being undertaken to know how agriculture development is possible through an effective communication tools that is ICT (Information and Communication Technology). The study was carried in Ikauna Block of Shrawasti District of Uttar Pradesh. Out of 81 villages in Ikauna block, eight villages were selected purposively and equal numbers of users and non- users among 120 farmers were selected randomly from the list of ICT users and non-users group. Data was collected by using pre-tested schedule and analyzed using appropriate statistical tools. It was found that majority of users (65.00%) had medium level of knowledge while majority of non-users (46.67%) had low level of knowledge. Similarly majority of Users (66.67%) had medium level of usage for agricultural information followed by high usage to low usage. It is concluded from the study that usage of ICT tools in agriculture helps the farming community to raise their socio- economic status and also provide

relevant and useful information. Lack of funds and lack of training are major constraints encountered by users. Hence, government should take more steps to minimize it and create more awareness about ICT tools regarding agricultural information.

Keywords: ICT, knowledge, utilization pattern

ISEE Seminar/2019/ABS/154

Response of Sulphur on Growth and Yield of Mustard under Rainfed Condition in Hamirpur District of Bundelkhand Region

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ABSTRACT

Oilseeds crops respond more to the sulphur application in comparison with other crops, which is related to the role of this nutrient in oil biosynthesis sulphur is a component of plant amino acids, proteins, vitamins, and enzyme structures. It has been observed that increasing sulphur application increases protein and oil content. Mustard is nutritionally very rich and its oil content varies from 37- 49 percent. Mustard possesses a great survival potential under rain fed condition due to which it is the major oil seed crop during *Rabi* crops in the Hamirpur district with low productivity i.e. 11.36 kg /ha. The major reason behind low yield of mustard in this region is lack of improved varieties and improper nutrient management practices. To study the effect of sulfur application on mustard crop Krishi Vigyan Kendra, Hamirpur conducted present studyin rainfed condition during 2018-19 under CFLDs project. Under the CFLD project, 100 demonstrations were laid down. The variety selected for the demonstration was RH406. Under the demonstration, Farmers followed seed treatment with *T. harzianum* @5g per kg of seed, RDF+ 25 kg of sulfur per hectare. The results of the study revealed that with the application of 25 kg of sulfur per hectare, more plant height, more no of branching and more no of siliqua per plant was noted. It was recorded that in treated plot mustard yield was 58.7 percent higher over farmer's practice. The benefit-cost (B:C) ratio was 4.3 and 3.0 in demonstration and local check, respectively and net return was 68540 &37290 also showed similar trend. It can be concluded that the application of 25 kg sulphur per hectare was found beneficial and effective dose for increasing productivity of mustard under rainfed condition of Hamirpur district and CFLD is playing one of the important role in motivating the farmers for adoption of improved production technology resulting in increasing their yield and profit.

Keywords: Response, Sulphur, Growth and Yield, Mustard, Rainfed condition

ISEE Seminar/2019/ABS/155

Doubling Rural Farmers' Income through Livestock Farming in Hamirpur District of Bundelkhand Region

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ABSTRACT

To double the income of the farmer households in UP by 2022, Animal husbandry has a major role in doubling farmers' income. It is now unanimously accepted by farmers that integrating animal husbandry activities with agriculture can double the income. Animal husbandry is an important integral component of Indian agriculture supporting livelihood of the rural population. Under doubling the farmers income programme Krishi Vigyan Kendra adopted two villages Barua and Pachkhurakhurd, under Kurara block in Hamirpur districts of Uttar Pradesh. During the preliminary study villages have total population is 1369, 1325 and household families size were 259 and 142 respectively. Total livestock holding were 706 and 370. The average milk yield/day was 6.12 in buffaloes, cattle 3.03 and goat 0.75 litres respectively. Some of Constraints faced by farmers are poor feeding and breeding management, poor hygiene and shelter management, heavy infestation of endo-ecto parasites in dairy animal's, lack of awareness about vaccination and deworming, summer sterility and reproductive disorders are common. The major disease occurrences are surra, milk fever, bloat, mastitis, PPR and Enterotoxaemia. Adaptive major interventions can be useful for enhancing the income i.e. better feed management-mineral mixture supplementation of feed, azolla, green fodder, plantation of fodder tree on farm bunds, improved shelter for livestock, diseases management of animals and timely vaccination/Health Camp. Only livestock farming can increase their income by adopting the new methodology, good animal husbandry practices, modern and innovative farming techniques in livestock component would provide the facilitating inputs to enhance the income of farm families within a short period of five years in a synergistic mode.

Keywords: DFI, Livestock, Farmers

ISEE Seminar/2019/ABS/156

Impact of Soil Health Card Scheme on Farmer of Maharajganj district of Uttar Pradesh

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Sub Theme: Smart approaches for technology Assessment and dissemination

ABSTRACT

Soil is one of the important elements required for farming as it provide nutrient to the plant. Earth need to be nurtured with mother's care because earths given us everything for sustaining life. So any kind of torture on it is a sin, to protect soil for sustainable. The present study was conducted in brijman block of maharajganj district of uttar pradesh. A well-structured and pretested interview schedule was used for data collection. The findings revealed that out of 93 inhabitant villages only 60 are benefited with the scheme of soil health card. With regards to the impact of scheme on knowledge and adoption, standard level of soil nutrients and recommendation fertilizer through card had significant impact of economic development of farming community by saving the cost of input. Findings revealed that there are mainly three constraints viz. socio-personal, socio-psychological, administrative problems which hinder the use of scheme.

Keywords: ***Impact, Soil Health Card, Farmers***

ISEE Seminar/2019/ABS/157

Economic Viability of Agribusiness established under ACABC scheme in Telangana and Uttar Pradesh State

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ABSTRACT

Entrepreneurs mold the economic fortune of nations by generating wealth and employment, extending products and services and producing taxes for government because of which entrepreneurship has closely been associated with the economic growth of a country. The aim of doubling farm income can be realized by promoting entrepreneurship in agriculture, which can be termed as agribusiness. This agribusiness has the potential to transform subsistence farming to commercial farming. In this aspect, Agri-clinic and Agribusiness Centre (ACABC) scheme is executing a vital role in the entire country in producing more extensive agribusinesses through agriculture graduates. An investigation was undertaken to study the agribusinesses established under the ACABC scheme in Telangana and Uttar Pradesh, which were selected purposively. A total of 120 agribusinesses were randomly selected from the study area, which was classified into five types of agribusiness. It was found that agribusinesses in both the states were dominated by farm input supply agribusiness (45.0%) as well as farm production agribusiness (40.8%) in comparison to processing agribusiness (3.3%), distribution/marketing agribusiness (5.8%), and advisory agribusiness (5.0%). The economic viability of the selected agribusiness was examined with the capital budgeting technique. It was found that the marketing/distribution agribusiness (38%), processing agribusiness (49%), and advisory agribusiness (28%) were more profitable compared to farm input supply (28% and 32%) and farm production agribusiness (26% and 41%) based on BCR, IRR, and NPV. Similarly, the payback period (PBP) was found low for processing agribusiness and farm production agribusiness. The return on investment (ROI) was high for processing (49%), farm production (41%) and distribution/marketing agribusiness (38%) compared to other agribusinesses. It can be concluded that processing and distribution/marketing agribusinesses were more profitable agribusinesses but farm input supply and farm production agribusiness were mostly dominant in the study area. Therefore, there is a necessity for entrepreneurial policy in the ACABC scheme to promote the processing and distribution/marketing agribusiness to flourish agribusiness in India.

Keywords: ACABC scheme, Agribusiness, Capital budgeting technique, Economic viability payback period

ISEE Seminar/2019/ABS/158

Awareness level and Constraints faced by Farmers in Adoption of Horticulture Crops in Mohali district of Punjab

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ABSTRACT

Horticulture is the art which includes cultivation of fruits, vegetables, tubers, flowers etc. It has emerged as a great choice for diversification of agricultural sector, much enhanced farm income and better employment opportunities

for the citizens of the country. Main fruit crops of the Punjab state are kinnow, pear, and guava and in vegetables potato, pea and cucurbits etc. We conducted a survey regarding horticultural crops in the five villages of Mohali district of Punjab and interacted with farmers to figure out the awareness level and constraints faced by them in the adoption of horticulture crops. It has been observed that around 40% of farmers had moderate awareness level that is about economic benefits, life span of different crops and input cost. As per the study concluded almost 45% of farmers had low level of awareness related to requirement of manure, fertilizers and micro-nutrients, IPM & IDM, and post harvest management. From different 16 aspects economic benefits of horticulture crops & irrigation ranked I followed by perishable nature ranked II. Majority (75%) of farmers believes that the high juvenile period of fruit crops is a main reason behind its non adoption. Surprisingly some of the farmers (30%) believe that cultivation of horticulture crops is somehow related to status symbol. Lack of post harvest management, processing unit and skilled labor was the major constraints reported by the farmers.

Keywords: Adoption, Awareness, Farmer, Horticulture, Survey

ISEE Seminar/2019/ABS/159

Krishi Vigyan Kendra Mobile App: An Extended Arm to the Farmers

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ABSTRACT

ICTs are boon to the farmers and the introduction of Mobile App in Krishi Vigyan Kendras has accelerated the pace of technology transfer among the farmers at their fingertips.Information dissemination to the knowledge-intensive agriculture sector is upgraded by mobile-enabled information services and the rapid growth of mobile telephony. Today farmers are receiving diverse facts or information about farming like seeds, crop selection, crop cultivation, weather, fertilizer, pesticides etc. from various resources that are distributed indifferent locations according to its origin, its processors, producers or vendors using the app. Consequently, wide penetration of internet in rural India from 9 percent in 2015 to 25 percent in 2018 with more than 370 million smart phone users in the country has enabled better access to the internet among the masses. However, due to the inefficacy of KVK's to provide information and service to a large segment of farmers in offline mode; the app therein offers a user-friendly solution to effective management and communication with the farmers. The software application provides a wide range of facilities like text message service, weather information, market pricing, agro-advisory services, online monitoring of KVKs, feedback mechanisms, helpline etc. It also provides updates on training programmes organized by the KVKs to the agripreneurs and rural youths. The evidence from studies indicated that mobile services in farming led to higher productivity, enhanced income, improved efficiency in the supply chain and reduction of drudgery. In this era of digital world information and data management possess great challenges in precision farming and thereby, the mobile app bridges the gap between the availability and delivery of agriculture inputs and agriculture infrastructure. Hence, KVK mobile app should aim at holistic rural development and forge closer links between farmers and consumers through gender-sensitive technology, training and capacity building of the farmers through technology-driven platforms for income generation activities.

Keywords: KVK, Mobile, App, Internet, Technology, Farmers

ISEE Seminar/2019/ABS/160

Sustainable Nutrition Revolution: A Way Forward to Stride Malnourishment in India

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ABSTRACT

Despite historically high levels of food production in India, under nutrition and micronutrient deficiencies persist. At present, 22.5 percent of adults are underweight, and 38 percent are still stunted. While under nutrition persists, based on the latest data from the National Family Health Survey-4, more than 20 percent of Indians are overweight or obese. India joins many other countries in grappling with the double burden of malnutrition. To understand the causes of this problem, we need to look at people's diets, where they are eating, and how this has evolved over time. Diets in India are traditionally cereal-based and usually lack diversity. This kind of dietary practices coupled with food insecurity in the past led to high levels of under-nutrition and widespread micronutrient deficiencies. As production of food increased and access improved, the issue transitioned from being one of food security to that of nutrition security. Now, there is a need to improve the diversity of Indian diets as reliance primarily on cereals for energy may lead to macro nutrient over-nutrition coupled with micro-nutrient deficiencies arising from the lack of diversity in the diet which is reflected in the rising levels of obesity. Another factor that contributes to the multiple burdens of malnutrition, that is, high levels of under-nutrition, micronutrient deficiencies and rising obesity is the increased availability and higher consumption of highly processed and packaged food rich in carbohydrates, fats, sugar and salt, increased levels of eating out and snacking. Considering Sustainable Development Goal 2: End Hunger and Achieve Food Security and Improved Nutrition, it is imperative to support the production and availability of, and accessibility to, a nutritious diet for the Indian population. The nutritional status of individuals, families, and communities depends on the food they consume. This is in turn determined by the availability, acceptability, and affordability of food. Thus, improving the health of the people requires improving their nutrition through better and more nutritious food. This is where agriculture plays an important role not only as a means of producing diverse, nutritious, safer food that is affordable but also through pathways like improved household access to nutritious food, improved income, women's empowerment. Government has also started various new schemes for achieving food and nutrition security in various states like Chhattisgarh, Bihar, Jharkhand, and Orissa. Schemes like POSHAN ABHIYAAN, Integrated nutrition programme can bring great change in food and nutrition security of Indian states. Efforts to improve nutritional outcomes should be placed in the larger context of a food system, that is, the full set of actors, processes, and activities involved in getting food from where it is grown to those who will eat it. Interaction between elements of the food system, including production, processing, marketing, consumption, and policy that affect these elements, can results in increasing levels of malnutrition if the food system actors are not mindful of the health and nutrition impacts. Strengthening the agriculture-nutrition pathway when considering food system development in India will be key to addressing these challenges.

Keywords: Sustainable, Nutrition, Revolution, Malnourishment

ISEE Seminar/2019/ABS/161

Micro-Entrepreneurship Development: A Step Ahead in Building New India

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ABSTRACT

As mud structured into a beautiful pot needs a skilled hand our country being aggregate of young and innovative

workforce needs skilled and visionary hands to mould them to be counted in the list of developed nation. Tracing the population dynamics, there stands the urgency to train our workforce in accordance with the changing need and global scenario so that we are capable enough to utilize the demographic dividend to eradicate the persistent mismatch of demand and supply of young workforce in different sector which is often the root cause of unemployment. Agriculture sector being the predominant sector engaging about 50% population in the developing countries is still considered as a mark of disgrace to the person practicing it, which is opposite to the fact that agriculture is a highly skilled profession and now calls for up-skilling and knowledge enhancement of the practitioners. The unresponsive intervention taken since pre to post independence has compelled government of India to undertake interventions that revolves around quality training and education. Taking this into the account, government initiatives supporting skill and entrepreneurship development of potential workforce have been launched in the form of policy reforms and schemes like PMKVY, Start-up India (in which about 2196 applications were recognised as start–up), Mudra Yojana (about 8.63 crore entrepreneur were funded with 3.72 lakh crores disbursement), ARYA, Student Ready etc.Globalization with changing market trends has paved the way for emerging concept of agri -preneurship which is revamp of the primitive agriculture and tend to fetch high profits, employability. Equity and mainstreaming if taken into prime consideration can accelerate the development index at rate faster than ever before. This paper deals with different challenges faced by the developing countries in reaping the demographic dividend in the most efficient and productive way. Analysing the different development aspects and government initiatives we suggest the possible visionary reforms that can be incorporated into them.

Keywords: Micro-entrepreneur, Development, New India

ISEE Seminar/2019/ABS/162

Government Initiatives for Food and Nutritional Security for Rural Communities in India

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ABSTRACT

Food and nutrition security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. With nearly 195 million undernourished people, India shares a quarter of the global hunger burden. Nearly 47 million or 4 out of 10 children in India are not meeting their full human potential because of chronic undernutrition or stunting. But with a five-fold increase in food grain production from 50 million tonnes in 1950-51 to about 250 million tonnes in 2014-15, India has moved away from dependence on food aid to become a net food exporter. In 2016, the government launched a number of programmes to double farmers' income by 2022, include National food security mission, Rashtriya krishi vikas yojana (RKVY), the integrated schemes on oilseeds, pulses, palm oil and maize (ISOPOM)etc. These seek to remove bottlenecks for greater agricultural productivity, especially in rainfed areas. The government hasinitiated various programmes and taken significant steps to combat food and nutritional security in rural communities over the past two decades, such as through the introduction of mid-day meals at schools, anganwadi systems to provide rations to pregnant and lactating mothers and subsidised grain for those living below the poverty line through a public distribution system. The National food security act (NFSA) 2013, aims to ensure food and nutrition security for the most vulnerable through its associated schemes and programmes.As food and nutrition security is the major problem identified by world health organization in the rural communities of India, government planning to initiate various schemes and programmes to eradicate it.

Keywords: Food, Nutrition, Security, Rural community.

ISEE Seminar/2019/ABS/163

Case Studies of Challenges and Opportunities of Agro Based Entrepreneurs in Digital Marketing

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ABSTRACT

Digital marketing is the practice of using digital technologies, mainly internet but also include mobile phones, display advertising, or any other digital medium for marketing. Agriculture digital marketing in agriculture and allied sectors are quite important as the gap role in the economic development and stability of the agriculture industry is being connected. This will contribute a lot in sustainability and in rural development also. This study was conducted on the topic Challenges and Opportunities of Agro based entrepreneurs in Digital marketing in Thiruvananthapuram district of Kerala. This study aimed at a detailed analysis of the factors that create challenges for digital marketing in the field of agriculture related entrepreneurships and the opportunities that could be exploited by such entrepreneurs. Five samples from different areas were selected for conducting detailed case study. All the five samples were women entrepreneurs. Interview method was used to collect data for which a questionnaire was prepared early. From this study it is concluded that in order to avoid isolation of small-scale farmers and entrepreneurs from benefits of agriculture production they should be informed with Up-to-date marketing knowledge. Digital marketing avoids various unnecessary expenses and struggles. It helps the entrepreneurs to escape from middle men who grab the major chunk of profit. Digital marketing gives them much easy access to different markets and a better growth in business. Limited knowledge in handling digital medias, high level of competition ere some challenges they have to overcome. It is difficult to get accreditation and licenses because they don't have a definite showroom and amenities. Still modern entrepreneurs are confident with digital marketing.

Keywords: Digital marketing, Agriculture, Entrepreneurs, Knowledge.

ISEE Seminar/2019/ABS/164

Perceived Constraints and Remedies on Information and Communication Technologies Use by the Students of CCS Haryana Agricultural University, Hisar

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ABSTRACT

Information and Communication Technology (ICT) is an important element in the education scenario in order to prepare citizens for the future. Since, its inception constraints influencing the use have not been studied; hence an exploratory research study is aimed at finding those constraints among the students of CCS Haryana Agricultural University, Hisar. The findings revealed that the institutional constraints were perceived highest with composite index value (CIV) 70.18, followed by personal, technical and economic constraints. Although, these constraints could be overcome through implementing remedies suggested by students like; teaching should be through ICTs,

followed by improved internet connection, training programme related to use of ICTs, etc. but an effective national level policy related to pricing, infrastructure facilities, availability of high quality ICT gadgets at subsidized rates, free and regular training programmes, scholarships, etc. are possible ways to deal with these barriers. The correlation and regression of different variables, i.e. age, education, family education, scientism, annual expenditure, mass media exposure, information seeking behaviour and risk orientation exhibited negative and significant effect. However, sex of the respondents exhibited a non-significant effect but it is positively correlated with their perceived personal constraints at 0.05 level of probability.

Keywords: Agricultural students, Constraints, ICTs in education and Remedies.

ISEE Seminar/2019/ABS/165

Effect of Weed Management Practices on Growth and Yield of Chickpea (*Cicer arietinum* L.)

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ABSTRACT

An investigation as On Farm Trial conducted on farmers field in Mahoba district of Uttar Pradesh to evaluate the effect of fluchloralin (PPI) 1kg a.i./ha *fb* pendimethalin 1.5 kg a.i./ha as pre emergence on weed control, growth and yield component of chickpea during the Rabi season of 2018-19.Application of fluchloralin (PPI) 1kg a.i./ha *fb* pendimethalin 1.5 kga.i./ha as pre emergence produced 16.8 q/ha grain yield of chickpea in comparison to pre emergence application of pendimethalin 1.0 kg a.i./ha as pre emergence and mi minimum grain yield obtained under farmer practice (13.2q/ha). The improvement in yield of chickpea under said treatment might be due to favorable growth and yield contributing characters (plants height, no. of branches/plant. No of pod/plant, seed wt/pod) and reduction in weed infestation after spray of herbicides as reflected by weed control efficiency of herbicides. This treatment also recorded higher net return (Rs.58149.00) and B: C ratio (3.71). The application of fluchloralin (PPI) 1kg a.i./ha *fb* pendimethalin 1.5 kg a.i./ha as pre emergence in chickpea are quite effective in reducing the weed infestation and improvement in grain yield of chickpea. The farmers under test were satisfied with the technology of weed Management practices in reducing the weed infestation and improvement in grain yield of chickpea.

Keywords: Weed, Herbicides, Weed infestation

ISEE Seminar/2019/ABS/166

Livelihood Contributions of Moringa Based Agro-forestry System in Bundelkhand Region of Uttar Pradesh

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ABSTRACT

Agroforestry is praised for its benefit in balancing economic and environmental goals although its economic

advantages over monocropping are not well documented for most agro-ecology and practices. In general, the moringa tree based agroforestry practice is superior for its social, economic and environmental benefits than monocropping system. Moringa based agroforestry system (agri-silvicultural system) main aim to maintain or increase production as well as productivity. Agroforestry can improve productivity in many different ways. These include: increased output of tree products, improved yields of associated fodder crops and improve the soil health. It is playing the greatest role in maintaining the resource base and increasing overall productivity and providing food, fodder during lean period in the drought areas in general and the semi-arid regions. There are ample evidences to show that the overall productivity and soil fertility improvement of an agroforestry system is generally greater than that of an annual system. Agroforestry based system are eco-friendly and a way to increase the income of the farmers. Therefore, the government and other responsible bodies should support smallholder farmers in the area in order to use moringa tree based agroforestry land use for sustainability of smallholder agriculture that has been constrained by inhospitable, harsh and vulnerable environments, challenging landscape, fragile soil susceptible to erosion and highly variable rainfall.

Keywords: Agroforestry, Moringa, Soil fertility, Sustainability.

ISEE Seminar/2019/ABS/167

Emerging Issue of Gender in Development of Agriculture: An Overview

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ABSTRACT

Agriculture and allied sector are backbone of Indian economy and provides livelihood and employment opportunities to 58 per cent population of India. India has 640867 villages, agriculture of India based on rural area. Highly contribution of Women in agriculture which is 60-70 per cent transplanting, weeding and harvesting of every crops done by women, 90 percent fish marketing by women and almost 80 per cent dairy activities done by women despite of that much contribution of women still women India considering as backward because low literacy among them, and India is considered is male dominant society. Women work always considered as low contribution. 99 percent asset owned by man only and in decision making contribution of women is very low which only 40 percent is. In extension activities condition of women is very pathetic this is only 15 percent. To see that much gender discrimination among female present study carried out how to overcome from gender discrimination issue in agriculture. The condition of both rural and urban area of India about Gender discrimination is very pathetic.it can be enhance if agriculture policy by GoI should be improve and should give training to women about policy and new technology and generate awareness among women about their importance in agriculture development, in India most of the women are illiterate so formulate policy are programme to make them literate, the extension service mostly done by male so give opportunity to women about extension activities. Can improve women infoldment and through the extension activities like training, group formulation etc. and can eliminate the gender discrimination through effective gender empowerment strategies.

Keywords- Gender, women, Agriculture

ISEE Seminar/2019/ABS/168

Impact of Kisan Mobile Advisory Service for Dissemination of Agricultural Information in Gandhinagar district of Gujarat

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ABSTRACT

The revolution in ICT has made access to the information easy and cost effective to the rural masses in general and farming community in particular. Kisan Mobile Advisory (KMA) service is one among the several methods of ICTs working successfully for dissemination of latest information. KMA service is the best on the liner model of communication, which involve four major components of communication process viz. Sender, Message, Channel and Receiver. The extension functionary is the user of the information while farmers are implementer at field level. KMA service was launched for sending information through SMS in Gandhinagar District of the Gujarat State through Krishi Vigyan Kendra during May 2014. The content of messages were typed in Gujarati language and information related to crop production, crop protection, vegetable and fruit production, dairy farming, weather forecasting, post harvest management, government Schemes and other enterprises sent to end users. Out of total registered 18750 users with us, 90 farmers, 25 Extension personnel and 15 input dealers were randomly selected for this study. After sending messages for two years (2017, 2018) feedback was taken in April-May 2019. Total 78 messages on different discipline were sent during study period. For collecting information, semi structured interview schedule was designed on the basis of availability of literatures. The delivered messages were highly understandable for 80 per cent of extension personnel, 60 per cent of input dealers and 42.22 per cent of farmers. Messages were needful & timely reported by 80 per cent of farmers, 72 per cent of extension personnel and 66.66 per cent for Input dealers. The messages were fully applicable perceived by 51.11 per cent of farmers, whereas medium and partially applicable was reported by 37.77 and 7.77 per cent of farmers. It was also found that 68 per cent messages were fully applicable for extension personnel and 46.66 per cent for input dealers. The overall high impact of KMA service was reported by 64.44 per cent farmers, 76 per cent and 66.66 per cent on extension personnel and input dealers respectively. Low impact was reported by 13.33 per cent by farmers, 4 per cent by extension personnel and 6.66 per cent by input dealers in Gandhinagar district of Gujarat state.

Keywords: Impact, Kisan Mobile Advisory Service, Information, Agriculture

ISEE Seminar/2019/ABS/169

Evaluation of Front Line Demonstration of Pulses in Raebareli District

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ABSTRACT

India is the major pulse producer country. Pulses fix atmospheric nitrogen through symbiotic action. Low productivity of traditional varieties of pulses are a cause of concern for farmer's at large. To overcome the problem of low yield, Krishi Vigyan Kendra, Raebareli has conducted Front line demonstrations in the different localities of Raebareli district. Cultivation of high yielding varieties of pulses viz. i.e. Black gram variety Shekhar-1 60.4 percent, PU- 31 18.25 percent, Green Gram Meha (IPM-9925)-60.40 percent, Shweta-18.89 percent, Lentil KL-320 69.60 and 27.97 percent, KLS-218, 28.16 percent, Gram KWR-108 39.28 percent and 42.17 percent and Field

pea KPMR 400-41.20 percent more yield of pulse crops as compared to local check. The productivity gain under FLD over farmers practice created awareness and motivated the other farmer's to adopt scientific crops production and management.

Keywords: Front line demonstration, technology gap, extension gap, technology index, pulses.

ISEE Seminar/2019/ABS/170

Relay Cropping of Muskmelon along with Wheat: An Economical Cropping System

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ABSTRACT

The experiment was conducted as ON-FARM trial by KVK, Panipat during 2016-17 & 18.Wheat crop was sown after harvesting of rice crop during the month of November. Just after sowing of wheat crop, ten channels were prepared in 0.4 hectare area with the help of tractor driver ridger. Seedlings of muskmelon variety Madhu Ras were grown in polythene bags during the month of January by covering with transparent polythene sheet. One month old seedlings of muskmelon were transplanted on both sides of channels during first fortnight of February. After harvesting of wheat crop in the first fortnight of April, muskmelon was ready to be harvested in mid of May to mid of June. Yield data of both the crop was recorded and transformed into net returns per 0.4 hectare area. It was compared to the net return of the sole crop of wheat. It was found that net returns per unit area and time were higher in relay cropping of muskmelon along with wheat as compared to sole crop of wheat.

Keywords: Relay, channels, transplanting, net-return.

ISEE Seminar/2019/ABS/171

Constraints Perceived By The Farmers in Pulse Production

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ABSTRACT

Pulses play an important role in providing a nutritionally balanced diet. It is the main source of protein for vegetarians. The study was conducted in the Lalitpur district of Bundelkhand region. In the district area of pulses during 2014-15 was around 13216 hectare Chick pea, 68573 hectare field pea and 13035 hectare lentil and production was around 9740 MT, 2659 MT, and 31595 MT respectively. During 2018-19, area under pulses were observed 20550 hectare Chick Pea, 51082 hectare Field Pea and 13570 hectare area under Lentil and production was 34647 MT, 82038 MT and 19866 respectively. The findings resulted that the area of Chickpea increased by 35.69 percent but Lentil and Field Pea area is decreases. The present study revealed the fact that decreasing area under Field Pea and Lentil was due to high infestation of pest and diseases (wilt, root rot and pod borer), Non availability of inputs at proper time (quality seed, bio-pesticide and herbicides etc) Low Market price , Lack of technical guidance at proper time were major constraints perceived by the pulse growers in the study area.

Keywords- ***Constraints, Growers, Chick pea, Lentil &Field pea.***

ISEE Seminar/2019/ABS/172

Response of Sulphur Fertilization in Mustard Under Rainfed Condition of Hamirpur District

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ABSTRACT

Oilseeds crops respond more to the sulphur application in comparison with other crops, which is related to the role of this nutrient in oil biosynthesis sulphur is a component of plant amino acids, proteins, vitamins, and enzyme structures. It has been observed that increasing sulphur application increases protein and oil content. Mustard is nutritionally very rich and its oil content varies from 37- 49 percent. Mustard possesses a great survival potential underrain fed condition due to which it is the major oil seed crop during *Rabi* crops in the Hamirpur district with low productivity i.e. 11.36 kg /ha. The major reason behind low yield of mustard in this region is lack of improved varieties and improper nutrient management practices. To study the effect of sulfur application on mustard crop Krishi Vigyan Kendra, Hamirpur conducted present study in rainfed condition during 2018-19 under CFLDs project. Under the CFLD project, 100 demonstrations were laid down. The variety selected for the demonstration was RH406. Under the demonstration, Farmers followed seed treatment with *T. harzianum* @5g per kg of seed, RDF+ 25 kg of sulfur per hectare. The results of the study revealed that with the application of 25 kg of sulfur per hectare, more plant height, more no of branching and more no of siliqua per plant was noted. It was recorded that in treated plot mustard yield was 58.7 percent higher over farmer's practice. The benefit-cost (B:C) ratio was 4.3 and 3.0 in demonstration and local check, respectively and net return was 68540 &37290 also showed similar trend. It can be concluded that the application of 25 kg sulphur per hectare was found beneficial and effective dose for increasing productivity of mustard under rainfed condition of Hamirpur district and CFLD is playing one of the important role in motivating the farmers for adoption of improved production technology resulting in increasing their yield and profit.

Keywords: Oil, Nutrients, Mustards, etc.

ISEE Seminar/2019/ABS/173

To Study the Socio-demographic profile of Sesame Growers and Utilization pattern of Farm Information Sources

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ABSTRACT

Hamirpur district comprises of seven blocks out of which four blocks were selected to conduct the present study i.e. Kurara, Sumerpur, Maudaha & Rath blocks to know the socio-demographic profile of sesame growers and utilization pattern of farm information sources by them. It was found that most of the sesame growers belong to the middle age group (30-45 years), educated up to high school and most of them belongs to backward caste, having nuclear family, and their main occupation was farming. Majority of the respondents were having paccahouse, milch animals like buffaloes and less than two hectare landholding size. Most of them did not have two months of work in a year. Findings revealed that revealed that adoption of new technology occur after seeing successfully implementation by others. Majority of the respondents possess television, mobile phone, motorcycle etc and most of the sesame growers had annual income more than Rs. 50,000.It was also found that 49.43 percent of sesame growers contacted to Krishi Vigan Kendra scientists to obtain farm information. About one-fifth (22.33%) respondents contactextension worker often,28.24 percent contact agricultural officer sometime and 89.72 percent respondents were contact block development officer never for obtain farm information. Only6.40 percent respondents conducted neighbours most of the time for obtaining farm information. About 81.50 percent of respondents contacted relatives sometime and 48.33 percent respondents contacted local leaders never information's. In group contact, 8.50percent respondents contacted method demonstrations at field most often and 22.5 percent often. 41.83 percent respondents contactedresult demonstration for obtaining farm information sometime and 54.00 percent respondents conducted field tour never for obtain farm information's. About 12.57 percent respondents use television most often for obtaining farm information's, 43.17 percent often and 30.83 percent sometime and 80.83 percent respondents hearing radio for obtaining farm information.

Keywords:*Socio-economic condition, Sesame Grower, Information source, Utilization pattern*

ISEE Seminar/2019/ABS/174

Gender Sensitization in Agriculture

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ABSTRACT

Women have been contributing enormously to agricultural growth and development through their involvement in crop production, horticulture, animal husbandry, fisheries, natural resource management etc. Indian Agriculture employees 4/5th of all economically active women in the country. The significant role played by women farmer as producer in agriculture is hardly acknowledged and nor adequately recognised in all National System. Tedious and laborious jobs such as weeding, transplanting etc are done by the women. Women engaged 138 days in an year including post harvest activities as against 98 days of men. Presently, Agriculture Extension Service mainly focuses on male farmers, and fewer women are reached by extension. Majority of women in developing countries are farmers yet they face particular gender related constraints in gaining access to Agricultural Extension Services. Numbers of attempts were made for the empowerment of women but still there is 'Need' for bridging the gap and bringing them on the same plot. This paper is an effort to provide an idea about the current condition of Gender Sensitization & empowerment of women in the agriculture.

Keywords: Gender Sensitization, Women in Agriculture, Empowerment

ISEE Seminar/2019/ABS/175

Perception Dynamics of Farmers Concerning Importance of Soil Health Cards

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ABSTRACT

Considering the growing importance of soil testing, the present studywas undertaken by Krishi Vigyan Kendra, Khargone in 2018-19 to ascertain the impact of Soil Health Card Scheme launched in 2015. This study was conducted in 2 Panchayats of all 9 blocks of Khargone district which was selected purposively. Twenty soil testing farmers from each Panchayat were selected on random basis thus the data collected from 360 farmers.Soil sample grid wise were tested by various department viz. department of farmer welfare and agriculture development, IFFCO, KRIBHCO and Krishi Vigyan Kendra and soil health card were issued to the farmers. The primary data collected with the help of structured interview schedule by involving Farmer Friends (Krishak Mitra). The study has indicated that 67.2 percent farmers agreed with the Soil Health Card which proved beneficial to enhance the production of crops, while only 11 percent farmers did not agree with the above statement. Change in knowledge about the application of fertilizers and required micro nutrients, took place among 45.29 percent farmers, while 27.79 percent farmers had no change in their knowledge. 46.97 percent farmers were adopted the recommendations of the Soil Health Card, whereas 26.21 percent farmer were not adopted any recommendation of SHC. Major reason behind non adoption of the recommendations of SHC stated by the farmers are very complex to use the recommended fertiliser followed by less trust on given information in SHCs.

Keywords: Soil Health Cards, Perception, Knowledge, Adoption.

ISEE Seminar/2019/ABS/176

Impact of SHG in Empowering Rural Women: A Study in Rajnanadgaon District in Chattisgardh State

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ABSTRACT

Rural women in India shows abundant responsibility and perform a wide spectrum of duties in running the family, maintaining the household activities like rearing, feeding, attending to farm labour, tending domestic animals and even then they suffered from being both economically and socially invisible. They are considered as weaker section of the society and less empowered in terms of social economical and political sphere. Empowerment is a multidimensional social process that helps people to gain control over their own lives. Women empowerment generally refers to the process by which women enhances their power to take control over decisions that shape their lives, including in relation to access to resources participation in decision making and control over distribution benefits. Presently from literature it has been acknowledge that SHGs is one of the means to empower by providing easy access to credits enables them to come forward and make themselves dependent and self-employed. The present study was conducted in Kheragardh block of Rajnandgaon district in 2018.the total sample was selected were 200from different SHGs formed by Maa Bambleshwari Fedration, Rajnandgaon. The present study revealed that on an average65% of the members were young, educated till high school, majority (82 %) of them belonged to SC category. The annual income of the Majority (68%) of samples family was 90,000/per annunm. the study stated that majority 86% of women joined the SHGS FOR VARIETY OF Reasons viz;to develop social ties, supplement the family income , to get the loan facilities from SHGs and also from banks, to develop the habits of savings. The study further opines that the majority (72%) of the women participated in the government programmes like swatchata abhiyaan, Bhihaan, saksharta , etc.majority 79% of SHGs women participated in the training programmes organized by PKLS Horticulture College and Research Station, agriculture department, veterinary department, mahila bal vikas vibhagh, after joining SHGs women stated steping outside the boundary walls of their home and started taking entrepreneurial activity like dairy farming, vermicompost production, aggarbatti making, cultivation of the vegetables etc.

Keywords: SHGs, Rural women, Empowerment.

ISEE Seminar/2019/ABS/177

Impact of Nutritional Game for Improving Nutritional Security: A Study on Nutritional Knowledge among High School Tribal Students Binjali Village of Narayanpur District Chattisgarh State

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ABSTRACT

Nutritional security demands the intake of wide range of foods which provides the essential needed nutrients. Nutrition and food security are the major concern in India. According to UN-India, there are nearly 195 million undernourished peoplein India, also roughly43% children in India are chronically under nourished or malnourished. India ranks 74 out of113 major countries in term of food security index. The under nourishment and mal nourishment highly prevailed in the tribal areas due to their dependency on local foods, underutilized vegetables, forest produce, and also due to their dietary habits. Nutrition and health are two faces of same coins. Nutrition is the fundamental pillar of human life. Hence in order to access the knowledge of nutrition among high school tribal students the study was conducted in the high school of Binjali village, Narayanpur district, Chhattisgarh state. Pre-test was taken for having knowledge about nutrition then five sets of nutritional snake and ladder games were given to the students for playing and afterwards post-test was taken to study the improvement in nutritional knowledge. The games were covering topics viz; food groups, sources of food groups, deficiency diseases and its causes, mineral and vitamins sources RDA, and losses of nutrients during cooking. The study revealed that the majority of the students have increased the knowledge after majority of the students have increased knowledge after playing the games on different topics of nutrition. 78 % of the students stated that they were not aware of of the losses of nutrients during cooking.92% of the students revealed that they were not aware of RDA. The revealed that ignorance and unawareness about nutrition is one of the causes for malnutrition and under nutrition. It is very important to educate the students at school level regarding healthy food habits and utilizing the available resources to achieve optimum nutritional and food security. Such awareness is needed to be introduced at school level for children with more input in nutrition education.

Keywords: Nutrition, Nutritional games, Nutritional security, Tribal school children

ISEE Seminar/2019/ABS/178

Group Dynamics of Livestock Based Self Help Groups (SHGs)

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ABSTRACT

The present study was conducted in Ludhiana district of Punjab to study the Group Dynamics of beneficiaries of livestock based Self Help Groups (SHGs) formed by different Self Help Group Promoting Institutions (SHGPIs) *viz;* Dairy Co-operatives, Government organizations and NGOs. A total 120 SHG beneficiaries *i.e.,* 40 beneficiaries from each SHGPIs were subjected to structured interview schedule for the study. The results revealed that among all the beneficiaries, majority (91.67%) of them were involved solely in dairy farming practices, while only 8.33

percent were practiced allied livestock farming enterprises (pig and goat farming).Homogeneity in standard of living was one of the major factor promoting SHG formation as stated by 87.50 per cent NGO promoted SHG beneficiaries and 75.00 per cent Government promoted SHG beneficiaries. Majority i.e. 90.00, 82.50 and 75.00 per cent of the beneficiaries from NGO, Government and Dairy Co-operative SHG beneficiaries were believed that they joined the group for 'family welfare & economic independence'. Communication was found 'very good' among the beneficiaries of NGO and Dairy Co-operative promoted SHGs (82.50% and 70.00%) respectively. Decision making power of 85.00 percent, 82.50 percent and 77.50 percent of the beneficiaries from Dairy Co-operative, GO and Government promoted SHGs, reported that ithas been improved after joining SHGs. Self confidence was increased among 72.00 percent of the beneficiaries after joining the SHGs and 65.00 per cent of the beneficiaries stated that they feel much more comfortable to speak openly in public forums after joining the SHGs. As far as training is concerned, which is vital for skill development, results revealed that only 09.17 per cent of the beneficiaries had attended training regarding animal husbandry practices. The main objective of group meetings was 'collecting savings' as reported by 78.33 per cent of the beneficiaries amongst them 53.33 per cent of the beneficiaries in all the three groups were found to be regular in their contribution towards savings. Results further depicted that 97.50% of the beneficiaries stated 'inter-loaning among group beneficiaries' as key purpose for utilizing saving amount. As far as income generating activities were concerned, milk sale and savings were the major income generating activities among all (100%) the beneficiaries. Some of the beneficiaries (37.50%) were also reported the sale of value added products and cow dung cake; as source of their income generation. The difference between group dynamics was found statistically significant among the beneficiaries of different SHGPIs ($P<0.05$). Beneficiaries of Dairy Co-operative were having better group dynamics followed by beneficiaries of NGO and Government promoted SHGs. Hence the results of the study concluded that the efficient functioning of SHGs depends upon a large number of factors such as trust among the beneficiaries, motivation to join SHGs, record keeping, freedom of participation, decision-making, leadership, face-to-face communication, group homogeneity and conflict management.

Keywords: Group dynamics, Self Help Groups, Skill development, SHGPIs

ISEE Seminar/2019/ABS/179

Socio Economic Status of Dairy Farmers in Akola district of Maharashtra

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ABSTRACT

Dairying is a potential source of gainful employment, creating additional income to rural people, particularly landless farm laboures, marginal and small farmers who are resource deficit. The present study was conducted in Akola and Barshitakli of Akola district in Maharashtra State. An exploratory design of social research was used for the present study. A random sample of 100 dairy farmer were selected as respondents from these two panchayat samities, those who have five years of experience in dairy farming and have more than four milch animal. The results revealed that more than half of the dairy farmers (56%) observed in low category of socio economic status. The relational analysis showed that the variables like land holding, annual income, herd size, economic motivation, scientific orientation and knowledge about improved dairy management practices were found highly significant with socio-economic status of the dairy farmer.

Keywords: Socio economic status, knowledge, dairy farmer, dairy management practice

ISEE Seminar/2019/ABS/180

Mulching aBoon for Producing Better Quality Yield of Horticultural Crops for Enhancing Farmers Income

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ABSTRACT

Mulch are technical term means' covering of soil'. In agriculture since time immemorial, farmers have been using natural mulches such as leaf, straw, dead leaves and compost for centuries, during the last 60 years the advent of synthetic materials has altered the methods and benefits of mulching. In this manner it plays a positive role in water conservation, elimination of weed growth, moderation of soil temperature and hence to create condition more conducive for good plant growth resulting in earliness, total yield, and improved quality and higher yields. At present day research, extension and industry personnel, together with growers, have configurated the advantages of using different plastic mulches as one component of a complete "intensive" vegetable production system. By using plastic mulches a variety of vegetables can be grown like cole crops, watermelons, squash, cucumbers, tomatoes, peppers and eggplant etc. Plastic mulches are available in different colours (Black, White, Silver etc.,) and thickness (25-200 microns). Usually film thickness of 30-50 microns can be used for one to two seasons (4-12 months) for annual crops. While, thickness of film 100-200 microns can be used for about 2-3 years in widely spaced fruit crops. Plastic mulches retention the moisture in the top layer of soil upto 30 cm as well as maintenance of the temperature compare to higher fluctuations in un-mulched areas. It is evident that the growth and yield parameters of the crops covered with plastic mulch have significant difference over the organic mulches though; few organic types of mulch are on par with the plastics mulch in some of the horticulture crops. However, mulching is crucial to Indian agriculture in view of the changing technological scenario for boosting crop yields and productivity

Keywords: Mulch; quality yield polyethylene colored mulch.

ISEE Seminar/2019/ABS/181

Initiatives for Food and Nutritional Security for Rural Communities

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ABSTRACT

India is a country of about 1.3 billion population and is one of the fastest growing economies of the world. India dreams of becoming the Super Power of the East by 2050 leaving behind other countries of Asia in her pursuit of progress. But this will never be an easy target to achieve given the various challenges that India faces of overpopulation, hunger, poverty, malnutrition and corruption to name a few. India holds the advantage of having an increased working population which could further contribute to the GDP growth rate. But human resources can be channeled to productive purposes only when we have a healthy, energetic and skilled population who can be physically and mentally fit to embrace all challenges of life. One of the main indicators of progress of a country is its access to food and nutritional status and other health indices. Agriculture and Food system play a pivotal role in food security nutrition and health. It provides for primary source of energy along with essential nutrients while

simultaneously being a source of income. Future economic and social development needs to be considered in the light of production; marketing and micro-enterprise development of poor people in the rural sector. Agricultural extension can play a crucial role in identifying and addressing the food accessibility and nutritional needs of rural households and to mainstream nutrition sensitive messages in their service provision. Extension assists smallholders to revamp the productivity and efficiency of their farms and to take decisions on the outlook of their business. Nutritional security should be achieved through not only the quantity food items but mainly quality food products. The focus of reforms should now be shifted to more efficient delivery systems and transformation of nutrient rich agricultural production and distribution process.

Keywords: Nutritional security, Food security, Agricultural extension

ISEE Seminar/2019/ABS/182

Antibiotic Usage Practices by Dairy Farmers in Eastern Haryana

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ABSTRACT

Today we are amidst accelerating antibiotic resistance which has evolved as a global problem. The present study was carried out to assess the awareness level of stakeholders regarding the antibiotic resistance and trace the antibiotic usage pattern among the dairy animals. This study was conducted in eastern region of Haryana because eastern region comprises of 53.30 percent of total buffaloes and 58.30 percent of total cows and contributing 52.00 percent of total milk production of the state. The good number of veterinary institutions, field level veterinary professionals and repository of Murrah buffalo germplasm and 'milk pail' marks the reason for perfect choice of Haryana for this study. Karnal and Kurukshetra districts of Haryana were randomly selected and from each district, 4 villages were selected randomly and 21 farmers from each village were selected using random stratified sampling by categorizing into small, medium and large farmers constituting a total of 168 farmers as respondents. Data were collected to ascertain antibiotic usage, veterinary consultancy and behavioral insight of farmers and other stakeholders. Awareness regarding the antibiotic resistance was found higher among large farmers, but required more efforts to create awareness to ensure the sustainable usage and antibiotic conservation practices. The consultancy to veterinarians was preferred most by large farmers as compared to other field level veterinary professionals. Large farmers preferred to consult veterinary doctor to a large extent than other field level veterinary functionaries. The level of decision making regarding the choice of antibiotics by farmers were better among large farmers. Indices were developed to assess awareness about antibiotic resistance among stakeholders and delineate the usage pattern of antibiotics using the expert judgment technique. The post-treatment follow-up was mostly practiced by large farmers thus paving the way for valid veterinary-client relationship responsible for behavioral change regarding antibiotics usage.

Keywords: Antibiotic, Usage, Practices, Dairy Farmers

ISEE Seminar/2019/ABS/183

Response of Graded Doses of Sulphur Application on Blackgram in Banda District of Uttar Pradesh

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ABSTRACT

India is the largest producer, consumer and importer of the pulses in the world. Vegetarian people prefer pulses as a protein source and most of the Indians are vegetarian in normal food habit. Black gram is the important kharif crop in Banda district of UP. An experiment was carried out in Kharif season of 2019, to assess the response of two sulphur sources (elemental sulphur and single super phosphate) and its four level of application doses (0,15,30, and 45 kg S ha^{-1}) in black gram crop cv Azad -3 at student research farm of Banda University of Agriculture and Technology, Banda, UP. The experiment was conducted in RBD with three replications and seven treatments. The biometric observations *viz,* plant height, number of $podsplant^{-1}$, number of seeds pod^{-1}, test weight (g), grain and straw yield (kg ha^{-1}) were recorded. Application of recommended dose of NPK and 30 kg S ha^{-1} resulted higher grain yield (850 kg ha^{-1}) with other yield attributing characters such as number of pods $plant^{-1}$, test weight. Results revealed that SSP was superior over elemental sulphur from nodulation and productivity point of view. However, application of 30 kg S ha^{-1} was promising in terms of S use efficiency and economic return. The economic analysis indicated that application of 30 kg S ha^{-1} along with RDF registered the maximum net return in black gram crop.

Keywords: Graded Dose, Sulphur, Application, Blackgram, Response

ISEE Seminar/2019/ABS/184

Safe Food Production through Rooftop Gardening

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ABSTRACT

The continuous growth of the human population on earth is creating a lot of social, economic and ecological pressure on the environment. Nowadays, it is hard to witness green spaces as agriculture land is being used for setting up factories, shopping malls, buildings and results in reduction of healthy food resources. Increase in urbanization results in transformation of agriculture just to fulfil requirements of the large population by enhancing the food production through various chemical fertilizers. Therefore, food being supplied to the population is not safe in rural and urban areas. Roof gardens can be splendid substitutes for natural looking and landscaped areas at the ground level. With some imagination and efforts, a flat roof can easily be turned into a green roof garden. Numerous rooftops of a city or village can be transformed from a barren landscape into a living network of gardens. It can be used for gardening of ornamental plants, fruits and vegetables. The cultivation of vegetables on rooftops is known as rooftop vegetable gardening. Rooftop gardening can be practiced in urban and rural areas for 'safe food' production. Food arrives in the city from hundreds of miles away so it is often neither fresh nor good. Generally, people are suffering from food borne illnesses due to the presence of remains of the fertilizers and pesticides in the food. So, there is an urgent need for more sensible food systems in rural and urban areas for nutritional security of these communities. Rooftop vegetable gardening is a possible solution to get safe and fresh food.

Keywords: rooftop, vegetable, gardening, sustainability

ISEE Seminar/2019/ABS/185

Implications for Adoption of Climate Resilient Technologies by the Farmers of Anantapur District of Andhra Pradesh

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ABSTRACT

National Innovations on Climate Resilient Agriculture (NICRA) project launched by ICAR, aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The focus of the project is not only to demonstrate the climate resilient agriculture technologies but also to institutionalize mechanisms at the village level for continued adoption of such practice in sustainable manner. The study was conducted in Anantapur district of Andhra Pradesh. A sample of 60 farmers from NICRA project implementing villages i.e., Chamaluru, Chakrayapeta and Peravalli were purposively selected. Ex-post facto design was used for the study. The major suggestions given by the respondents for adoption of climate resilient technologies are provision of technical information and guidance should be given on regular basis, training programmes should be conducted on climate resilient practices, financial assistance should be given for soil and water conservation, technology demonstrations should also be given on need based problems, critical inputs should be made available on time, awareness programmes should be conducted on different climate resilient technologies under NICRA project, similarly follow up activities and financial assistance should be made for livestock development also.

Keywords: NICRA, climate resilient technologies

ISEE Seminar/2019/ABS/186

Role of Mushroom Cultivation in Food Security and Entrepreneurship Development

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ABSTRACT

Food and nutritional security in our country is a major issue and its attainment is still on. Though we have significant achievements in milk, vegetables and fruit production still we have to do more. In future, the ever-increasing population, depleting agricultural land, changes in environment, water shortage and need for quality food products at competitive rates are going to be important issues. To meet these challenges and to provide food and nutritional security to our people, it is important to diversify the agricultural activities in areas like horticulture. Diversification in any farming system imparts sustainability. Mushrooms are one such component that not only impart diversification but also help in addressing the problems of quality food, health and environment related issues. One of the major areas that can contribute towards goal of conservation of natural resources as well as increased productivity is recycling of agro-wastes including agro-industrial waste. Utilising these wastes for growing mushrooms can enhance income and impart higher level of sustainability. Abouttwelve species of mushroom are commonly grown for food and/or medicinal purposes, across tropicaland temperate zones. Mushroom cultivation can help reduce vulnerability to poverty and strengthens livelihoods through the generation

of a fast yielding and nutritious source of food and a reliable source of income. Different type of skills related to entrepreneur is required if mushroom growers intend their cultivation activities to go beyond subsistence and local trade, and wish to develop a small business. These may include basic bookkeeping skills, planning and administration, management supplies of materials, management and coordination of packaging and transport, and negotiation skills and marketing.In the present scenario, the unemployment problem, malnutrition burden, low income sources, low input cost, eco-friendly adaptable technology for unemployed youths, scheduled caste and scheduled tribes / weaker section and rural women are key points for mushroom production demand. Mushroom cultivation is another source for self-employment of unemployed youth and college drop outs, poor, small and marginal farmers, farmwomen, landless laborers, and even retired or in-service personnel. Trade in cultivated mushrooms can provide a readily available and important source of cash income for men and women and the old, infirm and disabled alike. Certain parts of the mushroom cultivation process, such as filling substrates in containers and harvesting, packaging are ideally suited for women's participation. Mushroom production is capable to give opportunity to gain farming skills, financial independence and self-respect to women and plays important role in women's empowerments.

Keywords: *Agro-wastes, Entrepreneurship, Edible Mushroom, Food Security, Livelihood*

ISEE Seminar/2019/ABS/187

Mushroom Production: Opportunities and Challenges

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ABSTRACT

Mushroom can play a vital role contributing to the livelihoods of rural and peri-urban dwellers, through food security and income generation. It can make a valuable dietary addition through protein and various micronutrients and, coupled with their medicinal properties, mushroom cultivation can represent a valuable small-scale enterprise option. It can be successfully cultivated without access to field, and can provide a regular income throughout the year. As per climatic conditions, the mushrooms grown in India are categorized in three groups viz., temperate (7 species), sub-tropical (8 species) and tropical mushrooms (3 species).Cultivation is also independent of weather, and can recycle agricultural by-products as composted substrate which, in turn, can be used as organic mulch in growing other crops. Mushroom cultivation is highly combinable with a variety of other traditional agricultural and domestic activities, and can make a particularly important contribution to the livelihoods of the disabled, of women and the landless poor who, with appropriate training and access to inputs, can increase their independence and self-esteem through income generation. Demand for exotic culinary mushrooms has greatly increased in recent years and shows no sign of slowing. Some mushrooms are high value crops, typically selling at high prices. Apart from opportunities as mentioned above, there are many challenges also associated with mushroom production. The initial challenges which mushroom growers have to face include determining the most suitable mushroom to grow and identifying a spawn supplier, organizing available resources to develop a growing system, and assessing requirements for supplying different marketing outlets. If you grow mushrooms outdoors then mushrooms are strongly affected by temperature, humidity, and light. A cold snap, heat wave, or drought can reduce yields or favour the development of undesirable "weed molds." Insects and animal pests can become serious pests for mushroom farmers, especially with outdoor operations. Indoor growers also face challenges. Precision- controlled indoor facilities are expensive to build, operate, and maintain. Pest control is also critical because some insect pests, such as fungus gnats, flourish under the same conditions that favour mushrooms. After harvesting of mushroom, its marketing is an additional constraint because it can't store as fresh for long time. Overall, mushroom cultivation has enormous potential to improve food security and income generation, which in turn can help boost rural and peri-urban economic growth and may be the good option in livelihood diversification.

Keywords: Agro-industries, Mushroom, Livelihood, Temperate, Tropical

ISEE Seminar/2019/ABS/188

Digital Marketing and its Impact on Farmers in India

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ABSTRACT

Digital marketing is the marketing of products or services using digital technologies, mainly on the Internet, including mobile phones, display advertising, and many other digital medium. There are systems based on the internet that can create, accelerate, and transmit product value from producer to the terminal consumer by digital networks. It has completely changed the old marketing methods. It becomes easier for small businesses to compete their large-scale competitors at the same platform. So digital marketing has become a crucial need of small as well as large scale businesses in today's digital environment. Some of the opportunities are easy consumer reach, direct advertising, perpetually displaying ads, and global advertisements. Indian agriculture, post Green Revolution, needs to focus on market reforms, for which digital technologies hold the key. The shift towards market led agriculture is gaining momentum. Recently the government's focus on policy reforms has been directed towards increasing farmers' income. A number of initiatives have been announced, many of which are based on digital innovation. Mobile phones make it possible for farmers to determine the price and time at which to sell their crops and possibly to enter into sales contracts. Online price discovery and marketing platforms would provide farmers transparency and unmediated market access. The farmers can participate in buying and selling from anywhere on the world over internet. It has provisions for material accounting, trade fulfillment, fund processing and post-sale document creation (like generation of e-bills), which would increase the efficiency of intermediation.

Keywords: Agriculture, Digital marketing, Government policy, Market led agriculture.

ISEE Seminar/2019/ABS/189

Economics of Raised Bed Planting for Chickpea in Shajapur District of MP

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ABSTRACT

Demonstrations were conducted in Shajapur district of Madhya Pradesh during 2017-18 assess the effect of raised bed planting on growth characters and yield of chickpea crop. The raised bed planting was found better in term of plant height, number of root nodules per plant, seed yield comparison with normal flat sowing for chickpea crop. The net return is the best index of profitability of chickpea crop production and highest productivity of 16.92 q/ha observed in the raised bed planter (FIRB) whereas it was found lowest under flat sowing for chickpea crop (13.44 q/ha). Highest net return (Rs 51720 per ha) were recorded under raised bed planter system (FIRB) whereas, the lowest net return (Rs 37240) per ha was recorded under normal flat sowing for chickpea crop.

Keywords: Economics, Raised Bed Planting, Chickpea

ISEE Seminar/2019/ABS/190

Influence of Seed-Cum-Fertilizer Drill Machine on the Growth Characters and Yield of Soybean in ShajapurDistrict of MP

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ABSTRACT

Field demonstration was conducted during *kharif* 2016and *kharif* 2017 to study effect of seed-cum-fertilizer drill sowing machine for soybean crop at farmer's fields in Shajapur district of Madhya Pradesh. Soybean sown by seed-cum-fertilizer drill was found better in term of plant population, plant height, and number of root nodules per plant, seed yield per plant, seed yield and harvest index (%) comparison with simple seed drill sowing machine which subsequently resulted in yield enhancement to the extent of 19.9 % for soybean crop. Highest net return of Rs 25144 per ha were recorded under seed-cum-fertilizer drill whereas, the lowest net return of Rs 18026 per ha was recorded under comparison simple seed drill sowing.

Keywords: Influence, Seed-cum-fertilizer drill machine, Growth, Yield, Soybean

ISEE Seminar/2019/ABS/191

Effect of Raised Bed Planting on the Growth Characters and Yield of Soybean (*Glycine max*)

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ABSTRACT

Field demonstrations were conducted in Shajapur district of Madhya Pradesh during kharif2017 -18assess the effect of raised bed planting on growth characters and yield of soybean crop. The raised bed plantingwas found better in term of plant population, plant height, number of root nodules per plant, seed yield weight per plant, seed index, seed yield comparison with ridge & furrow sowing for soybean crop. The highest productivity of 18.6 q/ha observed in the raised bed planter whereas it was found lowest under ridge & furrow sowing (13.58 q/ha). Highest net return (Rs33783 per ha) were recorded under raised bed planting system whereas, the lowest net return (Rs19252) per ha was recorded under comparison ridge & furrow sowing.

Keywords: Effect, Raised bed planting, Growth, Yield, Soybean

ISEE Seminar/2019/ABS/192

Rice Residue Management Ensure Agricultural and Environmental Sustainability in Northern States of India

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ABSTRACT

Rice-wheat (RW) cropping system is the major production system in the Indo-Gangetic Plains (IGP)and has played a significant role in the food security of India. The north-western (NW) states comprising Punjab, Haryana, Uttarakhand and western Uttar Pradesh constitute a highly productive RW zone in the IGP contributing about 69% of the total food output in the country. High yields of the irrigated RW system have resulted in huge production of rice residues in NW states of which Punjab alone is responsible for producing a big chunk amounting to 65% of the total 34 million tonnes of rice residues. Further, the acute shortage of labour in Punjab and Haryana where about 90% and 45% of the area respectively under rice are harvested by combine forced the rice growers to resort to easiest and the cheapest way to remove on-farm paddy residues through stubble burning. Majority of the burning took place during the post-harvest period of October to December when there is limited time left for the cultivation of succeeding wheat crop. Burning leads to a loss of organic matter and precious nutrients, deterioration in the quality of air, increased levels of particulate matter and smog causing health hazards and emission of greenhouse gases causing global warming. Stringent efforts are required to mitigate rice residue burning through recycling as it improves the soil physical, chemical and biological properties besides stabilizing the agricultural ecosystem. One such effort is exploration of microbes (fungi and bacteria)which have immense potential for lignocellulosic degradation and thus can be utilized for *in situ* decomposition of crop residues. Such lignin degrading microorganisms which break down the lignin layer and degrade cellulose and hemicelluloses matter to their respective monomers and sugars at faster pace may allow better emergence of timely sown wheat using PAU happy seeder into combined harvested rice fields and avoiding *in situ* burning of rice straw. Hence, use of microbes as an agricultural intervention could be a key towards sustainable wheat production in northern states of India.

Keywords: Burning, Conservation tillage, Microbes, PAU happy seeder, Rice residue, Wheat

ISEE Seminar/2019/ABS/193

Socio-economic Profile of Women Dairy Farmers: An Exploration Study in Deoghar, Jharkhand

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ABSTRACT

This paper is based on the research study at *Sam Higginbottom University* of Agriculture, Technology, and Sciences (SHUATS), Allahabad. The title of the research was "Knowledge and adoption of improved dairy management practices by the women dairy farmers of Deoghar, Jharkhand". Method of survey research was applied to conduct the study. It was conducted by taking the responses from one thirty women dairy farmers of Deoghar, Jharkhand through random sampling method. This particular paper focused to explore the socio-economic profile of selected

dairy women farmers. The data were analyzed through SPSS version 16.0. The statistical tools like mean, frequency, percentage, etc were used for data analysis. The socio-economic profile included age, educational qualification, land-holdings, social participation, family size, etc.

Keywords: Socio-economic profile, women dairy farmers, dairy management practices

ISEE Seminar/2019/ABS/194

Rising Potential of Agri-Tourim in India

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ABSTRACT

After independence, planned efforts were made in India for the development of entrepreneurship and progressive and practical industrial policies were formulated. Various programmes have been implemented to develop entrepreneurs. Many small-scale farmers and extension organizations understand that there is little future for farmers unless they become more entrepreneurial in the way they run their farms. They must increasingly produce for markets and for profits. Agri-tourism is one of the strategies for entrepreneurial development in agriculture. It captures multiple other business opportunities viz. handicrafts, food processing, hospitality and can have significant benefits for local rural areas. Few states in India like Rajasthan, Assam, Haryana, Uttar-Pradesh and Kerala have been trying to attract tourists to their villages and agri-farms but there is still a lack of new entrants as business startups. Developing agri-tourism entrepreneurship in our country could provide customers with the opportunity to pick their own farm produce at a savings, to both the customer and the farmer who would normally have to pay for the labour involved. At the same time, this kind of start-up can offer visitors an education in agriculture including how crops are grown and which crops thrive the best in a given climate. Experiencing different seasonal events such as Lohadi, Sankranti, Holi, Deepawali etc. could be planned in villages. Educational tours could be a part of brand building and will educate visitors about Indian culture, tradition and farming. In some countries, the practice of hosting overnight guests, for them to get a traditional taste of the great outdoors, could also be thought of. Observing the situation, one can sense that there are several opportunities available for entrants to start a business for the welfare of farmers and development of agriculture sector.

Keywords: Entrepreneurs, Agri-tourism, entrepreneurial

ISEE Seminar/2019/ABS/195

Impact of Using Cashless Payment Methods by Respondents

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ABSTRACT

The present study was conducted in Hisar district of Haryana state covering 200 respondents from two localities viz., rural and urban. Results shows that majority of respondents preferred to use cash in purchasing of items less

than Rs.5, 000. None of the respondents preferred cash for purchasing more than Rs. 20,000. The findings are supported by Hernandez *et al*., 2014 who revealed that the preference of cash was to refrain from overspending and to keep an insight into the volume of spending. Debit card was utilized by majority of respondents, followed by credit card and Immediate Payment Service (IMPS). Majority of respondents in urban area utilized and respondents in rural area did not utilize bankcards before demonetization and no change was observed on their purchasing behaviour. The findings are in line of the study of Arabzadeh and Aghaeian (2015), Hirsehman (1979) argued that use of credit cards affected lifestyles, purchasing behaviour and attitude towards debt of the cardholders focused on the influence of method of payment on purchasing behaviour. It was found that individuals who possess both credit bankcards and in store cards were more likely to buy than those who own only bankcards or in-store cards. Further, it was also found that cardholders were more likely to make bigger purchases than non-card holders and mentioned that credit cards facilitate and induce purchases as compared to cash.

Keywords: Cash less, preference, duration, impact, utilization

ISEE Seminar/2019/ABS/196

Socio-economic and Communication Profile of Respondents using Cashless System

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ABSTRACT

Cashless economy is an economy where transactions can be done without necessarily carrying physical cash as a means of exchange of transaction but, rather with the use of credit or debit card payment for goods and services. The present study was conducted in Hisar district of Haryana state covering 200 respondents from two localities viz., rural and urban. Results shows that majority of respondents from below 35 years of age group were graduated and unmarried, who had nuclear type of family having up to 5 members in a family and belonged to general caste and had no membership. The respondents had their own independent profession with the monthly income above Rs.10, 000, who had pucca house and were landless. Majority of respondents had possession of Cable TV, followed by television and newspaper and had high mass media exposure. Most of the respondents had high utilization of localite sources and low utilization of cosmopolite sources and exposure of Pay Tm for using cashless system, followed by credit card and internet banking.

Keywords: Cashless economy, utilization, credit card, independent profession

ISEE Seminar/2019/ABS/197

A Study on Awareness of Digital Marketing and its Advantages

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ABSTRACT

Digital marketing is often discussed as ‘online marketing’, ‘internet marketing’, or ‘web marketing’. Digital

marketing is the avenue of electronic communication which is used by the marketers to endorse the goods and the services towards the marketplace. The supreme purpose of the digital marketing is concerned with consumers and allows the customers to intermingle with the product by virtue of digital media. Digital marketing is the utilization of electronic media by the marketers to promote the products or services into the market. Online shopping has become a new trend of shopping nowadays and is quickly becoming an important part of lifestyle. Due to wide spread internet access by people and e-commerce usage by traders, online shopping has seen a massive growth in recent years. The main objective of digital marketing is attracting customers and allowing them to interact with the brand through digital media. The study aims to examine the level of awareness regarding online shopping. The present study was carried out in Hisar district of Haryana state. A total of 100 university students equally representing both males and females were selected randomly for the study. Self-developed schedule was used to acquire general information and knowledge of respondents regarding online shopping. The results of the study unveils that respondents had 100% awareness about online shopping. 64% of the respondents purchase the products 8 to 10 times annually. The results further revealed that there are many advantages of online shopping i.e. saves time, availability of information about product and services is outstanding, broad variety of products, simple buying procedures, easy return policy and many more.

Keywords: Online marketing, Lifestyle, Easy return.

ISEE Seminar/2019/ABS/198

Food Security: Bridge Between Hunger and Health

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ABSTRACT

According to FAO estimates in 'The State of Food Security and Nutrition in the World, 2019' report, 14.5 per cent of population that is 194.4 million people are estimated to be undernourished in one way or other in India. So, ensuring food security is one of the most important issue for the growth and development of our country. Concept of food security has a number of dimensions that is not only limited to the production, availability, and demand for food. There has been a paradigmatic evolution in the concept of food security. In 1950s, main focus was on food availability and stability and household food insecurity, and later it shifted towards assessment of input measures like energy intake and output indicators such as anthropometric measures and clinical signs of malnutrition. Many rural areas are said to be food deserts which are the areas with limited supplies of affordable and good quality fresh foods. Ironically, some of these food deserts are in areas where farming and agriculture are the major sources for local economy. In rural areas, easy access to nutritive and good quality food is limited due to many factors such as lack of knowledge about proper nutrition, financial constraints and transportation challenges. To overcome the challenges regarding food security, the National Development Council (NDC) adopted a resolution to launch a food security mission under which National Food Security Mission was launched. Several other programmes are running such as TPDS including Antyodaya Ann Yojana, nutrition programmes like mid-day meals, ICDS, etc. to improve food and nutrition security.

Keywords: Food Security, Malnutrition, Food Desert

ISEE Seminar/2019/ABS/199

Possibilities of High Yielding Wheat Variety HD-2967 in Eastern UP

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ABSTRACT

Front Line Demonstrations were conducted to find out the yield gap in wheat crop. Krishi Vigyan Kendra, Mankapur Gonda-2 conducted 15 demonstrations with a total area of 6.0 ha. on wheat variety HD-2967 during Rabi 2018-19. Demonstrations were conducted in Gonda district covering Mankapur block. Each demonstration plot area was kept 0.4 ha. Selected farmers were trained for scientific cultivation practices of wheat before conducting demonstrations. Fertilizer dose @ 150:60:60: N:P:K Kg/ha was applied in FLD as well as in Farmer's practice. Sowing of wheat seed was done through Seed drill Machine in FLD while Broadcast sowing was done in Farmer's practice. Wheat variety PBW-343 was sown in Farmer's practice. Sowing of seed was done on 28th November in case of FLD as well as in Farmer's practice. Weed management was done by spraying of Sulfosulfuron+Metsulfuron at 30 -32 days after sowing in case of FLD as well as in Farmer's practice. The average yield of demonstrated plot was obtained 56.53 q / ha. while in case of 48.71 q/ha. in Farmer's practice. Additional yield of 7.62 q/ha was obtained over Farmer's practice with an increase of 15.64 percent. In reference to economics, Net returns and Benefit-Cost ratio were Rs 61965 and 2.47 in demonstration and Rs 48446 and 2.18 in farmer's practice respectively. Net returns and Benefit –Cost ratio both were higher in case of demonstration over farmer's practice.

Keywords: Demonstrations, FLD, Farmers practice, etc.

ISEE Seminar/2019/ABS/200

Yield and Economics of High Yielding Toria Variety Tapeshwari in Eastern Uttar Pradesh

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ABSTRACT

Front Line Demonstrations were conducted to find out the yield gap in toria crop. Krishi Vigyan Kendra, Mankapur Gonda-2 conducted 15 demonstrations with a total area of 6.0 ha. on toria variety tapeshwari during Rabi 2018-19. Selected farmers were trained for scientific cultivation practices of toria before conducting demonstrations. Demonstrations were conducted in Gonda district covering Mankapur block. Each demonstration plot area was kept 0.4 ha. Line sowing of toria seed was done in FLD while Broadcast sowing was done in Farmer's practice. Toria variety Bhawani was sown in Farmer's practice. Seed rate of toria was 4.0 Kg/ha. Fertilizer dose @ 80:40:40:N:P:K Kg/ha was applied in FLD as well as in Farmer's practice. Sulpher @ 25 Kg/ha. was applied in FLD. Sowing of seed was done on 21 September in case of FLD as well as in Farmer's practice. The average yield of demonstrated plot was obtained 12.63 q / ha. while in case of 9.85 q/ha. in Farmer's practice. Additional yield of 2.78 q/ha was obtained over Farmer's practice with an increase of 28.22 percent. In reference to economics, Net

returns and Benefit-Cost ratio were Rs 10371 and 1.37 in demonstration and Rs 1892 and 1.07 in farmer's practice respectively. Net returns and Benefit –Cost ratio both were higher in case of demonstration over farmer's practice.

Keywords: Demonstrations, Mankapur, FLD

ISEE Seminar/2019/ABS/201

Strengthening Agricultural Extension Education through ICTs

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ABSTRACT

The strengthening of agricultural extension education through ICTs requires the development of technological, Institutional and community capacities to support and use ICTs and generate and share information in agricultural communities. For strengthening agricultural extension education through ICTs in developing countries, it is important to focus on the organization that generate and manage information, information systems and information flows as also the platforms they provide for information sharing. This strengthening is needed in terms of investment for infrastructure and capacity development especially in the use of the latest technologies. Users, especially farmers and producers have unique problems and each requires not only specific answers but options they can use to solve their problems. In addition to the knowledge in the subject matter, the extension agent who is an information intermediary improving information access and sharing in agricultural communities require core skills in communication and use of ICTs for this purpose. Thus, the new curricula for the extension agent has to include how to manage systems such as for question and answers, frequently asked questions, developing "how-tos", managing databases, shooting and posting audio and video clips, sending SMS and MMS messages and participating in social media circles. Agricultural extension leaders and policy makers also now need to understand the importance of rural connectivity so as to advocate increased investment. The challenge for extension education in enabling information intermediaries is to enable them to use newer ICTs more effectively and efficiently and enable them to teach the larger user communities use ICTs effectively in their learning and education. The user community of agricultural information is also now considered as a producer of data and information. With participatory mechanisms for user communities emerging, such as participatory Geographical Information Systems and Question and Answer services among farmers, user communities also need to be exposed to participate in information management. An important consideration in agricultural extension education using ICTs is to develop applications that enable the user community to learn as individuals and collectively to use and participate in information management. The key issue in agricultural extension education remains empowerment and ICTs enable this empowerment by enabling users' communities to express needs that fulfill their own aspirations for development and enable to participate equitably in the process.

Keywords: Technological, Community, Information, ICT, Extension Education

ISEE Seminar/2019/ABS/202

Understanbility of the Information Disseminated through Different ICT Tools

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ABSTRACT

Agriculture is an important sector with the majority of the rural population in developing countries depending on it. In presentation situation more importance was given to sustainability in production to get profitable income by the small and marginal farmers. The ICT play an important role in creating awareness and updating the people about the innovations and event around the world. In fact, it is the technology that must release the lock and swing the doors open for modernization of agriculture. To accelerate this process it needs effective communication of relevant technology, as many of the technologies are still at the laboratories. This has become a challenging task and it can be overcome only through skilful strategy by using ICT's. These are promising medium for dissemination of information and knowledge in agricultural development. The study has been conducted by using ex-post facto research design in Shimoga district of Karnataka. For the study 60 respondents were purposively selected. Result indicated that 42.50 per cent of the whatsapp user respondents opined that information given was very easy to understand. Few of them expressed difficult (10.00%) and very difficult (05.84%) to understand. In case of e-Krushika app50.83 per cent of the respondents opined that the information given in was understandable by the farmer. Whereas KMAS user respondent's majority 37.50 per cent of the farmers opined that agricultural information received was very easy to understand. KCC tool user farmers opined that it was easy to understand (51.67%) of the information given in this tool. The information given through different I,SCT tools are having moderate to high understandability level so farmers can make use of the information for the effective use of the technologies and also to take up timely operation to achieve sustainable production.

Keywords: Technology, information, respondents.

ISEE Seminar/2019/ABS/203

A Critical Study on Effects of Demonetization on Indian Economy

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ABSTRACT

From slowing down the economic growth in various sectors to giving people nightmares of the long queues and the inability to spend liquid cash freely, the hullabaloo created by demonetization is remembered by one and all on its first anniversary. Demonetization was initiated with a wide array of motives like stripping the Indian economy of its black money, push people to pay taxes for the unaccounted pile of cash, curb terrorism, promote the digital India movement and make India a cashless economy. Demonetization technically is a liquidity shock; a sudden stop in terms of currency availability. It creates a situation where lack of currencies jams consumption, investment, production, employment etc. In this context, the exercise may produce following short term/long term/, consumption/investment, welfare/growth impacts on Indian economy. The intensity of demonetization effects clearly depends upon the duration of the liquidity shocks. Demonetization is a generations' memorable experience and is going to be one of the economic events of our time. Its impact is felt by every Indian citizen.

Demonetization affects the economy through the liquidity side. Its effect will be a telling one because nearly 86% of currency value in circulation was withdrawn without replacing bulk of it. As a result of the withdrawal of Rs 500 and Rs 1000 notes, there occurred huge gap in the currency composition as after Rs 100; Rs 2000 is the only denomination.

Keywords: Demonetization, economic growth, Indian economy, denomination

ISEE Seminar/2019/ABS/204

Awareness and Utilization of Cash Less System in Hisar District: A Review

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ABSTRACT

Application of Technology has transformed the lifestyle of the people and the whole world is reliant on it. In service sectors like banking, education, health, retailing, etc. technology has become the main player (Hugar and Basavaraj, 2014). Integration of cash less in the banking services with the technology has given rise for new 'technology-driven' services. Credit card facility of banks combines technology with the flow of credit and serves the needs of customers (The Times of India, 2010). As civilization progressed, the support systems in the society got transformed with improved techniques and technology. Today, the technology has transformed cash system from traditional, manual system to modern technology–driven industry (Goyal, 2008). In this transformation, the role played by cash less system is very significant. India is one of the fastest growing economies in Asia and with this emerging state people are using cashless payment methods for purchasing goods and services.

Keywords: Cash less, technology, services, cash.

ISEE Seminar/2019/ABS/205

Assessment of Digital Farm Advisory Service of West Bengal Government: Matir Katha

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ABSTRACT

The ICT programme of West Bengal government i.e. *'Matir Kotha'* meaning "Story of soil' was assessed through both primary and secondary data. It is an innovative tablet-based ICT initiative of West Bengal, under the programme; all the village level workers and agricultural development officers were provided with a tab. One important feature of this tab is 'Krishi Katha" which enabled VLW to post or raise any issue from farmers' field and experts' recommendation will come against his post. Till now, 50380 posts were given by different VLW/ ADO from different parts of West Bengal. Out of which, majority (96.44%) post were related to disease and insect related problem of different crops. Only 2.30 % post were related to training information of different crops followed by 0.52% post on information related to farmers' help, 0.33% post about the activities of government farm, 0.21% post on natural calamities and 0.17% post on agricultural research. The tablet-based ICT initiative of West Bengal government helped to enhance the efficiency of VLW and ADO. The perceived major advantage of

tablet based agro-advisory services were- increased outreach of VLW (Rank-I), providing timely agro-advisory to the farmers (Rank-II), Minimizes the cost (Rank-III) and enhanced learning from each other (Rank IV). However, over the time number of posts was declining and need to be strengthened for better usage.

Keywords: ICT, VLW, Information

ISEE Seminar/2019/ABS/206

Experimentation of Effectiveness of Digital Advisory Services for Promotion of Recommended Darjeeling Mandarin Cultivation Technologies and Practices

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ABSTRACT

Darjeeling Mandarin or Orange is the principal fruit crop of Darjeeling and considered as the major cash crop for the small and marginal farmers of the Darjeeling and Sikkim hills. But the cultivation of Darjeeling mandarin is declining at an alarming rate and posing a serious threat to the livelihood of mandarin growers and different stakeholders respectively. It is reported that more than 50% of the total area under mandarin cultivation has already been converted to vegetables cultivation, spices (large cardamom), tourism and other crops in different areas of hills. This unplanned diversification brought multiple socio-economic and environmental issues in the region. The finding of primary survey vis-a-vis secondary reports revealed that major problems faced by the farmers were- widespread occurrence of multiple pest and disease incidence, lack of quality planting material, old orchard and lack of rejuvenation support, lack of awareness and knowledge, adopting faulty management practices, lack of production technologies and training, lack of government support, low productivity, water crisis etc. the traditional extension system has failed to promote and convince the farmers on adoption of recommended technologies due to geographies difficulty and other socio-political reason. Hence, IARI Regional station, Kalimpong has promoted digital advisory services on mandarin cultivation through e-Mandarin calendar, videos, whatsapp group among the farming communities. The study found that the knowledge level of farmers had increased significantly, the adoption rate was higher than the control villages. The farmers were highly satisfied over the content, utility, language, and comprehensibility of digital messages. The study proved that digital extension services could serve in better way where traditional extension system failed to deliver.

Key word: Darjeeling, Mandarin, farmers

ISEE Seminar/2019/ABS/207

Perception Dynamics of Farmers Concerning Importance of Soil Health Cards

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ABSTRACT

Considering the growing importance of soil testing, the present studywas undertaken by Krishi Vigyan Kendra,

Khargone in 2018-19 to ascertain the impact of Soil Health Card Scheme launched in 2015. This study was conducted in 2 Panchayats of all 9 blocks of Khargone district which was selected purposively. Twenty soil testing farmers from each Panchayat were selected on random basis thus the data collected from 360 farmers. Soil sample grid wise were tested by various department viz. department of farmer welfare and agriculture development, IFFCO, KRIBHCO and Krishi Vigyan Kendra and soil health card were issued to the farmers. The primary data collected with the help of structured interview schedule by involving Farmer Friends (Krishak Mitra). The study has indicated that 67.2 percent farmers agreed with the Soil Health Card which proved beneficial to enhance the production of crops, while only 11 percent farmers did not agree with the above statement. Change in knowledge about the application of fertilizers and required micro nutrients, took place among 45.29 percent farmers, while 27.79 percent farmers had no change in their knowledge. 46.97 percent farmers were adopted the recommendations of the Soil Health Card, whereas 26.21 percent farmer were not adopted any recommendation of SHC. Major reason behind non adoption of the recommendations of SHC stated by the farmers are very complex to use the recommended fertiliser followed by less trust on given information in SHCs.

Keywords: Soil Health Cards, Perception, Knowledge, Adoption.

ISEE Seminar/2019/ABS/208

Social Media Marketing for Rural Development

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ABSTRACT

Undoubtedly, Social media has changed the paradigm of communication. With the advent of social media platforms for instance Facebook, Instagram, Twitter one can communicate from one place to the other. It is widely known fact that television had proved a more powerful tool to establish the market as compared to radio. Pace of social media marketing has followed the same scenario. It takes comparatively less time and grows at a rapid rate. Not only private agencies, even the government institutions nowadays are more active through social media platform for awakening the public on various campaigns particularly cleanliness, consumer welfare etc. that bridged the gap between rural India and urban areas. Marketing through e-marketing companies have lessened the global distances and reached even the remote areas where the internet facility is available. Various other factors such as farmers are engaged in agribusiness, women also doing business via these platforms and similar activities reinforce the rural market of the India. On the other hand, there are some pitfalls also, for instance, people are not aware about various security thefts such as cybercrimes that can hamper the business. In addition to this, juveniles are more prone to social media crimes and also, they spend most of their time using them that put an adverse impact over their studies. But these threats can be diluted if they are guided by the professionals who can teach them what to search and where to click. In this current paper we are going to discuss about various social media platforms, how they can be used and its swot analysis.

Keywords: Social Media, Rural Development, Agribusiness, Women Empowerment, Cyber Theft SWOT Analysis

ISEE Seminar/2019/ABS/209

Importance of Agricultural Marketing Information Network (Agmarknet)

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ABSTRACT

Agricultural Marketing Information Network (AGMARK) was launched by the Union Ministry in March 2000 and is implemented by National Informatics Centre (NIC). The Directorate of Marketing and Inspection (DMI), under the Ministry of Agriculture which links Agricultural wholesale markets with State Marketing boards/ Directorates and helps in facilitating generation and transmission of prices, information regarding arrival of commodity from agricultural produce markets, and web-based dissemination to producers, consumers, traders, and policy makers. The whole process is transparent and quick. The objectives of this scheme is to serve the needs of various stakeholders such as farmers, policy makers industry, and academic institutions by providing information related to agricultural from a single window, to establish a Nation-wide market information, to improve efficiency in agricultural marketing through regular training and extension for reaching region- specific farmers in their local language, to provide assistance for marketing research in order to generate market information for its dissemination to farmers and other market functionaries. This portal helped to reach farmers who are not having sufficient resources to get adequate market information. It facilitates web- based information flow, of the daily arrivals and prices of commodities in the agricultural produce markets spread across the country. The data that is transmitted from all the markets is available on the AGMARKNET portal in 8 regional languages and in English. Information from all wholesale markets is displayed Commodity-wise, Variety-wise daily prices and arrivals information. AGMARKNET portal is having a database of about 300 commodities and 2,000 varieties. Linkages have been established with websites of Food and Agricultural Organisation and Asian & Pacific Coconut Community (APCC) for accessing international commodity price trends. About 7000 Agricultural produce wholesale markets are linked under Marketing Research and Information Network Scheme of DMI. Networking of 735 markets, 48 State Marketing Boards/Directorates and 27 DMI offices have been done that are spread all over the country. AGMARKNET portal is constantly being enriched with agricultural marketing related information.

Keywords: Agricultural wholesale market, Linkage

ISEE Seminar/2019/ABS/210

Aspects of Information and Communications Technology (ICT) in Relation to Adaption of Climate Change in Agriculture

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ABSTRACT

Climate change is one of the burning issues in all countries over the world. It refers to any change in climate over time, whether due to natural variability or/and as a result of human activity. Due to its adverse impact it has become a major concern to society. Various climate changing concerns are threating to alter the livelihoods of the vulnerable population of various segments of the globe. Climate change is one of the toughest challenges that society has to face in the upcoming decades. As the process of change seems to be irreversible, there is urgent

need to develop sound adaptation activities to the current and future moves in the climate system. Information and Communications Technology (ICT) is the infrastructure and components that enable modern computing. ICT in agriculture, also branded as e-agriculture, is developing and applying innovative ways to use ICTs in the rural domain, with a primary focus on agriculture. ICT is being helpful to disseminate the knowledge of adaptation for fighting against climate change. ICT has vast potential and its potential could be utilised in combating the problems of environment and changing climate. ICT has already been used in various countries in various forms ranging from cutting down the emissions to developing a data base of change occurring. It is being used in satellite communication to provide weather forecast, terrestrial systems that are also used for dissemination of information concerning different natural and man-made disasters (early warning), atmosphere composition data base, Ocean parameters etc. Till date use of ICT, climate change adaptation, mitigation and sustainable development has largely focused on ICT industry audience and its larger scope is still not much discussed. The ICTs have the potential to strengthen long-term adaptation strategies, decision-making processes, raising awareness, capacity building and participation, among other areas. ICT industry and advanced telecommunications sector, has been a pioneer in the exploration of ICTs as key tools towards the achievement of adaptation goals of climate change. Appropriate adaptation in climate change requires: Access to current information and understanding of the physical and socio-economic changes along with the potential changes and effects which are or could occur as a result of climate change, ICTs can play a crucial role in supporting public outreach and building awareness of the impact of climate change and adaptation, as well as offering opportunities to address those challenges.

Keywords: Climate change, Adoption, Mitigation, ICT, Agriculture.

ISEE Seminar/2019/ABS/211

Integrated Farming System

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ABSTRACT

There are 115 million operational holdings within the country and concerning 80 % marginal and small farmers. to meet the essential needs of house hold together with food (cereal, pulses, oilseeds, milk fruit, honey, meat, etc.), feed, fodder, fiber, etc. warrant an attention about Integrated Farming System (IFS). without doubt, majority of the farmers are doing farming since long back however their main focus was individual elements but not in a very integrated manner. At the ICAR and State Agricultural Universities level, heap of efforts is made aiming at increasing the productivity of various elementsof farming system like crop, dairy, livestock, poultry, piggery, goat keeping, duckery, apiculture, sericulture, husbandry, mushroom cultivation etc. individually but lacking in their integration by following farming system approach. the combination is created in sucha way that product of one element ought to be the input for different enterprises with high degree of complimentary effects on each other. The preliminary analysis investigations advocated the benefits of productivity improvement by 30-50% relying upon the number and type of enterprises and their management. The information on farming system during a systematic approach is bestowed here. The methodology is explained keeping in mind the work done so far to realize higher productivity, profitableness and sustainable production systems that might facilitate to resolve the fuel, feed and energy crisis.

Keywords: Operational Holdings, IFS, farmers, complimentary, crisis, profit etc.

ISEE Seminar/2019/ABS/212

Effectiveness of Training Programmes organised by Krishi Vigyan Kendra for Scheduled Caste Families

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ABSTRACT

The Krishi Vigyan Kendras under the aegis of the National Agricultural Research and Education System are the real carriers of frontline technologies and impart knowledge and critical input support for the famers. Organisation of trainings for the practicing farmers/farm women, rural youth and field level extension functionaries by following the methods of "Teaching by doing" and "Learning by doing" is one of the most important activities of Krishi Vigyan Kendras. KVK Fatehabad impart trainings and education with a view to raise the level of knowledge, attitudinal changes and testing and transferring of recommended improved farm and home technologies so as to bridge the gap between production and productivity and also to increase self-employment opportunities among the farming community. The effectiveness of training is a measurement of learning of the training programme. In order to know whether the training programmes organised by KVK Fatehabad are effective and beneficial for trainees or not, assessment of their effectiveness is very important. Therefore, the present study was conducted to assess the effectiveness of training programmes conducted by KVK Fatehabad under the project entitled "Improvement in the livelihood of scheduled caste families". The present study was carried out in Fatehabad district during 2019. Ex-post facto research design was employed. 80 respondents (trainees) were selected randomly from the trainees' list who participated in six trainings organised under the project during the year 2018-19. A Training Effectiveness Index (TEI) was prepared for measuring effectiveness of trainings. The results showed that 'Spray Techniques', Fruits & vegetable preservation' and 'Dairy farming' were the major areas in which most of farmers/ farm women attended training. Majority (57.50%) of beneficiary respondent reported 'medium level' of effectiveness for training programmes while 22.50 per cent of respondents found these trainings 'highly effective'. Only 20.00 per cent of farmers reported 'low level' of training effectiveness. The effectiveness was further measured based on various aspects of training and found that 'Easy understanding' 'Relevancy of course contents' and 'adequate information in particular area' were the aspects where training programmes were found effective. The overall effectiveness of training was found to be 64.5 per cent. A majority of farmers (67.5%) perceived that they were highly benefitted in terms of increase in knowledge followed by gain in skills (47.5%). Moreover, it was found that only 23.75 per cent farmers perceived that they will definitely start a new enterprise as a result of training. On the basis of above findings, it can be concluded that training in different areas was provided to farmers and farm women under the project entitled "Improvement in the livelihood of scheduled caste farmers" resulted in gain in knowledge and skill of farmers. But there were some areas of concern where improvement needed. Those who were trained, only few of them were ready to start a new agricultural enterprise as an entrepreneur. Thus, there is a need to motivate, train and support the farmers and encourage them to become entrepreneurs.

Keyword : Training Effectiveness, KVK, Livelihood, Employment

ISEE Seminar/2019/ABS/213

Performance Evaluation of Onion (*Allium Cepa L. Var. Cepa*) Varieties for their Suitability in Bundelkhand Region

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ABSTRACT

A screening trial to identify the suitable Rabi onion varieties for Lalitpur district was carried out in Krishi Vigyan Kendra, Lalitpur during 2018-19 with 02 high yielding varieties, one local variety and yield parameters were analysed. No systematic study has been conducted to assess the suitability of onion cultivation in Lalitpur district of Bundelkhand, for which standardization of varieties is of immense utility. Hence, the present experiment was conducted to study the response of some improved varieties of onion (*Allium cepa L. var. cepa*) for their suitability for cultivation in Lalitpur district of Bundelkhand. Two high yielding onion varieties were tested with four replications. Different treatments included onion variety Agrifound Light Red (T1), onion variety NHRDF Red 3 (T2), onion local variety Lalima (T3) in replications of four farmer fields. The results revealed that highest plant height (59.29 cm) was reported from onion variety Agrifound Light Red and the lowest by Local Variety (35.2 cm). Similarly, onion variety NHRDF Red-3 recorded maximum number of leaves (10.2), maximum neck thickness (1.62 cm) along with maximum weight of bulb (71.8 g) and marketable yield per hectare (359.5 q) at 90 days after transplanting. Highest B:C Ratio (1.93) was reported from cultivation of onion variety NHRDF Red-3. It was concluded from the study that onion variety NHRDF Red-3 had better performance in the trial and is recommended for cultivation in Bundelkhand region.

Keywords: Bulb yield, Marketable bulb yield, Onion, Varietal screening.

ISEE Seminar/2019/ABS/214

Farmer Producer Organisation (FPO): A modern generation cooperatism

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ABSTRACT

In the era of industrialisation, farming sector is still considered to be the backbone of our country. But in the wake of several constraints, the socio-economic condition of farming community is at stake. Hence, Government is striving through various innovative policy interventions to empower farmers so that they can be well equipped with modern agricultural technologies and attain livelihood security in agriculture sector. To transform agricultural sector, human dimension of agriculture can be looked after by the means of new generation corporatism. In Indian context due to various challenges like land fragmentation, lack of quality inputs, lack of modern technologies, low yield, lack of market information and lack of proper organisational structure, small and marginal farmers are on the verge of becoming incompetent under the changing marketing scenario. Hence, the collectivisation of local farmers at grass root level has become the need of the hour for improving the bargaining power, to bring down the input cost of production, to dodge the exploitation of middleman and to create commodity specific agri-value chain. Farmer producers Organisations are such collectivisation of farmers where all the members are small/ marginal primary producer. Basically 50 FIGs collectively form an ideal FPO where each FIG constitutes 20 farmer

members. These FPOs are basically formed under various initiatives of SFAC, NABARD, State Governments and other organisations. FPOs benefit the member farmers by providing various facilities like financial assistance, input supply services, procurement and packaging services of the produce, proper marketing services, technical services etc. Currently more than 5000 FPOs exist in India. Among them, around 3200 FPOs are registered under Indian Companies Act and transformed into a hybrid of company and co-operative which is termed as Farmer Producer Companies. Government is promoting these FPCs by several schemes like Equity Grant Fund Scheme, Credit Guarantee Fund Scheme, Scheme for creation of Backward and Forward linkages etc. SFAC provides matching equity grant up to Rs. 15 lakh to the FPCs to strengthen the equity base and enhance borrowing power of these FPCs. As the whole concept of FPC is new to the farming community, several challenges like mobilize the farmers into the formal structured organisation, legal and technical complexity, business plan and market linkage related issues and reluctancy of members to raise share capital for FPC etc are emerging. Since the FPOs can be a way forward for betterment of farming community and to boost the overall agricultural growth, it is required various future strategies for scaling up of developing and sustaining of FPOs.

Keywords: FPO, FPC, collectivisation, marginal farmers.

ISEE Seminar/2019/ABS/215

Community Radio Programme: An Innovative Approach for Dissemination of Agricultural Technologies

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ABSTRACT

Agricultural Extension has an important role to play in agricultural development of the nation. There are abundant agricultural technologies, which are not adopted by farmers either due to lack of awareness or irrelevance of technology according to their needs. Integrated Pest Management (IPM) is a sustainable and holistic approach of pest control, causing reduction in pesticide usage, decreased cost of production and low risk on human health and environment but still farmers have shown limited interest in practicing this method. This study provides conclusive evidence that there was significant gap in farmers' knowledge and awareness level regarding IPM technology and concepts. However, the study also indicated that deigning and testing of planned and strategized media intervention could significantly enhance the knowledge level of the farmers as in case of the present study. Need-based and participatory community radio programme was found significantly effective in enhancing the knowledge of farmers regarding IPM concept and practices. It was reported that at 0.01 level of significance post-knowledge test score of respondents was significantly higher than pre-knowledge test score, following which it was concluded that community radio programme is significantly effective in terms of gain in knowledge. Present study brings to light various profile factors like education, achievement motivation, scientific orientation, information seeking behaviour and social participation of respondents, which positively and significantly affect their gain in knowledge. Therefore, the study suggests that for dissemination of agricultural technologies like IPM, innovative extension strategy in the form of media interventions like participatory and need-based community radio programme can play a crucial role.

Keywords: Integrated Pest Management, Knowledge, Community Radio Programme, Participation, Need-Assessment.

ISEE Seminar/2019/ABS/216

Appropriate Digital Technologies for Improving and Sustaining Agricultural Production

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ABSTRACT

The world is changing very fast in all aspects of life and nature. But today's time is full with digital interventions right from birth to tomb. The agriculture is the backbone of living world. The digital technologies including the Internet, mobile technologies and devices, data analytics, artificial intelligence, digitally-delivered services and apps are changing agriculture and the food system. Digital technologies can also support the agricultural trade and food products by connecting private sector suppliers to new markets. To reap the full benefits of digital technologies in agriculture it would require the participation and co-operation of farmers, researchers, private sector, non-profits and government organizations. The application of digital technologies can increase the farm productivity and address the increasingly visible climate change impacts by adoption and use of remote sensing, Geographic Information System, crop and soil health monitoring; technologies for livestock and farm management are common. Digital technology can guide crop and input selection, facilitate credit and insurance, provide weather advisories, disease pest related assistance, real time data on domestic and export markets and weather information for agricultural crop planning. Competitive markets and demand for consistent food quality make adoption of technological based solutions necessary for the Indian farmer. ICTs (information and communication technologies) and apps aimed at empowerment, enablement and market expansion are becoming omnipresent. E-choupal exemplifies an efficient supply chain system, empowering farmers with timely and relevant information to enable better returns for their produce. With a community-centric approach, it also provides farm insurance and farm management practice. Hence it can be justified that the appropriate digital technologies adoption and interventions can be found fruitful for improving and sustaining agricultural production for present and future generations.

Keywords: Agricultural production, Digital technologies, Food security, ICTs, Marketing, Sustainability.

ISEE Seminar/2019/ABS/217

Extent of Farm Mechanisation in Kangra District of Himachal Pradesh

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ABSTRACT

Farm mechanization has been identified as one of the critical inputs for increasing the productivity of land by ensuring timeliness of agricultural operations, increased labour work output per unit time by reducing efforts and drudgery and improved quality of farm operations. The present study was conducted in Kangra district of Himachal Pradesh. Primary data were collected from 80 farmers(56 small and 24 large) selected randomly from 8 villages of Nurpur and Panchrukhi block in year 2013-14.The selected farmers were categorized into two categories i.e. small (≤ 2ha) and large (> 2ha).The net savings in case of land preparation operations through mechanization were estimated atRs. 4454, 2330 and 658/ha, in case of wheat, maize and paddy respectively. Similarly, through the mechanization of sowing operation, the net gain was highest in wheat followed by maize and paddy i.e. Rs. 3910,

2347 and 2551/ha. Through the adoption of various farm mechanization practices on sample farms, they were able to save 56 to 67 man days of human labour and 23 to 35 bullock days/ha in major crops. The total added expenses on account of inputs and hiring charges were ranging between Rs 10652/ha in maize to 13665/ha in paddy. The per hectare net savings through mechanization was to the tune of Rs 8531, 15152 and 5685/ha in case of maize paddy and wheat, respectively.

Keywords: Farm Mechanization, Farm Costs, Farm Returns, Extent

ISEE Seminar/2019/ABS/218

Agri-preneurship Development for Doubling Farmers Income in India

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ABSTRACT

Indian economy is primarily centered upon agriculture. Here most of the population is directly or indirectly reliant on agriculture. The thought of agripreneurship is the principal route for doubling farmers' income. The government has announced to double the farmers' income by the year 2022. Though farmers are using conventional methods of farming where they are picking only single crop or enterprise at a time but in integrated farming system, farmers can choose more than two enterprises at one time. The role and factors associated with integrated farming system have been studied as a potential option to improve farmers' income and ensure their sustainable livelihood. The contribution of different combinations of enterprises such as poultry, fishery, sheep and goat and horticulture; with crop and dairy as base enterprises have been analysed for their impact on farmers' total income. The farmers can realize the doubling of their income within a contemplated period by adding livestock in the farming system and reap the consequent social and ecological benefits.

Keywords: Agripreneurship, sustainability, enterprises, farm income, farmers

ISEE Seminar/2019/ABS/219

Is Organic Food Nutritionally Good: A Comparative Analysis

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ABSTRACT

As we are familiar with various farming systems / methods in worldwide through which crops are being grown. Selection of farming systems according to the requirement greatly influences the productivity and nutritional status of the food. It thought that use of heavy chemical fertilizers greatly influences the quality of any food. Because some studies shows that the amount of nitrate found more and less amount of micronutrients in some green vegetables and fruits. Heavy use of fertilizers decreases the value of soil as well as the food. No doubt use of intensive farming increases the productivity but it has great effect on the nutrient quality of the fruits and vegetables. There are some studies which show no sturdy evidences to prove the nutritional quality of organically grown produce. But besides it there are lots of recent studies which found the difference between the qualities of nutrition. They found more nutrients in organically grown food than the conventionally grown food .According to the people ,there lifestyle is changing and the choices of their food is also changing .They are more concerned about the quality of food, food

having more antioxidant properties , level of micro and macronutrients etc influences the choice of any person regarding to the food . This paper is conducted to clarify the real variations between the nutritional quality of food between the organic and conventional food in all the aspects.

Keywords: organic, chemical fertilizers, nutrition quality, fruits and vegetables

ISEE Seminar/2019/ABS/220

Socio-economic management of white rust/blister of mustard caused by *Albugo candida* in Bundelkhand Region of Uttar Pradesh

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ABSTRACT

Mustard (*Brassica juncea* L.) belongs to the family brassicaceae is one of the most important oilseed crops. White rust/blister caused by *Albugo candida* of rapeseed-mustard is one of the important diseases causes 17 to 34 percent yield loss. Socio-economic management of this disease considering 6 date of sowing starting from 1st October, 10th October, 30thOctober to 1st November, 10th November, 30thNovember with 10 days interval and 3 treatments. Crop was sown during *Rabi* season of 2018-19 using highly susceptible variety Varuna. The results indicated in control plots, the percent disease index was as high as 78.5 percent in 30 November sown crop, however it was lowest 6.67 percent recorded in 1st October sown crop. Crop sown up to 30 October showed no stag head formation with minimum leaf infection (9.5%). Seed treatment with vitavax power @ 1g/kg seed and foliar spray of propiconazole 25EC @ 0.05% at 30 and 45 days after sowing performed better than mancozeb @ 0.2% in all dates of sowing. In 1st October sown crop resulted maximum seed yield (1650 kg/ha). Seed yield gradually declined with delayed sowing and it was negatively correlated with percent disease index and stag head formation.

Keywords: Disease, Crop etc.

ISEE Seminar/2019/ABS/221

Effect of Different Levels of Nitrogen and Potash on Growth and Yield of Maize (*Zea Mays L.)* Under Different Planting Seasons

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ABSTRACT

Maize is one of the most important cereal crops as food, forage and industrial use in the world. In India, it is grown throughout year mainly due its photo-thermo-insensitive character about to 50 to 55 percent of the total maize production is consumed as food ,30 to 35 percent goes to forage and 10 to 12 percent to wet milling industry. Currently it is cultivated in India, in an area of 8.7 m. ha. with average productivity 1.8 t/ha, which is much lower than their demand and consumption as food, forage etc. there are several factors that affect the production and productivity of Maize like climatic condition, technological and balance nutrition at different crop stage during their growing season. Being a C_4 crop like wheat and rice the maize crop can be plant in all the season viz. Kharif, Rabi and Zaid. Balance nutrition is an essential component of nutrient management and play significant role in increasing maize production and its quality. Another factor time of planting season is also playing a significant

role in production of maize. Maize is an exhaustive crop requires all the type of macro and micro nutrients for better growth and yield potential. Among the various nutrients Nitrogen and Potash are the principle nutrients for better harvest, therefore, keeping in view the above consideration of yield an experiment entitled "Effect of different levels of Nitrogen and Potash on growth a yield of Maize (*Zea mays L.)* under different planting seasons was carried out at the "Research Farm of Krishi Vigyan Kendra", Kaushambi, U.P. during Kharif, Rabi and Zaid seasons from 2013-14 to 2014-15. The present study indicates that the ideal season for planting maize is rabi season. On the basis of data recorded, the average maximum plant height (219 cm in 2013-14 and 218.76 cm in 2014-15) was observed with N_3K_2 followed by N_3K_0 and N_2K_2.. In the rabi season required 78 days for tasseling while kharif 45 days and Zaid 59 days in both the experimental year. The maximum grain yield was observed with N_2K_2 followed by N_3K_1, N_3K_0 and N_3K_2 as compared to control plot. The maize crop showed to be fertilizers with 120 Kg N=50 Kg P_2O_5 and 80 Kg K_2O/ha at Kaushambi representing central eastern part of Uttar Pradesh.

Keywords: Maize, Kharif, Nitrogen and Potash.

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Evolution of Selected Fungicide against False Smut of Rice Caused by *Ustilaginoidea Virens.*

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ABSTRACT

Rice (Oryza sativa L.) is the most extensively cultivated crop in India and forms a major part of nourishment for population. Domestication of this crop invited many diseases and disorders incited by biotic and abiotic factors. Amongst the biotic factors, false smut of rice emerges in the seventies under influence of high yielding nutrition responsive varieties needed to get it managed by the application of selected fungicides in proper dose at appropriate time. Keeping in view, the above fact an on -farm trial was conducted by Krishi Vigyan Kendra, Kaushambi, U.P. at farmer field during Kharif 2015 and 2016 to find out the effect of selected fungicide(foliar application of Propiconazole 25 EC @ 0.1%) against farmer practice (Carbendazim @ 0.1%) at standardized dose of test fungicide were validated in the field at appropriate critical stages of crop growth (Booting stage, 50% flowering stage and 100% flowering stage). Treated paddy plot showed least percent of Infected grains/tiller-0.40 with a severity of 2.5 percent. Maximum yield of 69.5q/ha was obtained with Propiconazole 25 EC as compared to farmer practice with yield 62.8 q/ha.

Keywords: Oryza, Fungicides Application, False smut, Control

ISEE Seminar/2019/ABS/223

Response of Turmeric as Intercrop in Guava Orchard on Yield and Economics

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ABSTRACT

Mono-cropping style production has significant problems and that there exists a sufficient justification for

studying intercropping approaches. Intercropping provide insurance against risk and give stable returns even under unfavorable weather conditions. The most common advantage of intercropping is the production of greater yield and higher return on a given piece of land by making more efficient use of the available growth resources using a mixture of crops of different rooting ability, canopy structure height and nutrient requirements based on the complementary utilization of growth resources by the component crops. India has dominated in turmeric production at world level and Guava is also important fruit crops of India. The study was conducted by Krishi Vigyan Kendra, Kaushambi under On-farm Trial during the year 2016 and 2017 at farmer field to assess the economic return and yield of Turmeric variety (Barua sagar) as intercrop with guava at spacing (20 X 20). The result showed that high benefit cost ratio of this intercropping system may be due to high rhizome yield and market price of produce with low investment involved in their cultivation. Yield of Intercrop was 115 qt/ha. of guava fruit with 21.05 rhizome yield as compared to 115 qt/ha. as sole crop of guava. Thus, the results indicated that intercropping of turmeric has been more economically as compared to sole crop.

Keywords: Intercropping, yields, turmeric.

ISEE Seminar/2019/ABS/224

ICT based Extension Methods

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ABSTRACT

In modern times, Information and Communication Technology (ICT) has become more relevant for agricultural extension services. It requires ICTs for effective management and dissemination of information. The national objective of the doubling farmers income by 2022 cannot be achieved without strengthening the extension system; without equipping it with advanced ICT tools. Indian extension system has realised the huge gap between extension worker and farmer ratio, which is 1:1162 at national level, well below the recommended ratio of 1:750. ICT enabled initiatives have the potential to cover this gap in an effective manner. It provides new approach to farmers to make tentative decision much more easily than before. ICT tools, significantly, have reduced communication and information costs for the rural people. This technology has provided new opportunity for rural farmers to obtain knowledge and information about agricultural issues, problems and its usage for development of agriculture. ICT tools in agricultural extension services especially, mobile phone, information kiosks, call centres, internet, expert system, decision support systems, etc in the agricultural sector has provided information on market, weather, transport and agricultural techniques to contact with concern agencies and department. This paper tries to highlight the importance, challenges and opportunities for ICTs in agriculture.

Keywords: ICT, Extension, Internet, Mobile Phone, Information Kiosks

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Problems and Suggestions Perceived by Farmers towards Kisan Call Centre

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ABSTRACT

Availability of appropriate information at right time and communication of information have been most important factors for increasing agricultural production. There is flood of information but which information will be useful where and for whom and how to take it to the needy people was a big challenge to the Ministry of agriculture. Farmers need a bunch of information in agriculture at every stage ranging from improved crop cultivation practices, information related to weather forecast, hybrid seeds, inputs for cultivation, pest attack, insect and pest management & disease management, storage facility and price of agricultural produce. Farmers can get information from number of ways including trial and error, social network. Important information related to agriculture is neither symmetric nor costless. This is due to the charge of obtaining that type of information via personal network, radio, newspaper which may be expensive in the case of vast distance and limited infrastructure. The study was conducted in Varanasi district of Utter Pradesh to know the problems faced by the farmers to using kisan call centre. Ex-post facto design was used for the research and snow boll sampling was used for the data collection with the help of well-prepared schedule for 150 respondents. Data was analyzed by using chi squire test for finding association among dependent and independent varaibles.

Keywords - Information, Communication gap, Technology.

ISEE Seminar/2019/ABS/226

Farmer Producers Company, Agricultural Sustainability and Triple Bottom Line Growth: Community Empowerment in a Rainfed Region of Odisha

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ABSTRACT

Agricultural growth and its sustainability in a backward rainfed region significantly influence the achievement of sustainability. The paper tries to establish this with evidence from a backward rainfed region of Odisha, India. Indian agriculture is closely tied to the fate of the marginal and small farmers. They constitute about 86% of the total farmers and hold less than 48% of the total net sown area in India. They are the victim of the entire value chain. The traditional value chain networks which lack supportive and effective coordination within the market integration creates crises and bow down the backbone of these primary producers. Over the years, the low agricultural performance has a concern towards agricultural sustainability, and livelihood and food security as well. However, collaborative and collective mechanisms of the emerging farmers producers Organisations (FPOs) and subsequently farmers producers company (FPCs) have a significant potential to enable and empower these marginal and small farmers in terms of assured agricultural growth and food security. These, in turn, directly and indirectly facilitate to achieve various sustainability dimensions including reducing inequality and income disparity, creating social capital and protection towards environmental stewardship with sustainable actions. FPCs came to retain the desirable structure of cooperative system along with flexibility in operation, freedom and efficiency as

a private entity which improves accessibility, income and strengthen their sustainable agriculture based livelihood with entrepreneurial traits. It, in turn, attempts to create an accounting framework of Triple Bottom Line equating economic, social and environmental dimension. The present empirical paper based at a backward rainfed context of India attempts to answer the question 'which are the important factor(s) responsible for significantly better performance of FPCs in terms of ensuring higher agricultural growth. The paper also attempt to ascertain, how the potential provision of FPC i;e innovation, risk taking, value addition, employment creation and diversification linked to agricultural sustainability in a rainfed context. Finally, it tries to establish an empirical link between FPCs performance and agricultural sustainability.

Keywords: Rainfed Region, Farmer Producers Company, Agricultural Sustainability, Innovation, Value Addition, Triple Bottom Line.

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Adoption of Improved Cultivation Practices of Watermelon by the Respondents

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ABSTRACT

The present study conducted in Solapur district of Maharashtra state. Ten villages from one tahsil of thesedistricts were selected randomly having maximum area under watermelon cultivation. A total of 120 respondents from ten villages formed sample for the study. The data were obtained by interview schedule. The respondents were contacted personally and interviewed. Watermelon is important vegetable crop having good prospects in state as well as country.Watermelon (*Citrullus lanatus L.*) is grown in tropical and subtropical regions of the world. The total area under cultivation of watermelon in India is 92.00 thousand ha and production 2292.00 thousand MT.(Source: Ministry of Agriculture, Govt. of India, 2015-16). Watermelon is an important vegetable crop grown in Solapur district.In this research observed that,56.66 per cent of respondents had completely adopted harrowing, 52.50 per cent respondents had completely adopted rotavator for watermelon cultivation, 60.00 per cent of the watermelon growers had adopted normal recommended planting distance of 2 x 0.5 m,78.33 per cent of watermelon growers had completely adopted the recommended seed rate for sowing of watermelon,74.17 per cent of the respondents had complete adoption of Sugar baby variety of watermelon growers, 55.83 per cent of the respondents had complete adoption of recommended basal dose of fertilizers as per MPKV, Rahuri, 93.33 per cent of the respondents had completely adopted the cultural methods for weed management, 31.67 per cent respondents had adopted the flood method of irrigation.In this research observed thatoverall nearly two third 65.00 per centof respondent watermelon growers had medium level adoption, while, 19.17 per cent had high level of adoption and 15.83 per cent of watermelon growers had low level of adoption.

Keywords: adoption, improved cultivation practices, watermelon and respondents

ISEE Seminar/2019/ABS/228

Skilling Women in Agriculture for Agripreneurship: An approach towards Empowerment in Rainfed context of Odisha

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ABSTRACT

Women play a significant role in agriculture and allied activities. Rural women engaged in agriculture constitute 78% of entire women population. They are actively participating in work surrounded to them mostly in transplantation, weeding, harvesting, post-harvest operation and market extension activities. Lack of skill training, poor facilitation towards innovative and improved mechanisation in agriculture, poor credit facilitation, restrict to tenancy rights forces them to plump for agricultural labourer to support their low family income, being discriminated with low wage rate. Despite of huge contribution, role of women in agriculture is not well recognised. Agriculture establishment among the women emerged whether individually or clusters integrate them towards backward and forward linkages coherently provide a collective power. The study in rainfed context of Odisha i;e Kalahandi deals to assess the extent of women labour in agriculture through secondary sources, who are 76.2 percent of the female workforce in agriculture. Secondly, the study tried to ascertain the nature and extent of agricultural activities performed by women in the studied area with 300 women agricultural labourer in 10 blocks of the district through work participation index. Lastly the study ascertains the importance of socio-economic & psychological factors empowering women agricultural labourers through Agripreneurship using LOGIT and LISREL one factor measurement model. The study found that women agricultural labourer mostly engaged with a reason to contribute to low income earning of her family for a better livelihood. Foremost, the socio economic and psychological factors like leadership, decision making are more significant for women in agriculture to empower herself through taking up Agripreneurship. It distinctively augments the role of women in the society with a holistic growth.

Keywords- Agripreneurship, Empowerment, Rainfed, Women, Holistic

ISEE Seminar/2019/ABS/229

Conservation Agriculture& Economies of Scale through Input use Efficiency: An Inquest on Direct Seeded Rice from Rainfed Region of Odisha

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ABSTRACT

The future of Indian Agriculture to a great extent lies in induction of investment and appropriate technology for promotion of cash crop, scaling up productivity and return to the primary producers. As technology is not scale neutral and induction of appropriate technology requires an optimum size of the holding, fragmented holdings with small and marginal farmers constitute bulk (about 86.2% of the total land holding) pose huge impediments across the entire value chain. Conservation agriculture is improved cultural practices in farm production, which enhanced the crop productivity with input efficiency and gives Economies of Scale to Marginal and small holders. Direct Seeded Rice with Zero tillage Operation is one such mechanism, which stood up in uprooting economic benefit to the farmers. The present study is based on primary survey collected from a rain fed region of Odisha i.e. Kalahandi, which falls in western undulating agro climatic zone. The study focuses on to estimate the cost

of cultivation of paddy and cost benefit analysis under Zero tillage operation and conventional method among the adopters and non adopters. Secondly, to study aims to find out the economic impact or change due to input efficiency resource management. The study was carried out in 4 blocks of Kalahandi District, in 16 villages with 320 sample size (160 adopters & 160 non adopters). The study reveals that adopters enjoy a better yield with cost effectiveness and mechanism getting an acceptable Cost Benefit Ratio of 2.2. Primary constrain were found but over the year the wider facilitation of conservation agriculture on particular technology can overcome with better policy at governance system.

Keywords: Direct Seeded Rice, Input Efficiency, Economies of Scale, Conservation Agriculture

ISEE Seminar/2019/ABS/230

Effect of Intercropping on Population of Thrips (*Thripstabaci*) on Bt Cotton

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ABSTRACT

Cotton is important commercial fibre crop grown under diverse agro-climatic conditions around the world and vulnerable to attack from several insect pests. Among the various sucking insect pests, thrips, *Thripstabaci* Lindemann is major pest limiting profitable cultivation of cotton. A common sign of a heavy thrips infestation is the distorted leaves that have turned brownish around the edges and cup upward. Thrips also found on underside of the leaves damaging them by piercing the epidermis of the tissues and sucking the sap oozing out of wounds. Growing the cotton as sole crop is usually found to be risky and less remunerative. Intercropping in cotton is of significance because of higher profit and yield advantage, especially under unfavourable climatic conditions. So the present experiment was conducted to evaluate the effect of intercrops on population of thrips on cotton during *Kharif* 2017. The study was conducted at Cotton Section, Department of Genetics and Plant Breeding, CCSHAU, Hisar. Different crops like bajra, sorghum, sesame, pigeon pea and cowpea were grown as intercrops with cotton. There were six treatments including one control (sole cotton). Observations on the number of thrips was recorded at weekly interval from three leaves per plant selected from top, middle and bottom canopy of five randomly selected plants per plot. Results showed that all the intercropped treatment were superior over control. Minimum population of thrips was recorded in cotton intercropped with bajra crop, followed by cotton intercropped with sorghum. Maximum population was recorded in sole cotton crop.

Keywords: cotton, Thrips, intercropping etc,

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Diversification in Agriculture - A Case Study

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ABSTRACT

Mr. Jagbir Singh S/o of Sh. Kapoor Singh is a native of village Balb, Rohtak, Haryana. He is in ex-serviceman of

Indian Army. After his retirement he decided to do agriculture. He came into contact with KVK scientists. He was advised to grow fruits and vegetable crops instead of traditional crops i.e. rice, wheat, cotton, sugarcane etc. He got 22.5 acres of land on lease basis at the nearby village, Marodhi. He established an orchard of Ber (12 acres) guava (3.0 acres) and lemon (7.5 acres) with drip irrigation system. He is growing vegetable crops like cucurbits along with papaya and pulses i.e. moong etc. as inter-crops in his orchard. In the last summer season i.e. 2019, he grew bottlegourd as inter-crop in five acres of land and earned Rs. 4 lakhs as gross income. He is earning a good income from inter-crops regularly and in the forthcoming winter season, his ber orchard will start bearing fruits. The farmer is very much satisfied with this diversification.

Keywords: Diversification, inter-crops, orchard, gross income

ISEE Seminar/2019/ABS/232

Sub-surface Drainage Technology for Reclamation of Water Logged Saline Soils in Maharashtra: An Impact on Farmers

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ABSTRACT

The soil salinity and water logging problems are witnessing in major and medium irrigation projects in Maharashtra with having 6.07 lakh ha of area under salt affected soils. This area occurs mainly under canal and lift irrigation commands and low lying areas at the downstream end of the watershed in Western Maharashtra. The main factors which are responsible for increased soil salinity are excess and faulty irrigation methods, cropping system, poor drainage, high level salt in water and semi-arid climate. For overcoming the problems of salinity and water logging; sub-surface drainage (SSD) technology has been suggested by the experts as a one of the effective measures of reclamation, which lowers the water table along with reduction of soil salinity. In Maharashtra, total 7145 ha area the SSD technology was installed particularly in Sangli, Kolhapur, Satara and Pune districts. By keeping these in mind study was taken to impact evaluation of subsurface drainage technology for reclamation of waterlogged saline soils in Maharashtra. This study was conducted with objectives to evaluate the technological impact of SSD on crop productivity, farm income and livelihood security of farmers and to find out constraints faced by farmers before and after adopting SSD technology. Installation of Subsurface Drainage (SSD) system on large scale (through farmers' associations and government support) basis is emerging as a successful intervention to tackle this soil salinity situation in the area. The present study was carried out in Dudhgaon in Miraj Tehsil of Sangli district in Maharashtra. The Dudhgaon village is having 1100 ha area under waterlogged & saline soils; out of which on 1085 ha (98.63%) area SSD was installed. The 30 farmer respondents who adopted SSD were selected randomly for study. The study revealed that about 50 % famers belong to medium & large land holding followed 30% farmer's marginal land which benefited from SSD project. It found that post SSD project the cropping pattern became more diversified than earlier; the Sugarcane was major crop which occupies about 82% area followed by cereals and pulses (9%), fruits and vegetable (7%) and oilseeds (2%). The average agriculture income of farmers was increased from 1.16 lakh to 2.72 lakh (233%) per annum after installation of SSD drainage. Post installation of subsurface drainage the average yield of sugarcane increased from 46.3to 108.7 t ha^{-1}, wheat from 11.6 to 28.81 q ha^{-1} and soyabean from 9.2 to 26.14 q ha^{-1}. It also found that, the majority of farmers agreed that high cost PVC drain pipes (70%), high cost digging machine (83.33%), high cost of farm labour (90%) and lack of proper knowledge of SSD among farmers (46.67%) were serious constraints in adoption of SSD technology. Therefore, the adoption subsurface drainage (SSD) technology, definitely impact on farmers income, crop yield in the study area. Cooperation among the farmers led to active participation right from planning, implementation and maintenance of the system, is a key for the success of the SSD project.

Keywords: Drainage , Reclamation ,Watershed

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Skill Training on Agricultural Extension Service Provider under ASCI to Transform Youths into Agri-preneur

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ABSTRACT

Agricultural skill plays an important role in transforming youth into agri-preneures so that they can be self employed as well as provide employment to others through ambitious programme of Government of India like Make in India, Skill India and Digital India. India is lacking skills in general & agricultural skill in particular in comparison to other developed countries. Hence, there is a need to plan and execute the skill development programmes in an efficient manner with an aim to Double the Income of Farmers by 2022. Under Skill Development Programme of Agricultural Skill Council of India, ICAR-Agricultural Techonolgy Application Research Institute (ATARI), Zone-II, Jodhpur (Rajasthan) identified various fields of skill training programmes with different Job role like Organic grower, Agricultural extension service provider, Mushroom growers, beekeeper, Seed growers, Vermi compost producer etc. for the youths of Haryana State. These skill training programmes are being implemented through Krishi Vigyan Kendras and Saina Nehwal Institute of Agricultural Technology Training and Extension (SNAITTE), CCSHAU, Hisar under the supervision and monitoring of Directorate of Extension Education. A vast majority (80.00%) of the trainees having educational qualification above graduation and more than half (60.00%) of them were married with the responsibility of their families, having nuclear family type. Most of the trainees having less than 5.0 acres land holding of their family and medium to high level of SES (Socio-Economic Status). All the trainees were of the opinion to start their own enterprise like mushroom cultivation, beekeeping, vermi-composting and integrated farming system and dairying to earn extra income along with agriculture/crop cultivation.

Keywords: Agri-preneures, ASCI, Training, AESP

ISEE Seminar/2019/ABS/234

A Study on the Extent of Adoption of Pisciculture Technology by Rural Youth in Jagatsinghpur District of Odisha

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ABSTRACT

According to the Food and Agriculture Organization (FAO) of the United Nations, fish output in India doubled between 1990 and 2010. Fisheries sector is a source of livelihood for people engaged in fully, partially or in subsidiary activities. It's an integral component of rural development programme and its requirement of capital investment is relatively low and gestation period short. Odisha ranks 10th in terms of production of fish and produced 4.50 percent of the total fish production in the country during 2014-15.The youth entrepreneur can generate more income from a small area of land by doing pisciculture in comparison to other crops. The per hectare

annual income from pisciculture is much higher than that of crop production and pisciculture may appear to be a viable proposition for small and marginal farmers. The study was conducted in Ersama, Naugaon and Tirtol blocks of Jagatsinghpur district. Both purposive and multistage random sampling methods were adopted for selection of the district, block, gram panchayat, village and respondents. A total of 110 (hundred ten) number of respondents were selected for the purpose of the investigation. The study indicates that more than three-fourth of the respondents (73.63 per cent) had medium level of adoption, whereas only 15.45 per cent of the respondents had high and remaining 10.92 per cent of them had low level of adoption. Pisciculture farmers was found negative and non-significant with their age and innovation proneness and found positive and significant with their education, mass media exposure, socio-economic status, annual income and risk orientation.

Keywords: Pisiculture, Fishries, Adoption, Entrepreneur, Risk Orientation

ISEE Seminar/2019/ABS/235

Knowledge Level of Gram Growers about Recommended Interventions of Gram Crop under NFSM in Bikaner District of Rajasthan

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ABSTRACT

The National Food Security Mission is in operation in all six panchayat samities of Bikaner district. Out of which fifty percent panchayat samities, i.e. three panchayat samities Nokha, Lunkarnshar, Sri Dungargarh were selected purposely. Out of selected panchayat samities three gram panchayats were selected randomly from each panchayat samities on the basis of random sampling method. Thus, the total 9 villages were selected. To know the impact of National Food Security Mission, a control group of villages were also be required. Therefore, three distant villages where the National Food Security Mission was not in operation were also selected on the basis of random sampling technique from each identified panchayat samiti. 7 beneficiary and 7 non-beneficiary gram respondents were selected randomly from each identified village. Thus, a total of 63 beneficiary respondents and 63 non-beneficiary gram respondents. The study found that majority of gram respondent (53.96%) had medium level of knowledge**;** whereas 25.40 per cent and 20.64per cent were having high and low knowledge level about recommended production technology of gram. The study revealed that 38.09 per cent beneficiary farmers and 12.70 per cent non-beneficiary farmers had high level of knowledge about gram interventions. Whereas, 47.62 per cent beneficiary farmers and 60.32 per cent non-beneficiary farmers possessed medium level of knowledge about recommended gram interventions. On the other hand, 14.29 per cent beneficiary farmers and 26.98 per cent non-beneficiary farmers were categorized in the low level knowledge group as this category of respondents had poor knowledge about recommended gram interventions.

Keywords: NFSM, Knowledge, Gram.

ISEE Seminar/2019/ABS/236

Extent of Adoption of Recommended Interventions of Gram Crops by the Respondents in Bikaner District of Rajasthan

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ABSTRACT

The study was conducted in Bikaner district of Rajasthan. The National Food Security Mission is in operation in all six panchayat samities of Bikaner district. Out of which fifty percent panchayat samities, i.e. three panchayat samities Nokha, Lunkarnshar, Sri Dungargarh were selected purposely. Out of selected panchayat samities three gram panchayats were selected randomly from each panchayat samities on the basis of random sampling method. Thus, the total 9 villages were selected. To know the impact of National Food Security Mission, a control group of villages were also be required. Therefore, three distant villages where the National Food Security Mission was not in operation were also selected on the basis of random sampling technique from each identified panchayat samiti. 7 beneficiary and 7 non-beneficiary gram respondents were selected randomly from each identified village. Thus, a total of 63 beneficiary respondents and 63 non-beneficiary gram respondents. The findings revealed that 52.40 per cent of the total gram respondents were in the medium level of adoption group, whereas, 23.80 per cent respondents were in high level of adoption group and remaining 23.80 per cent gram growers were observed in the low level of adoption about recommended gram interventions. In case of gram beneficiary farmers difference was found among three categories i.e. low, medium and high level of adoption group with 17.46 per cent, 46.03 per cent and 36.51 per cent respectively. Further, in case of gram non-beneficiary farmers, i.e. 30.15 per cent of the farmers belonged to low adoption category followed by medium adoption level 58.73 per cent. Only 11.12 per cent non-beneficiary farmers were found with high level of adoption about gram cultivation practices.

Keywords: Gram , Adoption, NFSM

ISEE Seminar/2019/ABS/237

Tribal Women Farmer in Agriculture Facing Challenges in Bastar Plateau of Chhattisgarh

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ABSTRACT

India is predominantly an agriculture based country. 70% of its population is rural & about 60% engage in agriculture as their main source of income. Agriculture and allied activities are the main occupations of the people in rural India & women play an important role. However, the nature and extent of their involvement differs with the variations in agro production systems extensively involved in agricultural activities. The mode of female participation in agricultural production varies with the landowning status of farm households. The role of women include producing agricultural crops, taming animals, processing and preparing food, working for wages in

agricultural or the rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. Moreover, their options for livelihood, income generation, and participation in decision making have been severely curtailed along with heightened violence against them. Till date, damage to women's sources of income is not even assessed in the state. Several local fruits and crops like mahua, mango etc., have undergone total transformation in their cropping cycle. There was once a thriving biodiversity existing on the hills and forests in symbiosis with the south-west and north-east monsoon. The bowl of rice for Central India now has its farmers migrated to all corners of the country looking for jobs. Further, it is opined that **a** comprehensive policy to reduce poverty without increasing emissions should be chalked out giving special emphasis on women and children in district. Chhattisgarh is a new state facing many challenges. The contradictory pulls and pushes of customary laws relating to women in the many communities of Chhattisgarh, and their breakdown and distortion in the process of integration of the state into mainstream public life is another major issue of which we do not have adequate understanding and documentation at the present moment. Civil society structures are relatively weak and fragmented and this is another challenge. Women in the new state have a long way to go.

Keywords: Gender Issue, Agriculture, Women, Tribal

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Evaluation of High Yielding Hybrid Varieties of Tomato to Enhance the Farmers Income

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ABSTRACT

Tomato (*Solanum Lycopersicum* L) is one of the most important vegetables crops grown both in India. Total area under tomato cultivation in India is 83,000 ha with production of 7,90,000 tonnes. The general popularity and health benefits associated with this vegetable crop make it one of the most commercially viable of all agricultural commodities. Farmers of the district Jalaun generally grow local varieties due to which the tomato production is not able to meet the requirements of the farmers due to less production and productivity. Seeking the importance of the crop, Krishi Vigyan Kendra, Jalaun initiated to conduct On Farm testing for evaluation of high yielding tomato varieties for higher production and productivity to enhance income of the farmers of Jalaun District. An On farm trial on Evaluation of high yielding hybrid varieties of Tomato to enhance the farmer's income was carried out at farmers field in Jalaun district during the year 2018-2019.The treatment comprised of three varieties of Tomato with six replications, farmers as replication. Observations were recorded on plant height, number of fruits per plant, weight of fruits (g) and fruit yield (kg/plant). The results revealed that the maximum number of fruits per plant (26.7), weight of fruit (51.8g), and fruit yield per plant (1.38kg) was recorded with variety Ganga which was followed by Lakshmi were superior to local variety practiced by the farmers. The cost benefit ratio was also found to be highest in var. Ganga (1:2.66). Therefore, it may be concluded that the var. Ganga was found to be superior to all other varieties.

Keywords: Tomato, Evaluation, Varieties, Yield.

ISEE Seminar/2019/ABS/239

Assessment of Effect of Dewormer and Mineral Mixture on Milk Production of Buffalo

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ABSTRACT

Proper feeding of dewormer and mineral mixture play an important role in milk production. Due to fluctuating environment and climate, animals go through various health issues. However, worm infestation is a hidden disease that is prevalent in animals in all around the world. Until and unless the growth of the worm doesn't come to the advanced stage and shows outward signs, it is quite difficult to detect the presence of worms. Therefore precautionary measure by doing regular deworming of animals is good for health issues. Minerals are required by dairy animals for their metabolic functions, growth, milk production, reproduction and health. Animal cannot synthesize minerals inside its body and usually feeds and fodders fed to the dairy animals do not provide all the minerals in the required quantity. Therefore, animal should be supplemented with adequate amount of good quality mineral mixture in their ration. To focus the health of buffalo which has direct effect on milk production, KVK Jalaun has performed On Farm Testing to assess the performance of the Dewormer and mineral mixture. These two were tested on 5 farmer's buffaloes in village Harkauti, district Jalaun. Test was carried out in the month of August and September 2018. Two tablets / 350-400 kg body weights was provided to each buffalo at each farmers in six month interval and 45 gram per day mineral mixture was mix with animal feed. The observations on milk production per day, lactation period in days and total milk production were recorded. Result obtained from above experiment revealed that, the maximum milk Yield was recorded 5.50 L/day, lactation period 180 days and total milk production 990 L in treatment Dewormer + Mineral mixture followed by Farmers practice (Fellow) 5.0 L/day, lactation period 150 days and total milk production 750 L, respectively in farmer's practices without using any Dewormer + Mineral mixture. The benefit cost ratio 1:1.53 was found in treatment Dewormer + Mineral mixture as compare to farmer practice (Fellow) 1:1.05. On the basis of overall comparison, Dewormer + Mineral mixture was found best in all respect.

Keywords: Assessment, Milk , Dewarming.

ISEE Seminar/2019/ABS/240

Assessment of Different Bio Fungicides Application Methods against Wilt (*Fusarium oxysporum*) On Lentil in Farmer's Field Condition

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ABSTRACT

Lentil (*Lens culinaris* Medik.) is an important pulse crop after Pea and chickpea in Jalaun and extensively grown in cool season. The crop is infected by a number of fungal plant diseases and out of which vascular wilt is the most devastating caused by several *Fusarium oxysporum* f. sp. Lentis. Wilt is the most important factor for reducing lentil production and causes 50- 78 per cent yield loss. The wilt disease occurs in fields in patches and originates

either at early (seedling) crop stage or at reproductive (adult plant) stage. To minimized yield loss caused by wilt we planned and conducted on farm trials on bio fungicides application methods against wilt on lentil at farmer's field condition. Three farmers were selected from village Nainpura, block Jalaun, district Jalaun. Treatments namely, T1 - Farmers' practices (No control), T2- Seed treatment with *Trichodermaviridae* @ 5g /Kg seed and T3- Soil treatment with *Trichodermaviridae* @ 2.50 Kg / ha were assessed against lentil wilt. Each treatment was tested at each farmer's field. Lentil Seeds were soaked in water for overnight. Next day, the seed was treated with *Trichodermaviridae* @ 5g /Kg seed. Ten days before sowing 2.5 kg *Trichodermaviridae*were thoroughly mixed with50 kg vermin compost and kept in shade for multiplication. Before sowing these well rotten mixture was incorporated in soil for soil treatment. Observations on per cent infestation, yield Q/ha and benefit cost ratio were recorded. Results of the on farm trial showed that the maximum yield 15.00 Q/ha was found in soil treatment with highest B: C ratio (1:2.19) and minimum disease infestation (6.00%) followed by Seed treatment (13.50 Q/ha, 8.00 % and 1: 1.87) and Farmers practices (9.52 Q/ha, 25 % and 1: 1.3), respectively. Soil treatment with *Trichodermaviridae* @ 2.50 Kg / ha was found highly effective method for management wilt disease in lentil in respect to per cent infestation, yield Q/ha and benefit cost ratio.

Keywords: Assessment, Wilt, Lentil

ISEE Seminar/2019/ABS/241

Adaptive Evaluation of Different Bio Fertilizers and Micronutrient as Seed Treatment on Chickpea Crop at Farmer's Field

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ABSTRACT

Chickpea (*Cicer arietinum* L.) is an important pulse crop of Jalaun district of Uttar Pradesh. The yield levels of chickpea have been generally low which might be attributed to its major cultivation under rainfed conditions with less/imbalance use of fertilizers, limited seed treatment with Rhizobium and phosphorous solubilizing bacteria and also due to its susceptibility to wilt, insect, pest and diseases. Lack of bio fertilizers and micronutrients use especially Rhizobium and molybdenum which is responsible for nodulation in roots for N - fixing microorganisms are the major reasons for declining yield of chickpea. Keeping in view, KVK Jalaun planned and conducted on farm trials to assess the response of bio fertilizers and micronutrient at farmer's field conditions. Three farmers from village Nainpura, block Jalaun, district Jalaun were selected for this study. Three treatments namely, RFD + Rhizobium@ 20g/kg seed (T1),RFD + PSB @ 20 g/kg (T2) and RFD + Ammonium molybdate @1 gm/ kg seed+ Rhizobium+ PSB each @ 20 g/kg (T3) were evaluated as seed treatment on chickpea crop. Where Recommended Fertilizer Dose (RFD) were N: P: K: S @ 20:60:20:20 kg/ha. Each treatment was tested at each farmer's field. Results revealed that maximum pod per plant was recorded in treatment T3 (43) followed by treatment T2 (36) and treatment T1 (35). Treatment T3 gave highest yield 16.50 qt/ha followed by treatment T2 (15 qt/ha) as compare to T1 (12.00 qt/ha), respectively. Similarly the higher B: C ratio i.e. 1:2.54 was found in seed treatment with ammonium molybdate and rhizobium & PSB with RDF followed by 2.30 in RFD + PSB and 1.78 in RFD +Rhizobium. In overall comparison, treatment RFD + Ammonium molybdate @1 gm/ kg seed+ Rhizobium+ PSB each @ 20 g/kg was found highly effective in increasing number of pod per plant, Yield qt/ha and benefit.

Keywords: Adaptive evaluation, Bio fertilizers, Micronutrient, Seed treatment, Chickpea

ISEE Seminar/2019/ABS/242

Nutritional Gardening as an initiative for Food and Nutritional Security for Rural Community of Unnao District

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ABSTRACT

Malnutrition is a serious public health problem in rural areas of India. Nutrition gardening can play a significant role in mitigation of malnutrition for the rural households in developing countries like India. For poor households, fruits and vegetables are often the only source of micronutrients in the family diet. Homestead production of fruits and vegetables provides the household with direct access to important nutrients that may not be readily available or within their economic reach. Therefore, Nutrition gardening would be a good means to improve household food security. Nutrition gardening has been shown to be a source of additional income, because the household can sell a portion of the garden's produce. Studies suggest that this additional income is generally utilized to purchase supplementary food items, which further increases the diversification of the family's diet. Nutrition gardening is especially important for round the year availability of fruits and vegetables and promoting household food sufficiency. In Unnao district of Uttar Pradesh more than 90 per cent farmers have small and marginal land holdings unable to meet out daily recommended requirement of fruits and vegetables. Hence most of them are victims of malnutrition specially micronutrient deficiency. To overcome these problem 30 demonstrations of Nutrition Gardening during 2015-16, 2016-17 and 2017-18 were conducted in adopted villages with an objective to provide fruits and vegetable to the family round the year as well as utilize their backyard space. Planned layout was designed and year calendar was followed for round the year availability of fruits and vegetables through nutrition garden. Improved variety of seed and seedlings were provided to the beneficiaries. The results shows that the beneficiaries were growing 10-14 vegetables in planned nutrition garden at a time as compare to 3-4 vegetables in earlier practice that is during unplanned nutrition gardening. It was also recorded that vegetables were remain available for about 9-10 months to the family by scientific nutrition gardening instead of 4 months in their traditional method. The results revealed that beneficiaries were saving Rs. 7000/- to 9000/-per annum by producing vegetables at their backyard and also earning Rs.1500/- to 2000/- per annum by selling extra produce of garden. It was recorded that the yield of fruits and vegetables in the scientific nutrition gardening was increased 80- 98 percent and consumption pattern of vegetables of household increased significantly over traditional method of nutrition gardening. It can be concluded from the findings that Nutrition garden is one of the easiest ways of ensuring access to a healthy diet. This is especially important in rural areas where people have limited income opportunities and poor access to markets. Thus large scale promotion of Nutrition gardening can play an important role for nutritional security of the rural households.

Keywords: Nutrition garden, malnutrition, micronutrient deficiency, nutritional security.

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Employment Diversification and its effect on Livelihood security of farmers in Punjab

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ABSTRACT

Employment crisis is one of the major challenges that the agriculture sector is facing which leads to stagnant the productivity of crop, livestock and allied enterprise. The root cause of the current crisis is distinct slowdown in agricultural growth, which leads to employment diversification. The study was focussed to identify the various sources of employment diversification for securing the livelihood of farming community in Punjab. As per the Agro ecological zone the Punjab state is divided into five zones, hence from each zone 100 farmers were selected as respondents finally 500 farmers were personally interviewed. The results shows that the respondents of large land holding category were obtaining more than 67.27 per cent of their income from crop farming, while small cultivating households was just 18.08 percent. The share of income from Dairy increased with the decline in operational land area in Punjab. In case of landless, marginal and small farmers, the major non-farm income sources were wage labor, shopkeeper, private jobs and other jobs (traders, commission agents etc.). The overall index of income diversification was 0.63in the study area of Punjab. It could be interpreted that employment diversification was higher among land less, marginal and small farmers, and they switch over towards nonfarm activities to secure their livelihood. However, it was also observed that some of the family members were having new skills related to non-farm activities and they started their own employment in urban and peri-urban areas in Punjab. The livelihood security index value was 0.74. The Non-Farm activities like Self-employment, Private/ company jobs, Emigration and Other jobs (traders, commission agents, etc.) provide more income and employment to the marginal and small holders. Hence, employment diversification could be better option for the landless, marginal and small holders to sustain their livelihood where crop farming is not potentially yields income.

Keywords: Livelihoods, Employment, Diversification.

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Efficient Integrated Farming Systems for Drylands of Bundelkhand

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ABSTRACT

Bundelkhand is the central dryland region of India composed of 13 districts of Uttar Pradesh and Madhya Pradesh States. The peculiar characteristics of the region are cold winters and very hot summers and high evaporation along with erratic nature of rainfall; which ranges between 850 to 950 mm annually. The region is also specified for lower investment and production from agriculture; which is reflected into poetry and socio- economic backwardness of the farmers. For bringing the agriculture of Bundelkhand in prosperous stage; adoption of region specific and efficient Integrated Farming system (IFS) is only the way. The fast growth in agricultural productivity and farmer's income along with food and nutritional security and environmental sustainability in changing climatic scenario in Bundelkhand can be achieved through scientific combination of cropping systems, livestock (cow, buffalo, sheep and goat), farm pond fishery, poultry, fruit and vegetable crops, apiculture, mushroom, etc. There is wide scope for

cropping system diversification in this region through replacement of traditional low income crops and varieties by high yielding stress resistance suitable crops and varieties and cropping systems. There withal vegetable, fruit and flower crops, animal units with higher productive suitable cow and goat breeds, poultry, seasonal mushroom, apiculture, NADEP composting, vermicomposting, duckery, biogas etc. are identified as economically viable and practically feasible components for inclusion in IFS model along with higher supplementary and complementary interactions within them. Farm pond is also an important component of IFS for Bundelkhand; which is harvesting the rain water, source of protective irrigations to crops and a medium to introduce fishery and duck components in the system. The successful IFS models in the regions have proven that the proper combination and management of various components can be earned net annual income of Rs. 2.5 to 3.5 lakh from only 1 ha area and generation of employment of more than 700 man days for farm family along with food and nutritional security and environmental sustainability.

Keywords: Drylands, Integrated Farming Systems, Productivity, Diversification.

ISEE Seminar/2019/ABS/245

Climate Change Adaptation and Mitigation through Carbon Sequestration

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ABSTRACT

Climate change is perhaps the most serious environmental threat to fight against hunger, malnutrition, disease and poverty. Climate change is a significant variation in weather patterns occurring over periods ranging from decades to millions of years. Climatic change could affect agriculture in several ways: productivity, in terms of quantity and quality of crops; agricultural practices, through changes of irrigation and agricultural inputs such as herbicides, insecticides and fertilizers; environmental effects, in particular in relation of frequency and intensity of soil drainage (leading to nitrogen leaching), soil erosion, reduction of crop diversity: rural space, through the loss and gain of cultivated lands. Agriculture is the most vulnerable and sensitive sector affected by climate change because of its dependency on local climate parameters like rainfall, temperature, soil health etc. To alleviate the challenges posed by climate change, agriculture has to become "climate smart". Climate-Smart Agriculture contributes to the achievement of sustainable development goals. It integrates the three dimensions of sustainable development (economic, social and environmental) by jointly addressing food security and climate challenges. It is composed of three main pillars: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; reducing and/or removing greenhouse gases emissions, where possible. The adaption of climate-related knowledge, technologies and practices to local conditions, promoting joint learning by farmers, researchers, extension functionaries and widely disseminating climate smart agriculture practices. Agriculture and food supply chains are heavy emitters of heat trapping greenhouse gases. Agriculture contributes to release of three main GHGs: carbon dioxide, methane and nitrous oxide. The main sources of agricultural GHGs are emissions of nitrous oxide from soil (mostly through fertilizer use and manure being transformed by soil bacteria) and methane production by ruminant animals (enteric fermentations). There is an opportunity to achieve a climate smart agriculture by sequesting carbon and reducing emissions. The main strategies which can play a major role in CSA are: Enriching soil carbon, promoting climate smart livestock production systems, minimizing the use of inorganic fertilizers and restoring degraded lands and preventing deforestation. Agricultural practices like managing soil cover and residues, reducing tillage, conservation agriculture technology, farming with perennials, climate friendly livestock systems, conserving and restoring forests and grass lands, low emissions farming systems can capture carbon and reduce emissions.

Keywords: Climate change, Adaptation, Mitigation, Carbon sequestration

ISEE Seminar/2019/ABS/246

Attitude of Vegetable Growers towards Mitigating the Ill-Effects of Agricultural Chemicals

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ABSTRACT

The present study was conducted in Kolar district of Karnataka state during 2018-19 to ascertain the attitude of vegetable growers towards mitigating the ill-effects of agricultural chemicals and also to know the association between profile characteristics of vegetable growers with their attitude towards mitigating the ill-effects of agricultural chemicals. The data was collected from 120 vegetable growers in Kolar and Malurtalukas by applying simple random sampling technique and pretested interview schedule. It was found that more than half of the vegetable growers (52.50 %) belonged to highly favorable attitude towards mitigating the ill-effects of agricultural chemicals, more than two third of them (69.16 %) agreed that every farmer should ensure that the pesticide container is always tightly closed to avoid leakage or spillage during transportation and storage. Sixty per cent of the vegetable growers were undecided whether to spray agricultural chemicals in the opposite direction of wind or along the direction of wind, a little more than half of the vegetable growers (51.60 %) disagreed that one should always use protective gloves to mix/stir the agricultural chemicals, more than one third of them (35.83 %) strongly disagreed that one should choose only a calm day for better application of agricultural chemical to avoid any drift. Out of the 14 independent variables chosen for the study variables such as education, risk orientation, extension participation, mass media exposure, and extension contact had positive and significant association with attitude at one per cent level. Other variables like age, family size, annual income, size of land holding had no significant association with their knowledge on the effects of agricultural chemicals.

Keywords: Knowledge, Vegetable Growers, Agricultural Chemicals

ISEE Seminar/2019/ABS/247

Extent of Adoption of Tomato Cultivation Practices among Farmers under Shade Nets in Kolar district of Karnataka

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ABSTRACT

Indian agriculture is severely affected from climate change, fragmentation of cultivable land, water scarcity, rapid urbanization, declining crop production and productivity, crash in market price, declining biodiversity and ever increasing population, demand for food, especially vegetables has increased manifold. Protected cultivation has offered a new dimension to produce more in a limited area. The study was undertaken during the year 2016-17 in the Kolar, Malur and Mulbagal taluks of Kolar district based on maximum number of shade net structures growing capsicum as major crop. From each taluk respondents were selected by using purposive sampling procedure to constitute a sample size of 80 for the study. The study found that no one respondent raised nursery for seedlings. The probable reason might be lack of extension functionaries' effort from respective departments. In case of

cultural practices, with respect to ploughing, nearly two third (62.50 %) of the respondents partially adopted the recommended number of ploughings (2-3times). On the other hand, 100 per cent of the respondents didn't not adopt the digging practice, whereas more than half (53.75 %) of the respondents had partially adopted the recommended size of bed (1 meter width, 15 cm height and 0.5 meter between the rows) and nearly half (48.75 %) of the respondents belonged to partial adoption category of bed treatment @ 4% formalin for tomato cultivation. The findings of Karl Pearson correlation coefficient showed that variables such as annual income, extension participation, exhibited positive and significant relationship with adoption behaviour of respondents at 1 per cent level of significance. With respect to relationship of independent variables with adoption of tomato, variables like annual income, extension participation, exhibited positive and significant relationship with adoption behaviour of respondents at 1 per cent level of significance.

Keywords: Adoption, Tomato, Correlation, Shade net

ISEE Seminar/2019/ABS/248

Disparity of Food Safety Perspectives about Dairy products in Northern India

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ABSTRACT

Food safety generally means the intended degree of confidence that food will not cause sickness or harm to the consumer when it is prepared, served and eaten according to its intended use (FAO/WHO, 2003). Food safety is everybody's concern and it is a very important factor in our daily life. Ensuring food safety has become an important aspect in the present global scenario of changing food habits and globalization of our food supply. As the food supply chain is becoming more globalized,the need for strengthening our food safety systems has become more evident. The aim of the present study was to examine the knowledge and attitude related to food safety issues among consumers who had been the major consumers of the food items in the sample area. Interviews of 200 randomly selected consumers representing two districts in northern India were conducted. The study found significant differences among the age groups concerning attitude towards food safety practices. No significant differences in the demographic profile of the respondents about food safety practices were found. These findings indicated increased concerns about food safety knowledge and practices among the consumers. It is recommended that national surveys should be steered, followed with a suitably designed food safety public health campaign, to enhance food safety cognizance.

Keywords: Disparity of Food Safety Perspectives about Dairy products in Northern India

ISEE Seminar/2019/ABS/249

Climate Smart Agriculture Way to Agriculture

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ABSTRACT

Climate-smart agriculture (CSA) interventions increase productivity, conserve natural resources, regulate farming

systems with reference to perceived or future projected climate change impacts, and reduce or remove (where possible) GHG emissions. The emissions according to some estimates. The sector, like all sectors, is facing growing pressure to reduce its emissions to mitigate climate change. Agriculture is also increasingly impacted on by climate change via changes to weather patterns and more frequent extreme weather events such as floods, storms and droughts. Agriculture is also confronted with the challenge of feeding a growing population. Interventions vary from the implementation of latest or changes in current agricultural practices, to the introduction of new information products such as seasonal climate forecasts. Addressing climate change impacts on agriculture is a special challenge. There are many factors that influence the extent to that farmers in a particular location adopt CSA technologies. The most preferred climate smart technologies by farmers are as follows crop insurance, weather-based crop agro-advisories, rainwater harvesting, site-specific integrated nutrient management, contingent crop planning and laser land leveling. Farmers' preferences and willingness-to-pay are influenced by technologies and their price of implementation.

Keywords: Climate Smart, Agriculture Way to Agriculture

ISEE Seminar/2019/ABS/250

Role of SHGs in Upliftment of Women and Community as a Whole

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ABSTRACT

Self-help groups comprises of a group of 10-20 women or men who comes together by sharing a common purpose of benefiting themselves. The individual members of SHGs try to help each other out by taking part in group activities that facilitates in earning more savings. The activities that they do for their upliftment vary as per interest. The most important thing for an SHG is that it has the potential to raise the economic standards of the family of its members, thereby having a direct influence in uplifting the economic and social scenario of the particular community. Further, SHGs are instrumental in social mobilization of women which provide them a platform to discuss various social and environmental issues. Realizing this, the government of India also laid down some schemes to help people to form SHGs so that they too can earn and produce something that can be beneficial to the community. Programmes like Deen dayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM), under Ministry of Rural Development; Under DAY - NRLM programme, revolving Funds at the rate of Rs.10,000-15,000 is allotted per SHG and Community Investment Support Fund at the rate of maximum of Rs.2,50,000 per SHG is provided to Self Help Groups and their Federations to take up self-employment for income generation; Under Social Mobilization and Institution Development component, the mission envisages universal social mobilization of urban poor into Self-Help Groups (SHGs); Under the Self-Employment Programme (SEP), interest subvention over and above 7 percent rate of interest is available to all SHGs accessing bank loans. This paper is prepared with the objective to study the need of SHGs in improving the status of rural poor women and how it impacts the community they live in. An effort is made to review the role of SHG in the community upliftment.

Keywords: Rural women, Self Help Groups

ISEE Seminar/2019/ABS/251

Ensuring Food Security through Waste Management

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ABSTRACT

Around one-third of the annual food produced in the world is for human consumption, but approximately 1.3 billion tons gets lost or wasted, representing a considerable share of the overall food produced. According to the British Institution of Mechanical Engineers (IME), half of the food produced is wasted worldwide. Such a large extent of wastage is a matter of concern as around 800 million people are food insecure in the world, out of which one-third live in India. Country like India suffer more food losses during agricultural production due to poor infrastructure, low level of technology and low investment in the food production system, abetted by uncertainty in weather and market conditions. Wastage is also caused by retailers and consumers, due to over-purchasing and throwing away the food which could be consumed otherwise. Therefore waste management has become a key priority, referring to all the activities related to avoiding, reducing or recycling waste, throughout the production and consumption chain. There is an urgent need to understand the complexity of the food wastage problem and then to devise strategies to avoid wastage and thus making India a food secure country. This paper is prepared with the objective to explain the concept of food security and recent programmes run by the government to combat food insecurity. The paper also discusses food wastage scenario in India, the need for food waste control measures and strategies at the national and personal level which could be adopted to overcome this problem.

Keywords: food security, food waste management, nutritional security

ISEE Seminar/2019/ABS/252

Impact of KVK activities on production and productivity of selected villages in Ahmednagar district of Maharashtra

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ABSTRACT

Sri MarutraoGhulePatil Shikshan Sanstha's Krishi Vigyan Kendra, Dahigaon ne Talika-Shevgaon, Ahmednagar Maharashtra is working in the district since 201-13. As per the concept of Indian Council of Agricultural Research, New Delhi Krishi Vigyan Kendra has to select the few villages for intensive working and rest of the district has to be covered by other extension activities. In view of that KVK selected five villages i.e. Bhaigaon, Mohajdevede, ManjleShahar, Babhukheda and Pravara Sangam. In these villages KVK organized the On farm testing, front line demonstration, cluster front line demonstration on oilseed and pulses, training programme, scientist farmers interaction, field days and other extension activities. The field crops covered was sorghum, wheat, green gram, black gram, pigeon pea, chick pea and soybean. The technology demonstrated in pulse was complete package of practices under cluster front line demonstration (CFLD). In sorghum panchsutri (Five point's technology) technology recommended by MPKV, Rahuri and in wheat beside the variety i.e. Phule Samadhan, foliar application of water soluble fertilizers at critical crop growth stages was done. The trails conducted on cash crops were

sugarcane and cotton. In cotton integrated weed control and in sugarcane Sustainable Sugarcane Initiative (SSI) technology was popularized among farmers. Horticultural crops covered under study were onion and pomegranate. In the same way in onion crop, to reduce the cost of cultivation integrated weed management and in pome granate to protect the fruits from sun scorching PP Non woven bag technology was demonstrated at farmers field. On farm testing and front line demonstration were also conducted on farm implements too. Under implements broad bed and furrow (BBF), sugarcane mulcher and ratoon management through ratoon sugarcane manager was tested. Dairy, goatery and poultry were covered under animal component. To harness the potential in dairy Loose housing system was popularized. Buck of Osmanabadi goat provided to the famers and under poultry, poultry breed viz. Kadaknath, Vanraja and Srinidhi were provided to land less women farmers. Impact analysis was done by taking into consideration 20 respondents from each selected village crop/ enterprise wise. It was observed during the study that the percent change in income during these years observed in field crops viz. green gram, black gram, pigeon pea, chick pea and soybean, wheat, sorghum were 146.66%, 134.91%,135.37%,138.81%,141.81%,140.62 %,151.06% respectively. In cash crops i.e. Sugarcane and cotton was 119.36% and 153.87%. In horticultural crops onion pomegranate was110.25%, and119.87% besides that in dairy, goatery and poultry component the change was observed as 108.88%, 113.33% and 170.60%, respectively.

Keywords: OFT, FLD, Trainings, Impact, Production, Productivity, Income

ISEE Seminar/2019/ABS/253

Not to Burn Crop Residues: Motivating Farmers through KVKs

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ABSTRACT

It is the matter of serious concern that why the farmers are burning the crop residues in the field. What are the basic reasons behind the burning of straw rather than its management in the field? If farmers are mobilized, motivated and educated in a proper way, then they will not go in the direction of burning the crop residues in their fields. They can be made aware about the cons of burning the straw and pros of management of crop residues. KVKs can play a very prominent role in this direction because KVKs are directly engaged in the extension activities in their respective areas and scientists are familiar with the farming community. KVK scientists can organize frequent motivating and mobilizing extension programmes on crop residue management efficiently and effectively in their respective areas. KVKs can organize awareness programmes on residue management in association with state agriculture department, ATMA and ICAR Institutes. Generally, farmer accepts the technology on two basic principles of extension viz. seeing is believing and learning by doing. KVK scientists should demonstrate the CRM technologies on farmers' field and then regularly monitor these programmes. Government/ICAR should strengthen the KVKs in this direction by financing the farmers through KVKs to manage their crop residues by providing the technology/ machines on custom hiring basis/ contractual basis/ subsidy basis. Krishi Vigyan Kendra sare the backbone of extension activities for inculcating clean environment values among the farmers and other stakeholders. The entire staff of KVKs can work for promoting effective residue management strategies at the grass root level. Teams of KVK experts can regularly be sent to effectively cover as much area as possible to aware farmers about the hazardous effects of burning and benefits of crop residue management. If the farmers are directly motivated with these benefits, certainly they will manage the crop residue in their fields.

Keywords: Crop residue management, KVKs, motivated, familiar, burning etc.

ISEE Seminar/2019/ABS/254

Doubling the Farm Women Income through Value Addition in Ash Gourd

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ABSTRACT

In this study constraints faced by participants and knowledge status about the technology was measured. After preparation of the product, 5 point hedonic scale was used to collect the data regarding sensory analysis of the product. With mean score value of 0.94 participants given first rank to the constraint 'Never tasted narangi laddoo'. 'Unawareness about health benefits' constraint was given second rank with mean score value of 0.75. 'Attitude towards value addition in ash gourd' constraint was given third rank with mean score of 0.71. 'Have time to do value addition practices' constraint was ranked fourth with mean score value of 0.69. 'Other food items can be prepared from ash gourd' constraint was given fifth rank with mean score of 0.62. To know the technical constraint, data had been collected from participants. 'Skill training' constraint is given first rank in order with mean score of 0.98. 'Unawareness about technical know-how of value addition in ash gourd' constraint was given second rank (mean score 0.92). With mean score value of 0.88, third rank was given to the constraint 'Unavailability of the materials'. 'Knowledge about inputs' constraint scored fourth rank with mean value of 0.83. 'Narangiladdoo is made from papaya' constraint was given fifth rank with mean score of 0.75. Economic constraints were also collected from the participants. 'Lack of money' constraint as felt by participants was given highest rank with mean score of 0.96. 'Marketing of the technology' constraint was ranked second with mean score of 0.92. With mean score value 0.73, 'Unaware about economic benefits to add value in ash gourd' constraint was given third rank. 'Sale of product in the local market' constraint was given fourth rank in order with mean score of 0.67. Hedonic scale was used to judge acceptability of the product. 100% participants extremely liked overall acceptability of the product. Colour of the product was extremely liked by 92.45% participants. Texture of the product was extremely liked by 83.01% participants and 96.22% participants extremely liked the flavour of the product. Aroma of the product was extremely liked by 94.33% participants while 1.88% participants not liked or nor disliked the aroma of the product. Based on results, it can be concluded that constraints must be removed to increase the acceptability of the processing techniques. A small scale income generating activity based on ash gourd products can be promoted in the area.

Keywords: Ash gourd, constraints, value addition, doubling the farm women income.

ISEE Seminar/2019/ABS/255

Indigenous Technical Knowledge (ITK) and their Role in Sustainable Agriculture: An Illustration in Tribal Perspective

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ABSTRACT

Indigenous Technical Knowledge (ITK) has immense potential for sustainable agriculture, especially at the tribal level. India is a country populated by a number of indigenous communities, most of which have their own set of unique traditional knowledge, practices, and technology base which they have generated by the experience of many

years working in the field .Many of these knowledge and technologies are pollution free, low cost or of no cost as compare with the modern knowledge and technology system and have been provided the indigenous communities with ease and self-sufficiency. These traditional knowledge and technologies have not only played a major role in the overall socio-economic development of the communities but also they are eco-friendly. A study on some of the indigenous knowledge and technologies, with special reference to the concept of Indigenous Technical Knowledge (ITK), prevalent among a number of tribal communities was carried out and the significance of the same in present perspective has been evaluated. The study was conducted in the Balaghat district of M.P covering wide range of diverse sectors including agriculture, animal husbandry, food safety, fishing were considered for the purpose of the study. It has been observed that there is an immediate need to document and preserve the Indigenous Technical Knowledge (ITK) of these tribal communities, many of which are at the verge of disappearance. There is a lack of proper agreement between the practice of indigenous and modern knowledge. There are serious issues related to intellectual property rights. An appropriate agreement between the traditional and modern knowledge and technology systems has vast potential tomeet out the major challenges of agriculture and benefit the society.

Keywords: ITK, Sustainable Agriculture, Role, Tribal

ISEE Seminar/2019/ABS/256

Exploring Antimicrobial usage in Dairy Animals of Punjab from Veterinarian and Paravet Prescription and Treatment Pattern

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ABSTRACT

In the present scenario of rising concerns of mankind towards emerging health issues, Antimicrobial resistance has been at the nucleus of such an unprecedented problem at global level. For ensuring prudent use of antimicrobials as a disease control measure on dairy farms, research is needed to study the approaches veterinarians and paravets follow in disease identification and treatment pattern and the measures taken by them in case of disease occurrence is of paramount importance. The study was conducted in Punjab state of Northern India with 60 Veterinary Doctors and 60 Paravets. Data were collected by face to face interview using a semi- structured interview schedule. The study revealed that providing quick relief to sick animals was influencing the prescribing behaviour of 97.50 percent veterinary doctors where as prior experience of treatment with the particular antimicrobial influenced prescription for 96.66 percent paravets.95.83 percent veterinarians went for sensitivity test in case of treatment failure. Veterinary Doctor was ranked the most credible source by dairy farmer as far as treatment was concerned followed by paravet using Rank Based Quotient (RBQ) method.Given the complexity of the antimicrobial resistance challenge and concerns about issues at the interface of human health and animal health, it seems particularly important to explore the role of Veterinary Doctors and paravets in addressing the problem.

Keywords: Antimicrobials, Paravet, Prescription, Treatment, Veterinary Doctor

ISEE Seminar/2019/ABS/257

Soil Testing: A Major Tool to Achieved Crop Yield

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ABSTRACT

In recent years various scientific investigations were reported on different parts of India in the basis on soil testing and fertilizer recommendations on achieving the targeted yield of different crop. Soil testing as an essential tool for fertilizer recommendation as well- as renowned practice all over the world, it is the first step in obtaining higher yields and maximum returns from the money invested in fertilizers, it has been accepted as a unique tool for practical recommendations in fertilizer application on crop production. Fertilizers recommendation approach from a soil testing laboratory is based on carefully conducted physical and chemical soil analyses and the results of research on the crop, and therefore, it more scientific information available for fertilizer application in the field crop. It helps to assess the soil fertility status and recommend suitable nutrient dose through inorganic and organic fertilizer for different crops and cropping system. The selection of proper dose of plant nutrient addition is judicious by awareness of nutrient supply power of the soil and efficiency of fertilizers. Fertilizer recommendations as a base on Soil testing to achieve targeted Yield in Crop have been evolved for many crops using soil testing value.

Keywords: fertilizer recommendation, soil testing, achieved yield

ISEE Seminar/2019/ABS/258

It is Time to Push for Agronomic Management Based on Early Wheat Sowing

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ABSTRACT

Wheat crop in majority of cases is part of the double cropping system which is generally followed by rice. Till 2009, wheat used to be planted after 15 November as the optimum planting date recommended was after this period. It was also seen that early maturing (Mondal *et.al.* 2016) wheat varieties were seen more suitable and recommended for these ecologies. High temperature during the month of March leads to early heading and still shorter crop duration. Thus, there are two questions that come to our mind. Are we looking for solutions for continuous high temperature during wheat season? Or we are aiming for terminal heat stress based solutions? Planting wheat early will allow it to reach at physiological maturity when terminal heat stress starts affecting the crop thus, preventing in decline of wheat yields. The current survey aims at analysing the adoption patterns and potential benefits of different technologies at district level.

Keywords: Wheat, Sowing, Agronomic Manangement

ISEE Seminar/2019/ABS/259

Impact of Front Line Demonstrations on the Yield and Economics of Wheat (*Triticum aestivum* L.) in Basti District of Eastern Uttar Pradesh

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ABSTRACT

In Uttar Pradesh, this crop is presently being cultivated on 9.645 million hectare with a production of 34.971million tones and productivity of 3538 kg /ha.The Present study was carried out at farmers field of Basti district of Eastern Uttar Pradesh during rabi season 2017-18 and 2018-19. Front line demonstrations were conducted on wheat in farmer's participatory mode with the objective to find out the impact of improved technologies on wheat production potential under late rice - wheat condition. The improved technologies consist of high yielding newly released variety (HD 3086) and use of zero tillage (ZT) technology for sowing of wheat. Result of the present study revealed that higher yield in the demonstrations was recorded(44.5q/ha) as compared to farmers practice (40.2 q/ha) traditionally adopted by the farmers. The percentage increase in the yield over farmer's practice 10.69 was recorded. The extension gap, technology gap and technology index were computed 4.3 q/ha, 5.5 q/ha and 11% respectively. The demonstrated field gave higher net return Rs. 46246 and B:C ratio 1: 2.76.The result of the study indicated the gap existed in the potential yield and demonstration yield is due to soil fertility and weather condition. Present results clearly showed that the yield and economics of wheat can be boost up by adopting recommended technologies.

Keywords: Impact, FLD, Yield, Economics, Wheat

ISEE Seminar/2019/ABS/260

Appropriate Strategy to Overcome the Constraints of Drip Irrigation System in Panchayat Samiti, Jhotwara, District Jaipur (Rajasthan)

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ABSTRACT

The Indian population continuously increasing which demand more food grain production to fill vagaries of population. Therefore, to meet the projected food demands of 21st century and to harvest maximum benefits from every unit of available land, reproduce and other critical inputs needs to be exploited. Water is the most precious natural source, vitally important for agricultural development and day-to-day living of human beings. In the changing agricultural scenario world over and shift towards precision farming, drip irrigation happens to be the technology capable of providing more efficient utilization of water. Drip irrigation is basically precise and slow application of water in the form of discrete continuous drops, sprayed through mechanical devices called 'emitters' in to the root zone of the plants. The study was conducted in Jhotwara panchayat samiti of district Jaipur (Rajasthan). Fifty per cent (8) Gram Panchayats where maximum number of drip irrigation sets installed were selected. Two villages from each selected Gram Panchayats were selected randomly. Ninety six farmers were

selected from sixteen selected village by using of random sampling technique through proportional allocation to be size of sample. The study show that the among the important suggestions offered by the drip irrigation adopters to overcome the constraints faced in adoption of recommended improved practices of drip irrigation system , "Provision of sufficient subsidy to reduce initial installation cost" (91.66 per cent) which was prioritized at top level. Whereas, the least priority was given to the appropriate strategy i.e. "Control on nepotism and favoritism in installation of drip sets on subsidized rate".

Keywords: Constraints, Drip Irrigation, Micro irrigation

ISEE Seminar/2019/ABS/261

Farmers Benefits through Communication Resources of Krishi Vigyan Kendra Shahjahanpur

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ABSTRACT

An important pre-condition to a sound economy is a balanced growth of research and extension systems. In fact, the two systems are complimentary and supplementary to each other and must go hand in hand. This was not fully realized. As a result of this an imbalance in the technology development and its application created a wide gap between what could be achieved and what is being achieved on the farms. A big gap exists between the available technologies and their rapid transfer to the farmer. The experience gathered so far reveals that in spite of various approaches and programmes adopted, the technologies have not yet been transferred to the majority of the users. It may be due to several reasons. One of the reasons is the lack of basic understanding of the principles involved in the transfer of technology (TOT) on the part of scientists, extension workers and the change agents, as well as the lack of integrated approach by scientists and extension workers. So, to evaluate the effectiveness and performance of Krishi Vigyan Kendra on the farmers of the area, the present study entitled "farmers benefits through communication resources of the Krishi Vigyan Kendra Shahjahanpur. Looking into the rapid expansion of Krishi Vigyan Kendra to meet the growing demand of people and incurring huge investment in meeting recurring and non-recurring expenditures of the Krishi Vigyan Kendra, it is high time to have a wholesome thinking about the enduring influences of the Krishi Vigyan Kendra. Nevertheless when India has very high hope from Krishi Vigyan Kendra and it is planned to cover the entire country under the network of Krishi Vigyan Kendra. The Krishi Vigyan Kendra provides a strong training support for bringing about production breakthrough in agriculture. It was found that The Krishi Vigyan Kendras are functional carrying out extension activities in accordance with government programme schedule and proving support to raise the skill of the farmers which will help them to increase their productivity. Agricultural research and education has been considerably advanced in India. Research contribution in preceding decade has been enormous in all directions of Agriculture. The extension machinery, however, has not been able to cope up with scientific advantages. Big gap still exist between the productive technologies available and their rapid transfer to the farmers. Unless this gap is filled, the productive technologies now available in agriculture and allied fields cannot be properly used by farmers and the production will not accelerate.

Keywords: Farmers, Benefits, Communication Resource, KVK

ISEE Seminar/2019/ABS/262

Impact of Front Line Demonstrations on the Yield & Economics of Pulse Crops in Burhanpur District of Madhya Pradesh

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ABSTRACT

The study was carried out in adopted villages (Harda, Nimandar, Manjrod, Umarda, Sandas) of Krishi Vigyan Kendra, Burhanpur during 2013-14 to 2018-19. Total 100 front line demonstrations were conducted on pulses i.e. black gram (JU-86), soybean (RVS 2001-4), pigeon pea (TJT-501), chickpea (JAKI-9218) and green gram (TJM-3) in 40 ha.by the active participation of the farmers for adoption of improved technologies of pulse production potentials. The improved technologies includes use of new variety and full package of practices i.e. seed treatment, integrated nutrient management, integrated pest management, irrigation, harvesting, storage and post-harvest management. FLD plot recorded higher yield as compared to farmer's local practice. The mean data revealed that an average yield was recorded 15.74q/ha under demonstrated plots as compare to farmers practice 12.50 q/ha. Additional yield over local check is3.04 q/h with percent increased yield of 19.38%. The improved technologies gave higher gross return (Rs 65870/ha), net return (Rs 46510/ha) with higher benefit cost ratio (3.09) as compare to farmer's practice (2.52).

Keywords: Pulses, FLDs, Technology Gap, Extension Gap, Technology Index and Yield.

ISEE Seminar/2019/ABS/263

Training: An Effective Tool for Transfer of Agricultural Technologies

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ABSTRACT

Transfer of farm worth technologies to the farmers is the need of hour and vital for harnessing the fruit of Research. Training of farmers & farm women in a critical input for the rapid transfer of technologies. The study was carried out in adopted villages (Harda, Nimandar, Manjrod, Umarda, Sandas) of Krishi Vigyan Kendra, Burhanpur during 2014-15 to 2018-19 Total 100 different training programmes were organized on various topics i.e. pre sowing techniques, crop management practices, post-harvest management, goatery production and livestock management practices. 05 skill development training programmes, 10 rural youth training programmes, 20 Capacity Building training Programme and 65 one day farm and farm women training programmes were organized and total approx 2500 farmers were trained by KVK, Burhanpur during last five years but the sample size taken was of 500 adult members who were actively involved in the training programmes. The study revealed that the on campus training was most preferred by 60.60 % farmers, followed by off campus training programme (21.40%). The farmers rated one to three days duration training as "most preferred" (32.60%) and ranked it first, lean period (60.60%) and rainy season (40.60%) was perceived as most preferred time for arranging training programme for farmers.

Keywords: Training, Preferences, Farmers and Farm women

ISEE Seminar/2019/ABS/264

Study on Constraints and Strategy of Chickpea Cultivation Practices in Central Plain Zone of Uttar Pradesh

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ABSTRACT

Uttar Pradesh is the fifth rank in chickpea production. The present study was undertaken to find out constraints and strategy of chickpea production technology. The present study was conducted in central plain zone of Uttar Pradesh. There are nine agro-climate zones in the state. In this region there are sixteen districts, out of which Kanpur Dehat and Unnao were randomly selected for the present study. From each of the selected districts three blocks were randomly selected. From each of the selected blocks three villages were selected randomly and from each of the selected villages, 12 respondents were selected randomly for the so as a total (216) respondents were selected for present study. Major constraints were pertaining to *inputs constraints,* High cost of improved seeds have been perceived as the most serious constraints (severity 84.72%), *technical constraint* pertaining to 'Lack of knowledge regarding package and practices of chickpea cultivation' are major constraints (severity 79.62 %). In case of *production constraints* related to 'Lack of knowledge regarding control of weed' is a major serious issue (severity 65.74 %), In case about *Marketing constraints* to 'Low market price of chickpea' are facing constraints by farmers (severity 88.88 %), *other constraints* related to pertaining Storage constraints was serious constraints because after harvest a crop farmers facing such problems (severity 67.59 %). In present study appropriate strategy made from chickpea growers for central plain zone of Uttar Pradesh. Creation of seed hubs of this area was suggested by 92.12 per cent of chickpea cultivators. Majority of farmers wanted creation of seeds hubs of this area. Need to demonstration on field level was suggested by 83.79 per cent of chickpea cultivators. Good quality seed from authentic sources was suggested by 79.16 per cent of chickpea growers. Good quality of seed enhances the production, farmers unable to get seed from authentic sources. The High yielding varieties were suggested by majority 76.85 per cent respondents.

Keywords: Chickpea Cultivation, Constraints, Strategy, U.P.

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Impact of DAESI Program on Capacity Building of Trained Input Dealers

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ABSTRACT

Most of the farmers in India seek farm advice from input dealers. Unlike other agencies they need not go to the farmers to spread the messages. Farmers themselves approach input dealers for advices and for input and credit. The first contact point is the agri-input dealer for majority of farmers. However, majority of these input dealers do not have technical knowledge on Agriculture. Hence, the National Institute of Agricultural Extension Management (MANAGE) launched an innovative program namely, "Diploma in Agricultural Extension Services for Input Dealers (DAESI)" to enhance the technical competency of input dealers. For assessing the capacity building a

knowledge test was developed to study the impact of DAESI Program on trained input dealers, by taking 45 trained and 45 non trained dealers randomly from 3 districts of Andhra Pradesh. Results of the study showed that there exists a huge gap in the knowledge levels of Trained and Non Trained input dealers. About 90 % of DAESI dealers had high level of knowledge on production technology of cotton, paddy and chilly production technology and about 60% of non DAESI dealers had medium level of knowledge on production technology of cotton, paddy and chilly production technology, Further the Z-test results confirmed that the DAESI dealers had significant difference in cotton, paddy and chilly production technology over non DAESI dealers. The findings clearly shown that the diploma programme had contributed to increased knowledge levels of input dealers by enhancing their capacity building on crop production technologies which are sufficient to give suitable advice to field level problems of farmers and have fully gained Knowledge and Skills on various aspects of agriculture, and gained confidence in technology dissemination.

Keywords: DAESI, Capacity building, Input dealers, Knowledge.

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Effect of Azolla as Feed Supplement on Quality and Quantity of Milk in Graded Murrah Buffaloes

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ABSTRACT

Productivity of dairy animals mainly depends on efficient feeding management. Balanced feeding results in better utilization of nutrients and optimum milk production. Farmers feed their buffaloes with roughages and concentrate (Mustered cake + wheat bran) in Datia District of Madhya Pradesh which are very expensive and increase the feed cost. Feed cost can be reduced by using alternative feed ingredients that have high value, relatively cheap prices, easy to obtain and safe for consumption, and ones of its is Azolla pinnata. Azolla, on a dry weight basis, is constituted of 25-35% protein content, 10-15% mineral content and 7-10%, a combination of amino acids, bio-active substances and biopolymers.AnFront line demonstration was conducted in KrishiVigyan Kendra Datia in Kharif2019to study the Effect of azolla as feed supplement on quality and quantity of milk production in buffaloes. For cultivation of azolla,8"x5" size of Azolla cultivation pits was prepared at the farmer's field. Twenty four graded murrah buffalo was selected randomly for the study and divided in two groups i.e. control group (T1) and treatment group (T2). In each group there were twelve buffalo. Incontrol group (T1) buffalo was fed with wheat straw and green fodder with concentrated (mustered cake + wheat bran). In the treatment group (T2) 2.5 kg fresh azolla/animal/day was supplemented over conventional ration.The average daily milk production was increased by 10.67 % i.e. 8.25 literin control group (T1) to 9.12 liter in treatment group (T2). Average Gross return, average Net return and B:C ratio was also increased from Rs. 333.05, Rs 149.87 and 1.82 per animal per day in control group (T1) to Rs. 364.88, 175.70and 1.94per animal per day in treatment group (T2) respectively .

Keywords: Azolla, Feed supplement, Milk production

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Farmer Producer Organizations: A Collective Approach for Doubling Farmer Income

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ABSTRACT

Producer Organisation (PO) could be a legal entity formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen. A PO may be a producer company, a cooperative society or the other legal type that provides for sharing of profits/benefits among the members. The main aim of PO is to confirm higher financial gain for the producers through a company of their own. When all members of producer organization are farmers it called farmer producer organization. Small producers don't have the amount one by one (both inputs and produce) to induce the good thing about economies of scale. Besides, in agricultural promoting, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. Through aggregation, the primary producers can avail the benefit of economies of scale. They will even have higher negotiation power vis-à-vis the majority consumers of manufacture and bulk suppliers of inputs. Producer firms will facilitate granger farmers participate in rising high-value markets, such as the export market and the unfolding modern retail sector in India. As elsewhere within the developing world, in India, small farmers' livelihoods are being threatened due to the liberalization and privatization of Indian agriculture and the increasing interest of private capital in the agribusiness sector. The withdrawal of the state from productive and economic functions, and changes within the organization of selling channels, gift new challenges for small-scale farmers. In this environment of greater instability and competition, farmer producer organization and collective action of farmer can help to enhance farmers' competitiveness, help in capacity building of farmers, increase backword and foreword linkage of farmers and increase their agricultural income.

Keyword: Producer organization, FPOs, Intermediaries, Negotiation, Competitiveness

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Crop Residues for Feeding Animals in India: Technology Development and Adoption in Crop/Livestock System

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ABSTRACT

The country has about 4.9% of the total cropped area under cultivated forages. In India, cattle of intensive cropped area obtain only about 25 per cent of their feed from grazing in nearby forests and other uncultivated lands, the balance comes from crop residues unsuitable for human consumption. The importance of crop residues for feeding animals in India, with reference to their relevance as the main source of feed in crop/livestock production system, priorities of their users, the availability of cereals straws in terms of quantity produced and uses. The availability of these feeds depends on type of agro-ecosystem, cropping patterns, type of animal species and prevailing animal production systems. The efforts to develop and transfer of technology for crop morphology and nutritive value, urea treatment, supplementation and the use of U.M.M.B. The importance of on-farm testing of know technologies

now far out weights the need for basic or strategic research in supplementation development efforts is therefore essential. To promote more intensive use of crop residues, projects need to emphasize large scale on farm research and development efforts with Krishi Vigyan Kendra and farmers participation. To ensure greater efficiency and economic impact in the use of crop residues as feed, overcoming nutrition as the major constraints to productivity. The result could be increased live stock production and importance of animals in sustainable crop/live stock production. All cereals straws and sugarcane top has great potential for the fibrous crop residues (FCRs), which have in common their high biomass and their low crude protein and high crude fiber content. Crop residues are more nutritious and can be used judiciously to improve the overall diet.

Keywords: Crop residues, Feed, Technology Development, Adoption, Livestock system

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A Study on Farmer's Socio-economic Status of Mirzapur District

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ABSTRACT

A study was carried out to know the farmer's socio-economic status under jurisdiction of KVK Mirzapur (U.P.). 12 blocks and 05 villages from each block were chosen for the study. From each village, 05 farmers were randomly selected and the sample was made up of 300 farmers. Data were collected with the use of questionnaires. Obtained data were presented in the form of frequency and percentage. Majority of 142 farmers (47.33%) were middle age group of 31-50 years, followed by 30% of old age group (>51 years) and 22.67% were of young age group of below 30 years. It was noticed that, more farmers belonged to middle and old age group. It was observed that, 67 farmers (22.33%) were having intermediate education, followed by high school (17.0%), can read only (15.0%), middle school (14.0%), primary school (9.67%), illiterate (6.33%), graduate (2.67%) and post graduate (0.67%), respectively. 70.67% farmers were lived in joint family and only 29.33% farmers were lived as nuclear family. In case of land holding, 165 farmers (55%) belonged to small group. Whereas, 89 farmers (29.67%) of marginal group, 29 farmers (9.67%) of semi-medium group. While, 9 farmers (3.0%) of medium land holding group and 8 farmers (2.67%) were in the group of large farmers, respectively. Majority of the farmers (49.0%) belonged to medium experience group (16-25 years), while 34.33% of the farmers had high experience (>25 years). 74% of the farmers were earned medium income (Rs.1,25,001 to 1,75,000). While, 27.67%, 19.0% and 6.33% of the farmers belonged to semi-medium (Rs. 75,001 to 1,25,000), low (Rs.<75,000) and high (>1,75,000) income category, respectively.

Keywords: Farmer, Socio-economic Status, Mirzapur

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To Evaluate the Role of Poly as a Source of Multi Nutrient Supplier on Yield of Chickpea (*Cicer arietinum*)

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ABSTRACT

A field experiment was conducted to assess the effect of POLY4 on gram variety JG-14 during rabi season of

2018-19 at Banda University of Agriculture &Technology research farm.Experiment was carried out in RBD with fifteen treatments and three replications. Different doses of POLY4 such as 50,75,100,150 and 200 percent of recommended doseof potash and 50,75,100, 125 and 150 percent of recommended dose of Sulphur respectively were used as source of potash and Sulphur along with recommended dose of nitrogen and phosphorus. Two INM treatment were also included with the use of Vermicompostalong with rock phosphate and POLY4. Data were recorded and averaged on plant population, plant height, number of pod per plant, number of grain per plant, test weight, biological yield, grain and straw yield. The data pertaining to grain yield of chickpea differed significantly due to different Poly4 based RDF treatments. Significantly highest value of grain yield (2984 kg ha^{-1}) was recorded with the plot receiving RDF (20:60:40 kg NPS ha^{-1}) + 150% K from Poly4 (T_7) than rest of treatments under study, except T_6, T_8, T_{11}, T_{12} and $T_{13,}$ where on par yield differences were obtained. Further scrutiny of data revealed that treatment T_7 recorded 37.9, 15.9 and 11.8% higher grain yield over farmers' practice (T_3), RDF for Bundelkhand region (T_1) and standard practice of RDF (T_2), respectively. Application of recommended NPK (20:60:20 kg ha^{-1}) along with 150% sulphur from Poly-4 (T_{13}) and NPK along with 125% sulphur from Poly-4 (T_{12}) ranked at 2nd and 3rd place in respect of grain yield of chickpea, respectively. The lowest grain yield (2164 kg ha^{-1}) was recorded under the treatment T_3 i.e. farmers' practice (57.5 kg P and 22.5 kg N ha^{-1}).

Keywords: Multi Nutrient Supplier, Poly, Chickpea, Yield

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Nurturing Entrepreneurial Ecosystem in Agricultural Universities

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ABSTRACT

An Entrepreneurial ecosystem is made up of a set of interdependent components and factors which work in harmony so as to enable fruitful entrepreneurship within a specific boundary. The elements of an entrepreneurial ecosystem could be individuals, groups (a group of students, Farmer Producer Organisations) and institutions such as colleges, Technology Incubation Centres which form a community by interacting with one another. Apart from this, some environmental determinants which influence the ecosystem are laws and policies that govern the individuals, groups or institutions. Why do we need to have this type of ecosystem in our agricultural Universities? The answer is very clear that there is a considerable gap between the number of graduates passing out from our Agricultural Universities and availability of jobs in the market. To fill this gap, graduates produced by agricultural universities should be mastered in the art of taking up enterprises in their field of study. Several efforts are under way by means of Student Ready, Earn While You Learn, Rural Agricultural Work Experience *etc*. Inclusion of Entrepreneurship development and Communication Skills course in all branches of Agricultural Sciences by the 5th Deans' committee of ICAR is a welcome step. Government schemes like Agri Clinic /Agri-Business Centres, Agri-business Incubators, Startup India, Skill India and Agricultural Skill Council of India are in place but we need to integrate all; the academia, industry and government and map a model entrepreneurial ecosystem for Agricultural Universities which would enable our 75,000 plus agricultural students being produced every year to be job providers rather than job seekers. The present paper would discuss various entrepreneurial ecosystem models suggested by different authors and concludes with an appropriate model for agricultural universities in Indian context.

Keywords: Ecosystem , Entrepreneurial.

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Impact of Front Line Demonstration on Adoption of Jute Cultivation

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ABSTRACT

Among the economically important crops, fibers crops come next to food crops. Since, dawn of civilization, Fibers have been used by man for meeting his need. Among the fibers crops, Jute and allied fibers has important commercial importance. Due to the lack of knowledge and adoption of scientific methods of cultivation of jute crop, cultivation of jute showing declining trend. Therefore, the study on "Impact of Front Line Demonstration on Adoption of Jute Cultivation in Katihar, Bihar, India" was conducted in Katihar district of Bihar state during the year 2017-18in four adopted villages Bhermara, Phulhara, Lahsa & Musapur of Krishi Vigyan Kendra, Katihar under Bihar Agricultural University, Sabour, Bhagalpur jurisdiction to find out the impact of front line demonstration on improved Jute Cultivation. This study was conducted with a structured interview schedule with 150 farmers of Katihar district. A total number of 150 respondents were identified including 50 demonstrator farmers, 50 participant farmers and 50 non-participant farmers. A pre-tested and standard interview schedule was employed for household survey to collect primary information. The variety demonstrated for the front line demonstration purpose was JRO-204 in comparison to local check JRO-524. The significantly percentage change in yield over the check variety was 31.93%, BC ratio of demonstration was 2.58 in comparison to check 1.99. The findings revealed that 85% respondents had been ready to continue for cultivation of improved variety of jute JRO-204. Proper implementation of front line demonstration, proper monitoring and evaluation, proper supply of information materials were the reasons to have high adoption of improved jute cultivation among participant farmers. Trainings conducted on improved jute cultivation before organizing Front Line Demonstration also have effective impact to improve the knowledge of the participant farmers. Farmer's main constraints for non adoption of improved jute cultivation were non availability of improved seed at time and infestation of weeds.

Keywords: jute, adoption, front line demonstration.

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e-Saayam – An ICT based initiative to provide timely technical support to Farmers through AEOs in Karimnagar District of Telangana State

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ABSTRACT

Government of Telangana has recruited large number of Agricultural Extension Officers (AEOs) in Department of Agriculture. One AEO was appointed for every 5000 Ha. The newly recruited AEOs does not have the enough practical knowledge & confidence to provide technical support to the experienced farmers. At the same time there is lack of timely technical support to farmers leading to increased cost of cultivation which in turn is resulting in lesser net returns. To overcome this problem and provide continuous technical support & also to increase the confidence among the AEOs in Department of Agriculture, Krishi Vigyan Kendra, Jammikunta has initiated ICT

based e-Saayam project in collaboration with Department of Agriculture to deliver credible advice to the farmers & keep updated by disseminating specific Agricultural Extension Services without time lapses in coordination with FARMER-AEO-SCIENTIST in a regular smart cyclic mode. Both the Agriculture Department and KVK, Jammikunta are jointly implementing the programme from December 1, 2017. As part of the programme, AEOs would visit agricultural fields and identify standing crops. If they find any problem (Pest & diseases), they would take picture of the affected crop using tablets supplied to them and post the picture on e-Saayam WhatsApp group. Scientists who are part of the group would give advice to overcome the particular problem. After getting reply from scientists, AEOs would suggest farmers regarding the steps to be taken to overcome the problem. As a part of this programme special programmes were also taken up like Farmer- Scientist interaction programmes, Joint diagnostic field visits and Phone in live programme. Besides e-Saayam, toll free number has also been arranged at KVK to take phone calls from farmers and give suitable advice. They would also collect feedback from farmers.

Keywords: e-Saayam, WhatsApp group, Toll free number, Farmer-AEO-Scientist, Feedback, Information and Communication Technology (ICT)

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Programmed Instruction as a Smart Approach for Dissemination of Climate Change Agriculture Technology in Karnataka

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ABSTRACT

The Programmed Instruction (PI) is a learning methodology proposed by the behaviourist Skinner (1958) based on 'operant conditioning' theory, which states that the learning is change in the behaviour, *i.e.* the individual's response to events or stimuli. Behaviour can be conditioned by rewarding the right stimulus-response patterns. The PI is a method of presenting new subject matter to learners in a graded sequence of controlled steps. Learners work through the programmed material by themselves at their own speed and after each step, test their comprehension by answering questions as well, they can find the correct answers immediately. A research study was conducted to explore the potentiality of PI as an extension method in comparison with lecture method to teach extension functionaries on new agricultural technology. The effectiveness was measured considering extent of learning in different sub-domains of cognitive and affective domains. The PI material was developed on the subject, impact of climate change, mitigation and adaptation strategies in agriculture. Appropriate scales to measure cognitive and affective domains were developed and used. The study was conducted using Solomon four group experimental design. The respondents were 240 extension functionaries of the Karnataka State Department of Agriculture. The results revealed that, the mean effectiveness scores of PI in respect of cognitive domain was 45.17 with a range of 37.17 to 52.33 in different sub-domains. Similarly, the mean effectiveness scores of affective domain were 41.36 with a range of 35.33 to 51.00 in different sub-domains. The mean effectiveness score in lecture method for cognitive domain was 32.83 with a range from 25.67 to 37.17 in different sub-domains. For affective domain, it was 35.43 with a range from 29.60 to 42.13, indicating PI was more effective than the lecture.

Keywords: Climate change, Programmed Instruction

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Strengthening Food Security and Creating Nutri-Smart Villages through Nutri-Sensitive Agricultural Resources and Innovations (NARI) Program in Rural areas

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ABSTRACT

Nutritional security has multi-fold effect on the health and economy of the society. It is directly linked with the poverty and education. KVKs act **as knowledge and resource centre in the field of agriculture in the district** to build models of technology uptake and farmers' empowerment. KVKs are playing pivotal role in bringing nutritional security in the state through appropriate technological interventions. Focused programmes under Nutri-Sensitive Agricultural Resources and Innovations (NARI) have been initiated by KVK Mahendergarh. Training programs for establishing nutri gardens, and capacity development programs to promote nutrition sensitive agriculture and bio-fortification of locally available food were conducted. Systematic survey was undertaken in selected villages of Mahendergarh district so as to identify the existing system of kitchen gardening. Research efforts were made to develop model nutri gardens at selected locations of the farmers and vegetable seed packets were distributed in rabi as well as kharif seasons. It was concluded from the present study that nutri-garden indeed had a positive impact in ensuring the food security among rural populations and the NARI program is gaining popularity as more and more women are looking at nutri garden as a strategy towards empowerment and sustainability.

Key words: Food Security, Nutri-Smart Villages, Agricultural Resources, Nutri Garden

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Social Capital for Empowering Tribal Women

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ABSTRACT

Tribals are the most marginalised community of Indian society. Social capital plays an important role in empowerment of tribal women. The present study was conducted to analyse the social capital among tribal women in Heggaddadevanakotetaluk of Mysuru district. Four major tribal communities viz., Kadukuruba, Jenukuruba, Soliga and Erava were selected which comprising 120 total respondents. The data was collected by personal interview method through a structured interview schedule and analyzed by employing suitable statistical methods. The findings of the study revealed that among the different tribes Erava tribal women had high (43.33 %) level of social capital, followed by half (50.00 %) of Soliga and nearly half of the Jenukuruba (46.67 %) tribal women who are at medium level respectively and Kadukuruba tribal women were at low level (43.33 %). Nearly two fifth (40.83 %) of the tribal women had medium level of social capital followed by low (30.83 %) and high levels (28.33 %). The findings shows that Eravas who are primitive tribes of this area are more in number having greater exposure to the external world and access to the benefits of the government schemes. Further it is quite evident that

social capital status of other two tribes namely JenuKuruba and Soligas was medium since they are less in number having limited exposure and social interactions among themselves. Kadukurubas are another minor tribal group who are relatively lesser voice and strength, obviously having lesser social capital status. Hence there is a need to build a social capital among tribal women so as to empower them socially and economically.

Keywords: Social capital, Empowerment, Tribal women

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Use of Convergence Models for Uplifting the Poor Economy

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ABSTRACT

Convergence model of economic is also known as catch-up effect. It states that poorer economies will grow more rapidly than wealthier economies in terms of per capita income. It is based on the law of diminishing marginal returns which states that a country's returns on its investment tend towards becoming less than the investment itself as it becomes more developed. Poorer countries also have advantage as they can replicate the production methods, technologies, and institutions of developed countries. Developing markets have access to the technological know-how of the advanced nations; they often experienced rapid rates of growth. There are three types of convergence and these are the unconditional convergence, conditional convergence and no convergence. Unconditional convergence means that least developed countries will ultimately catch up with the industrially advanced countries so that, in the long run, the standards of living throughout the world become more or less the same. Conditional convergence means that standards of living will converge only within groups of countries having similar characteristics and in no convergence the third possibility is no convergence. This means that the low income countries will never catch up over time. Therefore living standards may even diverge due to widening income gap — the rich getting richer and poor getting poorer. Economics' convergence model i.e. Solow model predicts that both countries would tend to converge to the same level of income per capita. This would also mean that the marginal product of capital in the poor country would be higher than that of a rich one. The growth model refers to the average consumer. It has some limitations also like lack of capital can greatly reduce a developing country's ability to catch up and we assume that all other resources are same in both countries.

Keywords: Convergence, Economy, Income, Standards.

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Socio-economic status of tribal women in Poultry farming of Singrauli District

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ABSTRACT

The farmers of district Singrauli in Madhya Pradesh is distributed in three major categories, the marginal farmers (70 %), small farmers (24%) and medium & large farmers (06%) and among the total population of the district,

19.25 percent is urban population and the rural population is 80.75 percent. Generally, the landless & marginal farmers, who maintain the poultry in the district, are the targeted group under the present study. The poultry farming is a source for benefiting poorly endowed areas like drought prone areas. This sector provides additional income and employment opportunities to the rural population, especially to the tribal women, who are mostly responsible for the management of poultry farming in the area; hence it is a major source of empowering the rural tribal women besides other resources and is a good source of women income. The poultry farming also plays an important role in improving the socio-economic status of the tribal women farmers in the area. The present study also attempt, the management practices followed for rearing of the poultry in the area which includes, the type of poultry farms ownership, existing routine pattern in poultry farming, percentage of local and identify poultry breed, feeding pattern, labour use pattern, health care and the utility for the individual, which plays a vital role in the production of poultry meat and egg, ultimately for income generation. It was found that the socio-economic status of tribal women in poultry farming directly or indirectly influenced the poultry meat and egg production in the area.

Key words: Poultry farming; Management practicesand Socio-economic status, Tribal women.

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Digital Information Sources –Status & Utilization among Cucumber Growers in Mokokchung, Nagaland

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ABSTRACT

Information is an essential resource in the present era, resulting in new outcomes and successful socio-economic developments. Decision making among the farming community can be highly influenced by the identification and use of different information sources. The degree of development in agriculture depends upon the successful use of information sources, their accessibility and adequacy and the attitude of the farmers towards use of different information sources. Apart from using formal and informal information sources, the use of ICT in agriculture is the current need of hour to abreast the farmers about latest technical knowhow as and when needed during their farming operations instead of a long wait period of contacting extension agencies in a traditional way. The present study was conducted in Mokokchung district of Nagaland to analyze the status of different information sources utilized by the off-season cucumber growers and strategies to bring about socio-digital transformation in view to accomplish marked led extension. Mokokchung district is unique in producing the best quality of cucumber in the state. The findings of the study revealed that majority (80.00%) of the respondents had medium level of utilization of mass-media as well as informal sources of information while only 48.00 per cent of them utilized formal information sources. It was found that the farmers acquired information most often from friends and sometimes from sources such as radio, exhibition, relatives, neighbours, AFA, AO/SDAO/HO, KVK and ATMA. Information from formal sources was not available in time or as per their field-based requirements. Farmers found it difficult to utilize the existing ICT sources due to illiteracy and lack of awareness of existence of these sources. The study concluded that mechanism of improved availability of information sources including use of ICT should be strengethened to make the information sources readily and easily available according to the farmers' needs. SMS based mobile phones which are cheap, popular and common sources may be made an effective means for dissemination of agricultural information to the farmers. Kiosks as information dissemination centre may be established at village level for empowering the cucumber farmers for harnessing need-based information resulting in achieving higher productivity and profitability.

Keywords: Digital Information Sources, Status, Utilization, Cucumber Production

ISEE Seminar/2019/ABS/280

Yield Maximization of Blackgram through Ridge and Furrow Sowing Method under Aberrated Climatic Regime

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ABSTRACTS

As a result of climate change during the last decade, the rainfall pattern and distribution has exhibited frequent aberrations with extreme situation of sudden downpour or long dry spells entailing in to severe stress on blackgram that results reduction in yield. Because blackgram are sensitive to excess moisture and terminal drought. In this situation raised bed planting technique can be used for efficient water management and higher yield of blackgram. Keeping the above facts, the act of In- situ rain water conservation strategies for minimizing risk of crop failure and stabilizing Blackgram production was felt. Under such circumstances, KVK Chhatarpur introduced tractor drawn Ridge and furrow along with sowing operations on the prepared field for blackgram crop. The KVK Chhatarpur has made consistent efforts to popularize the improved sowing method and improved variety Sekhar-3 along with recommended production technology since *kharif* 2018-19 in Chhatarpur District for enhancing the yield of blackgram and income of farmers. Since most of the farmers lack of knowledge about tractor drawn ridge and furrow and high yielding varieties therefore harnessing lower yields culminating in limited net returns. The maximum yield was noted under sowing on ridge and furrow technique 6.6 q/ha as compared to broad casting methods of sowing 4.4 q/ha. The benefit highest cost benefit ratio was recorded 1:2.1 under sowing method of ridge and furrow technique as compared to Broad casting 1:1.5.The ridge and furrow equipment save the soil moisture through increased infiltration rate of rain fall and reduced runoff that leads slow rate of soil erosion. The furrow which allows drainage of excess water in case of heavy precipitation, while serves as in situ moisture conservation during dry spells, thus mitigating the detrimental effects of excess and dry spell situation.

ISEE Seminar/2019/ABS/281

Crop Diversification is a Important Tools for Higher Income under Aberrated Climatic Regime

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ABSTRACT

Crop diversification into high-value crops (HVCs) can be an important strategy to augment income, generate employment, and reduce the risk under aberrated climatic regime. In this regards KVK Chhatarpur introduce high value crops sweet potato c.v. Versha and Marigold c.v. Pusa Nargani in the place of staple food crops. Because farmers get ensure the remunerative price for their produce. Shri Bala Raikwar has been received 2-3 root stick as a fellow farmer from benefited farmers of KVK and adaptation of improved production technology for higher production from this crop. The adoption of crop diversification contributed to raise the income level of the farmer

which brought out positive socio-economic changes in their own life. And presently horizontal spread of this technology in twenty farmers of adjoining village. Farmers have get on an average net return Rs. 2,35,000/ha and total employment generation 220 no. of man days in this system. The study also suggests that similar kind of approach can effectively convince the other farmers in other places of the District to adopt crop diversification to optimize their productivity which may effectively contribute to increase their own income.

Keywords- Diversification, Adoption, Climate Change

ISEE Seminar/2019/ABS/282

Effect of Different Inflow Cutoff Ratio on Irrigation Water Saving, Yield, WUE and Economics of Wheat Cultivation

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ABSTRACT

A field experiment was undertaken at farmer's field to assess different inflow cut off ratio approach for effective management of irrigation water in wheat and to see it's effect on water saving, yield, water use efficiency (WUE) as well as economics. The experiment was laid out with three technological options in which three irrigations were applied by making 5 m wide border strips. Inflow was cut off when advance (wetting) water front reached to 85 percent and 90 percent of border length, respectively in two different technological options whereas in farmer's practice plots, irrigation was allowed till water stagnation in the field for several hours (Farmers Practice).It was observed that the practice of water stagnation in the wheat field for several hour is not necessary for optimum production and water use can be lowered by upto 22.93 percent without yield reduction if irrigation is stopped at 90 percent cut off ratio whereas 27.10 percent irrigation water saving with slightly reduced yield can be achieved by irrigation using 85 percent cut off ratio. Therefore, the technological option with inflow cut off ratio 90 percent was found to be overall efficient followed by 85 percent cut off ratio and it can be successfully used for irrigation management in wheat crop for south Bihar region.

Keywords: Border Irrigation, Cut Off Ratio, Technological Options, Water Saving, Water Use Efficiency

ISEE Seminar/2019/ABS/283

Topic: Development of Entrepreneurial Outlook in Farmers for the Growth of Agriculture: A Futuristic View

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ABSTRACT

As globalization proceeds in current days, our agriculture is also heading from subsistence level to commercial cultivation for trading farm produce to national and international markets to gain higher profits. For this, a kind of different outlook towards agriculture on the part of farmers needs to be developed. The development of technical,

innovative, and managerial skills in farmers through proper training yields many positive results and also such agripreneur could become a role model to other despondent farmers. Entrepreneurship has got huge potential in several areas of agriculture including agro-processing industries, agro-produce manufacturing units, agro service centres, organic vegetables, and fruit retail outlets and also has a very wide scope in creating employment for many youths and contribution to the national income. Only 10-12 per cent of small farmers were availing vital extension services, and they focused on their livelihood needs first and not on their farms as enterprises, and extension workers were more focusing on improving productivity and less focusing on improving profitability. Hence, the perspective of extension services should shift from the reduction of poverty to the creation of wealth. Extensionists should work with individual farmer-entrepreneurs to support them in conducting market analyses, working in value chains with partners, evolving farm plans, identification of resources and various risk factors involved in running an enterprise, financial assistance, sales, use of digital platforms, building new business opportunities and developing skills and competencies required for successful entrepreneurship through capacity building programmes conducted by various stakeholders of agripreneurship development viz., District Industries Centres, District Rural Development Agency, Small and Medium Entrepreneurs Development Agency, Micro Small and Medium Enterprises and Entrepreneurship Development Institutes, Non-Government Organizations and Institutions conducting Agri-clinics and Agri-business Centres.

Keywords: Agripreneur/Agripreneurship, Entrepreneur, Skill, Profitability

ISEE Seminar/2019/ABS/284

Performance of Direct Seeded Rice under Brown Manuring in Upland Situation

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ABSTRACT

On farm trial was conducted at farmer's field in Deoghar and Sahibganj district of Jharkhand during kharif 2015, 2016 and 2017 to assess the effect of brown manuring on yield and nutrient status of soil after harvest of direct seeded rice in upland situation. The trial was conducted in randomized block design with ten replications in each district. There were three technological options along with farmers practice as control viz. FP (Broadcasted rice along with manual weeding, Technological Option 1 (Line sowing of rice + Dhaincha in between rice rows followed by incorporation in soil at 30 DAS with weeder), Technological Option 2 (Line sowing of rice + Broadcasting of Dhaincha followed by spray of 2,4–D Na Salt @ 0.5 kg/ha at 30 DAS and Technological Option 3 (Line sowing of rice with application of Nominee Gold 100 ml/ha at 20 DAS). Results revealed that growth, yield attributes and soil fertility status were significantly influenced with the technological options tested in the trial. The Technological Option 2 i.e. line sowing of rice, broadcasting of dhaincha seeds followed by application of 2, 4–D Na Salt @ 0.5 kg/ha at 30 DAS resulted in significantly higher rice yield (3.25 t/ha) and better soil fertility status after harvest of crop. However, higher net profit (Rs/ha 34689.5) and benefit cost ratio (1.66) was observed with technological option 1 i.e. line sowing of rice, broadcasting of dhaincha in between rice rows followed by incorporation in soil at 30 DAS with weeder.

Keywords- Direct Seeded Rice, Uplands, Brown Manuring

ISEE Seminar/2019/ABS/285

Microbial Community on Leaf Surface of *Lantana Camera* as Influenced By Industrial and Road Side Pollution

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ABSTRACT

Present investigation was carried out to isolate, characterize and identify the microbial communities on leaf surface of Lantana camera collected from different polluted (near road or industrial sites) and unpolluted (one km away) sites of Ranchi district of Jharkhand. The population of Bacterial, Fungi and Actinomycetes decreased significantly in polluted site as compared to unpolluted sites. The bacterial isolate found on leaf surface of *Lantana camera* from different locations have been placed in five groups on the basis of morphological, physiological and biochemical characterizations. These groups of bacterial isolates were identified as *Methylovorous* spp., *Aminobacter* spp., *Beijerinckia* spp., *Azotobacter* spp. *Pseudomonas* spp. Less no. of bacterial isolates (9) were noted in polluted site as compare to unpolluted site (12). Dominant genus reported on polluted site was *Aminobacter* and *Pseudomonas* however, *Beijerinckia* spp. showed their dominancy in polluted sites. 17 fungal isolates found on leaf surface of *Lantana camera* from different location have been placed in 8 different groups based on cultural characterization. The prominent genera at polluted site were *Aspergillus*, while *Rhizopus* was found only at unpolluted sites. Twelve isolates of actinomycetes, corresponding to five genus were noted from *Lantana camara* leaf surface at polluted and unpolluted sites. The genera *Herbidospora* was found at both site but, dominant at unpolluted site.

Keywords: *Lantana camara, Microbial Community, Industrial Pollution, Leaf Surface*

ISEE Seminar/2019/ABS/286

Livelihood Diversification: Sustainable Approach for Climate Change

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ABSTRACT

Climatic condition in Kolar district of Karnataka is not stable. This change has created negative impacts on agricultural production and likely to continue, unless adaptation measures are taken up. The changing climate is a global challenge to sustainable livelihoods and economic development. The farmers mainly depend on rain-fed agriculture, a situation that makes agriculture and rural livelihoods vulnerable to climate change. Diversification of activities has been perceived as adaptive strategies for sustainable livelihood in a changing climate. With this background, the present investigation was carried out in Kolar district of Karnataka state in order to know the nature and extent of livelihood diversification among farmers with a total sample of 150 farmers who have adopted two and more livelihood diversified activities. Out of 150 farmers, 28 per cent adopted four activities for their livelihood followed by five (24%), three (21.33%), six and more (18.67%) and two (8.0%) activities. the livelihood activities practiced by them are agriculture (98.66%), animal husbandry (82.66%), horticulture (64.00%), agriculture labour (52.00%), formally employed (48.00%), poultry (33.33%), sericulture (27.33%), service (26.66%), wage labour (22.66%), transportation (22.66%), trade (20.66%), sand mining and quarrying (17.33%), manufacturing (16.66%), driver (6.66%), construction (6.00%), handicraft & artisan (4.00%), commission agent

(broker) (1.33%), marketing of vegetable and fruits (0.66%) and migration (30.00%). The data depicted that about 46.7 per cent of the farmers are moderately diversified followed by highly diversified (30.6%) and less diversified (22.7%) farmers. There is a significant variation in the attitude of marginal, small and big farmers towards livelihood diversification with mean scores of 47.38, 58.41 and 52.49 respectively. All the farmers faced the constraint of climatic change followed by lack of adequate natural resources for livelihood diversification (96.00%), risk and uncertainty (66.00%), less production and productivity (49.33%) and seasonal pest and disease incidence (32.00%).

ISEE Seminar/2019/ABS/287

Effect of Chemical and Growth Regulator on Germination and Seedling Vigour of Mango

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ABSTRACT

An experiment was conducted to know the influence of chemicals and growth regulators on germination and seedling vigour of mango. The growth regulators (GA3) and chemicals (Thiourea) were used as treatments at different concentrations. The stone pre-soaked with Thiourea 3000 ppm solution recorded the earliest germination (21.88 days), highest germination percentage (58.33 %), maximum seedling height (46.86 cm), number of leaves (21.50) and highest seedling vigour index (1,604.91) compare to other treatments. In conclusion, soaking of mango stone in Thiourea 3000 ppm solution for 24 hours followed by 24 hours shade drying will improves the stone germination characters and seedling attributes.

Keywords: Germination, Chemicals, Treatments, Growth Regulator

ISEE Seminar/2019/ABS/288

Studied the Most suitable Storage Period on Germination and Seedling Vigour of Mango

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ABSTRACT

An experiment was conducted to Studied the most suitable storage period on germination and seedling vigour of mango during 2018-19. The storage period of mango viz☹Fresh Stone, 15 Days, 30 Days, 45 Days, 60 Days and 75 Days) Different storage of stones showed significant effect on germination and seedling vigour of mango. The highest stone germination (76.66 %), shoot diameter (2.85 mm), length (49.30 cm) and seedling vigour index (2,396.84) was recorded in S_1 (Fresh stone) and the lowest stone germination (26.66 %), shoot diameter (2.65 mm), length (41.23 cm) and seedling vigour index (500.17) was recorded in S_6 (Storage of stone for 75 days).

Keywords: Germination, Mango, Seedling, Storage Period

ISEE Seminar/2019/ABS/289

Studied the most Suitable Chemicals for Seed Germination and Seedling Vigour of Karonda

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ABSTRACT

An experiment was conducted to know the influence of chemicals for seed germination and seedling vigour of karonda. The chemicals (KNO3 1000ppm, 2000 ppm and 3000 ppm) (Thiourea 1000ppm, 2000 ppm and 3000 ppm) were used as treatments at different concentrations. The seed pre-soaked with Thiourea 3000 ppm solution recorded the earliest germination (22.22 days), highest germination percentage (76.66 %), maximum seedling height (9.52 cm), number of leaves (25.50) and highest seedling vigour index (958) compare to other treatments. In conclusion, soaking of karonda seed in Thiourea 3000 ppm solution for 24 hours followed by 24 hours shade drying will improves the stone germination characters and seedling attributes.

Keywords: Germination, Seedling, Sead Treatment, Karonda

ISEE Seminar/2019/ABS/290

Effect of Organic Waste and Growing Media on Seed Germination and Seedling Growth of Papaya (*Carica papaya* L.) under Net House Condition

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ABSTRACT

An experiment entitled “organic waste and growing media on seed germination and growth of papaya seedlings (*Carica papaya*L.) cv. Red lady under net house condition” was carried out at Horticultural Research Farm, College of Agricultural Rewa, during *Augest,* 2019. The treatments comprised combination of soil, vermicompost and cocopeat with varying levels of organic waste. Al together, 21 treatments were applied in a factorial RBD with three repetitions. The seeds were sown in plug tray which is filled with respective media and treated with organic waste. The results showed that the application of treatment T_7G_3 [Cow urine 24 hours and soil +cocopeat (2:1)] was found better for early germination as well as higher germination percentage and length of root plant growth by increasing seedling height, stem diameter, fresh weight of shoot and leaf area.

Keywords: Seed Germination, Organic Waste, Growing Media, Papya

ISEE Seminar/2019/ABS/291

Effect of Organic Waste on Seed Germination and Seedling Growth of Papaya (*Carica papaya* L.) under Net House Condition

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ABSTRACT

Seed germination is the most important aspect for raising the nursery for successful seedling production of Papaya. The present study was carried out to explore the effect of different organic waste on seed germination of Papaya. (*Carica papaya* L.) cv. Red lady under net house condition. The seeds of papaya were treated with different concentrations of Cow dung (12 and 24 hr) Cow dung Slurry (12 and 24 hr) Cow urine (12 and 24 hr). Highly significant different was observed between the treatments. The results showed that the treatment T_7 (Cow urine 24 hr) is significantly recorded highest germination percentage (82.22%) respectively and also recorded significantly minimum number of days (15). Similarly, the highest root: shoot length at 45 DAS and seed vigour index- II at 45 DAS was recorded in treatment T_7 (Cow urine 24 hr).

Keywords- Seedling Growth, Organic Waste, Protected Cultivation, Net House, Papaya

ISEE Seminar/2019/ABS/292

Impact of Extension Services on Knowledge of Farm Women Engaged in Vegetable Cultivation in Punjab

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ABSTRACT

Women play a key role in food production and form a large share of the agricultural work force globally. Farm women can create wonders in their society with knowledge gain about different vegetable cultivation technologies through support of extension services. A study was conducted in randomly selected six districts (Amritsar, Hoshiarpur, Jalandhar, Ludhiana, Patiala and Sangrur) of Punjab with sample size of 240 farm women. The study revealed that most of the farm women had somewhat increased their knowledge in farm and post harvest activities of vegetable cultivation as an impact of extension services. The correlation was used to find out the most influencing profile characteristics on level of knowledge of farm women towards vegetable cultivation. The study inferred that, the variables such as extension contacts, social participation, total annual income from all sources had a positive significant relationship with the knowledge of farm women on vegetable cultivation practices.

Keywords: Knowledge, Farm Women, Extension Services.

ISEE Seminar/2019/ABS/293

Job Satisfaction of Faculty Members in Traditional Universities

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ABSTRACT

The job satisfaction of employees occupies the important place in the field of human resource management. Faculty of higher education institutes make a big community of this sector. They train, teach and lead their students to work efficiently in the interest of society. Therefore, keeping in view the present scenario of society, educational institutes and the importance of job satisfaction of employees working in the institutions the present study was planned to assess the level of job satisfaction of employees in traditional universities. Data was collected by using self-structured questionnaire based on Herzberg's motivation and hygiene theory. This study included 180 faculty members selected by using simple random sampling technique. Job satisfaction was measured on an ordered 5 point Likert scale. The data was presented as mean score for each characteristic and employees were categorized into low, medium and high level of job satisfaction. Findings of the study revealed that all faculty members from traditional universities were highly satisfied with opportunity to achieve and recognition & rewards as intrinsic factors and highly satisfied with social status of their job from extrinsic factors. Overall analysis of data showed that 42.24 percent of faculty members from all traditional universities had the medium level of job satisfaction. In conclusion, majority of the respondents were found to be moderately satisfied with their jobs and organizations. Therefore, there is a need to make certain improvements so that satisfaction of the employees could be increased which can further lead to more productivity.

Keywords: Job Satisfaction, Faculty Members, Traditional Universities.

ISEE Seminar/2019/ABS/294

Enhancing Scientist-Farmers Interface through Farmer First Programme for Improved Technology Dissemination and Application

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ABSTRACT

There are seven Farmer FIRST Projects being implemented in the states of Punjab, Himachal Pradesh, Jammu & Kashmir and Uttarakhand of Zone-I with an aim to develop farmer-centric approaches for technology dissemination and application. Under the programme, steps were taken to go beyond production and productivity of agricultural outputs. Farmer FIRST Programme (FFP) addresses the holistic requirements of their clients by supplementing 'knowledge', 'services' and other 'logistic and infrastructure' needs of the farmers. At present, the selected FFP centres are working with around 1,000 farm-families in the cluster of villages engaging scientists in farm and farmer-oriented activities. Marginal farm households and landless families is the prime focus of the projects to achieve economic upliftment of the resource poor households. The project team undertook need based technological interventions including demonstrations, capacity building, extension activities, advisories, institutional support etc. Various module-wise demonstrations were carried out during the period under NRM was 628, horticulture in 2327, 1796 in livestock and 10 in integrated farming system. A total of 273 different extension activities like camps, kisan goshthies, exposure visits of farmers, trainings and field day camps were organized to enhance farmer-scientist interface on various relevant aspects in which 9506 farmers got benefited. Different technological

approaches in various FFP centres have shown a steady impact in terms of increase in production and adoption of scientific agricultural practices. Besides, this horizontal expansion of technologies to promote "farmer-to-farmer" extension and group approach also showed a significant growth in their economic activities. To summarise, the projects will provide opportunity for large scale adoption of scientific management practices among target groups. The assessment of these proposed interventions under diversified farming system will be done further in order to help scientific community and policy makers for replication of model in other areas of the zone.

Keywords: Farmer First Programme, Technology, Adoption, Scientific

ISEE Seminar/2019/ABS/295

Ensuring Food and Nutritional Security through Livestock Farming

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ABSTRACT

Agriculture and animal husbandry have been a part of Indian economy since long and contribute significantly in rural and economic development of the country. Over the coming decades, population growth, urbanization, and income growth, especially in developing countries, will result in huge increases in demand for milk, meat, and eggs. Demand for animal products is set to continue increasing in the next three decades, as is their market price. Therefore, the future of sustainable agriculture growth and food security in India depends on the performance of allied sector especially on livestock sector. According to NSSO estimates in 2014, agriculture sector contributes to around half of the income of farmers and more than one-tenth is being contributed by livestock sector, thus making contribution of agriculture and allied sector more than 60% in total income of the farmer. The small and marginal farmers have only 44% of the land, but contribute to more than 80% of livestock and fishery. The conducive climatic and topographical conditions of India led to emergence of livestock sector as a key socio-economic driver of rural households. The small farmers, especially the landless livestock holders, are extensively dependent on income from the sale of milk and animals to meet their daily household expenses. They not only contribute to their income, but food energy intake at household level is now given prominence in assessing food security. Thus, the livestock sector has emerged as one of the important drivers of agricultural growth and diversification in India. The objective of this paper is to examine the role of various livestock farming, its prospects and challenges in achieving food and nutritional security in the country. Therefore, in agriculture-based economy real development can be achieved only by integrating livestock and agriculture for long term sustainability goals.

Keywords: Livestock, Farming, Nutritional, Food security, Food.

ISEE Seminar/2019/ABS/296

Present Scenario of Agri-tourism in Haryana

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ABSTRACT

Tourism is termed as instrument for employment generation, poverty alleviation and sustainable human development. Haryana has immense possibilities of growth in the tourism sector with its varied attractions. The

state aims at harnessing the direct and multiplier effects of tourism in an environmentally sustainable manner. The study was conducted in Haryana state to investigate the present condition of Agri-tourism. Since, Agri-tourism is a new concept it was difficult to find large number of farmers for this profession. Eighty farmers were taken as respondents of the study, who were either registered with Haryana tourism or have equivalent capacity to provide all types of facilities on their farms. Almost three-forth of the respondents had medium level of risk bearing capacity and medium to high level of source of income. It was revealed that a big majority of the Agri-tourism units i.e. 93.75 per cent were having accommodation. Regarding facility on their farm, majority of respondents i.e. 81.25 per cent replied that they were having ride facility as always available, about various kinds of games, 56.50 per cent of the respondents said that various kinds of games were always and readily available for the visitors, a slight more the half of the respondents i.e. 53.75 per cent said that visit for the various activities and operations on the farm were always available. As far as massage facility, one-fourth of the respondents said that they were providing such facilities as always available.

Keywords: Agriculture, Development, Tourism and Sector

ISEE Seminar/2019/ABS/297

Study on Livelihood Options among Tribal in Rayagada District of Odisha

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ABSTRACT

The research study entitled "Livelihood Options of Tribal in Rayagada District of Odisha" was conducted among randomly selected 120 tribal respondents of Rayagada, district of Odisha. This study was conducted to know the priority given by tribal to their livelihood options basing on their practices and experiences. Ex-Post facto research design was applied to conduct the study. The study revealed that that agriculture as livelihood option was ranked first, followed by government/semi-government/private job as second, horticulture ranked third, animal husbandry ranked fourth, fishery ranked fifth, caste- based occupation of the respondents ranked sixth, NTFP's collection ranked seventh, agricultural labour ranked eighth and non-agricultural labour ranked ninth, respectively. The mean scores with regard to strength of agriculture, animal husbandry, forestry, fishery and wage labour were estimated as 18.09 ± 0.16, 19.70 ± 0.15, 19.25 ± 0.17, 17.97 ± 0.27 and 19.16 ± 0.16, respectively, with significant difference among them. The mean scores with regard to weakness of agriculture, animal husbandry, forestry, fishery and wage labour were estimated to be 18.89 ± 0.13, 19.25 ±0.17, 16.89 ± 0.13, 17.88 ± 0.22 and 17.98 ± 0.17, respectively, with significant difference among them. The mean scores with regard to opportunity on livelihood options viz. agriculture, animal husbandry, forestry, fishery and wage labour were estimated to as 15.60 ± 0.18, 17.60 ± 0.18, 16.60 ± 0.18, 15.97 ± 0.27, 14.60 ± 0.18, respectively, with significant difference among them. The mean scores with regard to threat of agriculture, animal husbandry, forestry, fishery and wage labour were estimated to as 16.95 ± 0.47, 14.60 ± 0.18, 14.95 ± 0.47, 16.88 ± 0.22 and 17.95 ± 0.47, respectively, with significant difference among them. The degree of association between annual income and strength was estimated as 0.023. Corresponding values with weakness, opportunity and threat were found to be -0.025, -0.080 and -0.084.

Key words: Livelihood Options, Tribal, Strength, Weakness, Opportunity, Threats

ISEE Seminar/2019/ABS/298

Efficacy of WhatsApp for dissemination of Vegetable Production Technology

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ABSTRACT

Mobile internet in India has the strong potential to improve small farmer's access to agricultural knowledge and information. The internet and social media penetration are likely to increase substantially in near future. Perceiving the need of access of information on vegetable cultivation an effort has been made to study use of social media in general and WhatsApp in particular to disseminate vegetable production technology. It was observed that WhatsApp; one of the most popular social media tools offered many unique advantages, like accuracy of the content (86.6 percent) availability on time (67.7 percent), easy and accuracy of message, and understandable(64 percent). Group messaging through WhatsApp enhances peer learning and play more interactive especially in diagnosing plant protection problem, effective in message reinforcing, and generating training needs among the group. These attributes made it potential tool for dissemination of technology. Although, its use is accompanied by many challenges and constraints. Unavailability of Network in rural area and unavailability of compatible Smart phone were important constraints which limits its use in farming community.

Keywords: WhatsApp, Vegetable cultivation, Information Need

ISEE Seminar/2019/ABS/299

Climate Resilient Technologies for Sustainable Agriculture Development

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ABSTRACT

Indian agriculture being a gamble of monsoons, crop yields continue to be climate sensitive and the fluctuation in weather parameters especially rainfall and temperature adversely affects crop productivity and threatening food security in India. In recent year's extreme weather events has become regular phenomenon in Indian agriculture. In response to climate change playing havoc with agriculture, the Union Government launched National Innovations in Climate Resilient Agriculture (NICRA) in 2010-11, its first flagship programme to make village's climate proof. The objective of the programme is to provide site specific technological demonstrations to enhance the adaptive capacity of farmers in climatically vulnerable districts in the country. Rashtriya Seva Samithi (RASS) - Krishi Vigyan Kendra (KVK) is implementing NICRA project at Chittecherla village, Chinnagottigallu mandal, Chittoor district, Andhra Pradesh since 2015 to enhance the resilience of agriculture and allied sectors to climate vulnerabilities through improved production and risk management technologies. KVK renovated ten irrigation tanks in the village under the project to improve surface water storage, enhance ground water recharge and there by ensure availability of water for raising crops in larger area. About 109 bore wells in the vicinity of tanks were recharged by 3 feet benefitting 214 farmers. About 11.6 to 24.5% increase in yield in tomato and 12.7%, 11.5%, 14.3% and 15.8 to 116% increase in yield in mango, paddy, fodder and groundnut, respectively was observed due to resilient technologies. And also increase in milk yield by 3.0lt per milch animal was observed due to improved fodder, azolla and use of foggers in the animal sheds. Custom Hiring Center for farm machinery was established to

supply tools and implements to farmers on nominal rental basis to overcome labour shortage and facilitate timely agricultural operations. An integrated approach adopted in the NICRA village is paving the way for sustainable agriculture development as a model climate resilient village for replication in other villages in the district.

Keywords: Sustainable Agriculture, Technology Demonstration, Climate Resilience

ISEE Seminar/2019/ABS/300

Assessment of Awareness Level of Farmers About Smart Agricultural Practices in Haryana

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ABSTRACT

Present study was conducted to assess the awareness level of farmers about smart agricultural practices in Haryana. Two district i.e. Hisar and Kaithal were selected purposively and three villages were selected randomly from each selected district. Further 30 farmers were selected randomly from each selected village and a total number of 180 respondents were interviewed for the present study. The data were collected with the help of well-structured and pre-tested interview schedule and analysed with SPSS. Research findings concluded that farmers awareness level was observed to be the highest about the statement that INM increase the crop yield with weighted mean score (WMS) 2.02, followed by excessive pesticides use is hazardous (2.03), weeds compete for light, water and nutrients (2.14), integrated farming system helps to reduce the cost of production (1.91), organic farming reduces input cost and enhances food quality (2.36), zero tillage reduce the field preparatory, labour and fuel costs (1.78), information and communication technologies provide information accurately, frequently and timely (1.64),e-marketing promote the cashless transaction (1.88), and crop insurance minimize the risk of crop failure (2.28). Further study concluded that 59.00 per cent of the variation in the dependent variable was due to these variables included in the study and remaining 41.00 per cent variations is due to other variables.

Keywords: Agriculture, Assessment, Awareness, Practices and Sustainability

ISEE Seminar/2019/ABS/301

Effect of Pre-Harvest Spray of Chemicals to Check Decay Loss of Aonla Fruits During Storage at Ambient Temperature

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ABSTRACT

Pre-harvest sprays of calcium nitrate@1%, Topsin-M (Thiophanate methyl) @0.1% and Bayleton (Triademefon)@0.1% either alone or in combination were applied twice at an interval of 10 days i.e. 20 days and 10 days before harvest with 3 objectives (i) to extend shelf life of Aonla fruits (ii) improve fruit quality parameters (TSS, acidity and vitamin C content) and (iii) survival of major pathogens responsible for decay loss at ambient temperature during storage. The results reveal that pre-harvest spray of test chemicals reduced physiological loss in weight (PLW) and decay loss up to 15 days of storage as compared with control. Fruit quality parameters

like TSS, acidity and vitamin C content were also maintained up to 15 days of storage. Extent of fungal attack was also reduced with sprays of fungicidal solutions up to 10 days of fruit storage in CFB boxes except initial rotting due to blue mould fungus (*Penicillium oxalicum*) in calcium nitrate alone spray. The unsprayed fruits attacked by *P. oxalicum* more rapidly which caused soft rot and also by *Alternaria alternata* responsible for dry rot. Among treatments, calcium nitrate@1.0%+Topsin-M@0.1% was the best treatment followed by calcium nitrate@1.0%+Bayleton@0.1% to reduce decay loss and extend the shelf life of Aonla fruits.

Key words: Pre harvest treatment, Aonla, Fungicides, Storage.

ISEE Seminar/2019/ABS/302

Effect of Sowing Methods, Doses of NPK and Zn On Growth, Seed Yield and Quality Parameters on Bread Wheat (*Triticum aestivum L.*)

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ABSTRACT

The present investigation entitled "Effect of sowing methods, doses of NPK and Zn on growth, seed yield and quality parameters on Bread Wheat (Triticum aestivum L.)" was carried out during the rabi 2013-14 & 2014-15 at New Dairy Farm, Kalyanpur of C. S. Azad University of Agriculture and Technology, Kanpur. The experiment was laid out in Split Plot Design (S.P.D.) with four replications and eighteen treatments i.e. two levels of method of sowing (Ridge and Plain), three levels of fertilizer doses (RDF, 1.25XRDF, 1.50XRDF) and three levels of zinc doses (2.5, 5.0 and 7.5 Kg/ha). Experimental findings reveals that ridge sowing method, application of 1.25 RDF (NPK) @ 187.50: 75: 50 kg/ha along with 5.0 kg Zn/ha was best practice to get the best performance in form of plant height (cm), chlorophyll intensity (C. I.) before 10 days of anthesis of wheat, leaf area index at the time of anthesis, number of effective tillers per plant, spike length (cm), chlorophyll intensity (C.I.) after 10 days of anthesis, number of seed per spike, raw and graded seed yield (kg per plot), raw and graded seed yield (q per ha), seed recovery per cent, seed vigour index I and II, electrical conductivity (dSm^{-1}), protein content and benefit: cost ratio in both the years and pooled, respectively.

Keywords: Parameters, Seed Yield, B:C ratio , Quality , Wheat.

ISEE Seminar/2019/ABS/303

Integrated Farming System: A Way of Sustainable Development

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ABSTRACT

Agriculture in Bundelkhand region is labour oriented and requires lot of man power and energy but even after this farmers are not in a position to earn their livelihood, especially small farmers because there is very little left

after they pay for all inputs. To fulfill basic needs of these farmers including food, feed, fodder, fiber and fuel warrant an attention about integrated farming system (IFS). It enabled us to develop a framework for an alternative development model to improve the feasibility of small size farming operations in relation to larger ones. Integrated farming system (IFS) is considered as one of the best option in increasing small holder farm income to ensure sustainable livelihood. Integration of resources is made through a combination of land, water and animal resources through careful planning including recycling of bio-resources. In integrated farming system (IFS), the waste of one enterprise becomes the input of another for making better use of resources. In integrated crop livestock farming system, crop residues can be used for animal feed, while manure from livestock can be used to enhance agricultural productivity. Integrated farming system (IFS) plays an important role in improving the soil health by increasing the nitrogen, phosphorous, organic carbon and microbial count of soil and thus, reduces the use of chemical fertilizers. Moreover, Integrated farming system (IFS) components are known to control the weed and thus minimizes the use of herbicides as well as pesticides and thus protects the environment and regarded as an important element of integrated pest management. The water use efficiency and water quality of IFS was better than conventional system.

Key words: Integrated farming system, Small holder farms, Environment, Soil health, weed control.

ISEE Seminar/2019/ABS/304

Strategies for Mitigating Gender Gap in Agriculture

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ABSTRACT

In traditional structure of the society women were suffering from different social restrictions. In the present scenario the state and central governments are implementing many women-oriented programmes with objectives of empowerment of women in agriculture and allied sectors. Which resulted in the improved social participation and extension agency contact of women. Due to this exposure other than agriculture, women took up some entrepreneurial activities to supplement their family income. The result shows that these programmes could improve the potential and confidence of women to a great extent but still we can see some gender gap in certain aspects. Women's earning has a positive correlation with children's health, nutritional levels and education. So they can become a great resource in the development process if they are properly mobilized and organized. There is a need for sincere and sustained efforts to improve status of women in India. The best option which ensures the total empowerment of farm women about efficient networking of agricultural information is by increasing their involvement in various areas of extension programmes. The poor rural women need to be more self-reliant by encouraging them to participate in economic activities needed for self-development. There is an urgent need to get aware and give education about their different rights for their happy and rightful life in their families. Hence, it is suggested that, more training programmes should be coordinate and conduct depends on women's requirement, in a way that farm women are inspired to participate. Special attention should be given to judge the effectiveness of these packages in increasing the participation of rural women in agriculture and allied sectors.

Keywords – Gender gap, Agriculture, Strategies

ISEE Seminar/2019/ABS/305

A Study on Knowledge and Adoption of Dairy Farmers about Animal Husbandry Practices

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ABSTRACT

Livestock sector has played a crucial role in improving socio-economic status of farmers. The domestication of livestock was driven by the need to have food on hand when hunting was unproductive. The desirable characteristics of a domestic animal are that it should be useful to the domesticator, should be able to thrive in his or her company, should breed freely, and be easy to tend. The study was conducted purposively in Morar Block of Gwalior district due to maximum dairy farmers in the block. The selected block comprises of 151 villages. A list of villages where animal husbandry practices are being operated by the farmers was prepared with help of extension officials. Out of which, 10 villages were selected randomly by using the sampling method for the study. After the selection of the villages, a village wise list of dairy farmers was prepared and 12 dairy farmers from each village were randomly selected. Thus, the total sample was consisted of 120 dairy farmers. The data were collected with the help of pre-tested interview schedule. The knowledge of an innovation is prerequisite for adoption. A higher knowledge of technical nature of improved practices would lead to a higher adoption possibly because knowledge is inert. More than half (61.67 per cent) of the milk producers had medium level of knowledge regarding improved animal husbandry practices. Looking to this fact, the extent of adoption of major animal husbandry practices was measured in terms of reproductive, nutritional, management, disease control and marketing practices. Majority (58.33 per cent) of the respondents had medium level of adoption of improved animal husbandry practices while, 26.67 per cent percentage of respondents were found to have high level of adoption of improved animal husbandry practices.

Keywords: Dairy farmers, Animal Husbandry, Adoption, Knowledge.

ISEE Seminar/2019/ABS/306

YouTube: Shaping the future of Agricultural Advisory Service

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ABSTRACT

YouTube is the most popular social media platform for young farmers and agricultural professionals for seeking information related to agricultural innovations, upcoming technologies and specialized skills, as evident from number of videos uploaded by different users. YouTube is the 2nd largest search engine and 3rd most visited site on the web. More than 5.6 billion people use mobile phone, nearly 80% of world population. Almost 94% farmers use mobile phone, especially in developed countries. Farmers are more likely to be found on YouTube in the early morning hours or evening. KVK, Solapur designed and developed YouTube channel by the name "LRT Farm Advise" during the March, 21 2015. Developed 3-5 minutes' videos as per the demand of farming community based on problem and uploaded it. The short videos of production, protection and innovations were uploaded, out of that five-point technology of Red gram production got highest response. The majority (95.10%) YouTube subscribers are belonging young (25 to 34 years) category followed by 4.90% only middle age group (35 to 44 years) respectively. It was also observed that 2,362 viewers seen the videos more than 3633 minutes within last

28 days. YouTube channel helps to improve knowledge of farming, enhance adoption of innovation & improved technologies helps to increase productivity and farm income.

Keywords: Youtube, Social Media, Advisory, Watch Time, Views, Subscribers.

ISEE Seminar/2019/ABS/307

Climate-Smart-Agriculture: Technology for Sustaining Food Productivity

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ABSTRACT

Agriculture is an important sector of developing countries and change in climate year after year has major impact on productivity and production along with increasing cost of production in Agriculture. In India the population and GDP directly and indirectly depends on agriculture. Thus climate change posing a great challenge to food production and food security of nation. Climate change may reduce agricultural production as 10-20 % by 2025 due to increasing heat stress, drought and floods will result deleterious effects on production/productivity and incidence of pest and disease in agriculture. Small and marginal farmers are major victims of climate changes in agriculture. Therefore, technical intervention must be tested and recommended for production/productivity, nutritional and economic security of farmer. In this regard selection of stress/heat/drought resistant cultivars, pest and disease tolerant crop and varieties along with soil management will play major role in operation and management of agricultural production. Climate smart agriculture is an approach for transforming production system for sustainable development and food security of nation. Thus agricultural Scientist, government policy makers and farmers must make an integrated approach to mitigate challenges resulted due to climate change in agriculture. India has ability and capacity to challenges of climate change regarding food security and economic feasibility of agriculture.

Keywords: Climate Smart Agriculture, Impact on Agriculture, Food Security

ISEE Seminar/2019/ABS/308

Performance of Front Line Demonstration on Kharif Fodder in Villages of Aspirational District Fatehpur of Uttar Pradesh

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ABSTRACT

Out of the eight aspirational districts of Uttar Pradesh, Fatehpur the only district under jurisdiction of CSAU&T, Kanpur was also identified as aspirational district by NITI Ayog, New Delhi. Lack of application of Science and Technology by making the best use of available resources is one of the major constraints of traditional agriculture, resulting in low productivity due to non-adoption of recommended practices and improved varieties. The farmers of aspirational villages follow rice-wheat cropping system and feed their animals usually weeds/grasses/crop residues in the name of fodder. Keeping in view the lack of nutritious green fodder during kharif period Front line demonstration (FLD) on 45 farmer's field was conducted by KVK, Fatehpur in the adopted aspirational villages. The study revealed that multi-cut sorghum-Sudan MFSH-4/KS-85 (White) varieties produced fodder in the range

of 300 to 405 qtl. /ha.with an average yield of 352.5 qt./ha. An increase of 33% in total fodder yield was observed among FLD farmers. The milk produced by the milch animals was also observed 5-10 days prior to feeding, 5-10 days and 40-45 days after feeding of Sudan along with the farmer's traditional feeding practices was recorded. The average increase in milk yield of 34.48% was observed, body and health condition of the milch animals of aspirational village was also found better than those who were not offered Sudan.

Keywords: Aspirational villages, Front line demonstration, Green fodder

ISEE Seminar/2019/ABS/309

Status of Pulses Production in Bundelkhand Region of Uttar Pradesh

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ABSTRACT

Pulses are important source of dietary protein for vegetarian population and it has unique properties for maintaining soil fertility through fixation of biological nitrogen as well as conserving and improving physical properties of soil. Globally, more than 198 countries are producing 77.74 million tons pulses annually. India is the first largest producer of pulses, producing 23.22 million tons annually and the consumption pattern of pulses in India merely 8-10 million tons of pulses are used directly consumed as food items is also called Dal and remaining 12-13 million tons being used through indirectly consumption as processed food items. The state of Madhya Pradesh has first rank in pulses production which contributes 24 percent of total pulses production. While Maharashtra has ranked second with 13.63 percent of total pulses production, Rajathan ranked third with 12.15 percent and Uttar Pradesh was hardly placed at fourth rank with 9.41 percent of the total pulses production in the country. The Bundelkhand region has produced more than 40 percent of pulses production of Uttar Pradesh which covering large area under Rabi and Kharif pulses production. The region of Bundelkhand has comprises seven districts in which Lalitpur has ranked first with 35 percent contribution of total pulse production followed by Jhansi (19 percent), Jalaun (18 percent), Mahoba (9 percent), Hamirpur (8 percent), Banda (5 percent) and Chitrakoot has contribute (2 percent) of total pulse production in Bundelkhand region.

ISEE Seminar/2019/ABS/310

Effect of Multimedia on Clean Milk Production Practices Followed by Dairy Farmers

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ABSTRACT

Present study was conducted in West Bengal to evaluate clean milk production practices adopted by the dairy farmers. Two district namely Nadia and North 24 parganas have been selected randomly for the research. From each district 2 blocks i.e. total 4 blocks have been chosen randomly and then two villages have been chosen from each block by random sampling method. From each village 15 respondents were selected on the basis of having at least two dairy animals out of which one should be in milk, thus a total 120 farmers were selected for the

study. Data were collected by structured interview schedule. All the dairy farmers cleaning animal shed daily, majority (67.50%) of respondents followed pre milk teat wash with water to remove dirt and dung and 44.17 percent of the farmers wipe udder with dry cloth after udder washing. 26.66 percent of the respondents followed full hand milking and washing hands with soap before milking, whereas 23.33 percent farmers using sieve during transferring milk. Majority 68.34 percent respondents adopted deworming of milking animals regularly, followed by 61.67 percent of the farmers vaccinate their milking animals regularly.54.17 percent of the respondents clip hairs around the udder and hind quarter of the milking animal as a preventive measure for clean milk production, whereas 43.34 percent of respondents followed the hygienic practices of washing and cleaning animal every day.

Keywords: Clean Milk Production, Dairy, Milking, Udder, Teat Dip.

ISEE Seminar/2019/ABS/311

Domestication and Genetic Improvement of non-descript Stray Cattle by Selective Breeding

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ABSTRACT

India has rich and diverse genetic resources with 43 well defined breeds of cattle and 16 breeds of buffaloes. Although, we possess a large number of well-defined cattle and buffalo breeds, they constitute hardly 20-25% of total cattle and buffalo population of the country. The cattle and buffalo genetic resources with vast population of 192.49 million and 109.85 million comprising large population of bovines are widely distributed in diverse agro-ecological regions of the country. These diverse population groups reared in small herd size of 2-3 animals mainly by small, marginal and landless farmers of different socio economic levels under different ecologies have suffered in the past without a uniform national cattle and buffalo breeding policy.The local non-descript low producing cattle are reared mainly under crop livestock farming system across the Bundelkhand region where quality feed and fodder resources are not available in sufficient quantity. The farmers are not resource-rich and infra-structure facilities are also inadequate. Marketing facilities for sale of milk and milk products are poor. The non-descript cattle constituting more than 75-80% of total cattle population under this production system can be genetically improved by grading up using high genetic merit pedigreed and preferably progeny tested proven bulls of well-known indigenous breeds like Sahiwal, Tharparkar, Gir, Hariana, etc. available in the breeding tract which are maintained at several organized government and non-government farms for artificial insemination or natural breeding of locally available stray female cattle reared at University dairy farm. This will also help in the conservation and propagation of indigenous breeds in the region.

ISEE Seminar/2019/ABS/312

Problems Perceived By Producers', Retailers' and Consumers' in Conventional and Unconventional Agricultural Markets towards Implementation Foreign Direct Investment (FDI) in Agricultural Retail Sector in India

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ABSTRACT

This study was conducted to find out the major serious problems for the implementation of FDI in agricultural retail sector among producers', retailers' and consumers'. The study was conducted in two districts of Haryana state namely, Hisar and Sonipat and a total no. of two hundred forty respondents were selected and interviewed with the help of well-structured schedule. The study revealed that majority of the producers were encountered the problems such as 'Lack of awareness about FDI among the producers' community' (Z-score = 1.45), 'Low yield due to climate uncertainty (Z- score = 1.44), 'Lack of political will to implementation of FDI' (Z-score = 1.20), 'lack of social environment for FDI implementation' (Z – score = 1.03) and 'Lack of proper guidance among the producers about FDI' (Z-score = 1.01) were found to be very serious problems respectively. As per retailers' response the study shows the major problem perceived in conventional agricultural retail markets were found 'lack of refrigerated carrier vehicles' (Z score = 1.25) 'Lack of cold storage facilities' (Z-score = 1.21) and 'High pricing of agro – products in on/off – season affects sale' (Z-score = 1.20) and related to the consumers the major problems were percevied like 'Highly unfair prices of agro-products in off-season' (Z score = 1.56), 'Difficulty in finding parking space' (Z score = 0.96) 'Unavailability of agro-products in off -season' (Z score = 0.60), 'No information regarding manufacturing and expiry date of the products' (Z score = 0.48) were considered as serious problems in organized agricultural retail sector.

Keywords: Conventional agriculture market, Consumer, FDI, Problem, Producers, Retailers

ISEE Seminar/2019/ABS/313

Assessment of Belief towards Organic Farming among Farmers of Ranchi District

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ABSTRACT

Organic farming aims to produce crops using natural inputs and to eliminate toxic substances from farming system to provide healthy and toxicity free food to consumers. Of late, Government of India promotes the organic farming in a large scale. Organic farming is not a new concept but it is a traditional farming with modern technology. In line with this, three villages of Angara block of Ranchi District have been developed as organic villages. A study on Assessment of Belief towards Organic Farming among Farmers of Ranchi Districthas been conducted to assess the belief of farmers after implementation of organic inputs on the land and produced organic foods.

For the study two villages of the Ranchi district Budhakocha and Dhurleta were selected. A Questionnaire on General, Attitudinal, Practical & Normative Belief of Organic Farming (Hindi) were used along with interview for data collection. Sample size of the study was 30 (15 of each village). For the study, questionnaires have been distributed to the farmers for seeking their actual belief on Organic farming. Finding of the study showed that 100 % farmers believed that organic farming is good while 60% of the population practically belief that organic farming is beneficial of them. 53% of the population agreed with limitations which hindered in persuading organic farming.

Keywords: Organic Farming, General Belief, Attitudinal Belief and Control Belief

ISEE Seminar/2019/ABS/314

Role of ICTs in Scaling Up Indigenous Technical Knowledge (ITK)

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ABSTRACT

In the era of climate change and ecological disturbance the need of the hour is to scale up sustainable farming solutions. Indigenous Technical Knowledge is a viable option for sustainable agriculture. ITK is the product of natural selection, keen observation and trial and error of people over the years. ITK has been the basis of local level decision making in agriculture, natural resource management, animal husbandry, food and nutrition, climate change etc. ITK is transferred orally from one generation to other, so meagrely documented for utilisation. ITK being an indispensable component of global knowledge can open up new vistas when disseminated through the use of ICTs. ICTs include telecommunication technologies (telephone, cable satellite, radio etc) and digital technologies such as computers, information networks, and software. ICT can capture, store and disseminate indigenous technical knowledge so that it can be preserved for future generation. Furthermore, it promotes cost-effective and easily accessibility of indigenous knowledge systems. Additionally it provides a platform for advocating for improved benefit from IK systems of the poor. Information and Communication technologies (ICTs) play a major role in improving the availability of indigenous knowledge system and enhancing its blending with corresponding scientific technologies. Thus ICTs can contribute enormously to development goals and poverty alleviation. So for its dissemination and proper utilisation, ICTs should be used wisely for the betterment of the farming community.

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Technological Intervention for Climate Smart Agriculture

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ABSTRACT

Indian agriculture is prone to climate variability and change. Climate smart agriculture is an consolidative approach of augmenting productivity, enhancing resilience and minimizing greenhouse gas emissions through technological intervention. A proper planning and directing can be adopted to reach the objectives

of climate smart agriculture. For instance use of unified sustainable resource technologies for farming like biomass and bio fuels, wind turbines, solar panels, pyrolysis units , geothermal, and bio energy-operated water pumps are imperative for energy smart food systems. Resource Conserving Technologies (RCTs) like reduced tillage practices allows the farmers to plant wheat soon after rice in states like Punjab, Haryana, and Uttar Pradesh in order to prevent warm weather which is not suitable for grain filling. The emergence of novel varieties which are resistant to extreme temperatures like heat, cold, drought, and salinity. Use of crop residues like stalks, leaves, and seed pods helps in conserving soil moisture. Growing of green manuring crops like sun hemp, dhaincha, and alfalfa helps in enhancing soil fertility . The weather forecast and warning systems will be very useful to minimize the losses caused due to climate change. Information and Communications Technology (ICT) can effectively help policy makers and researches in planning the future programs. Computer aided crop simulation models can provide ways to find the possible risks of climate consequences on future crop yields, helping developing climate smart agriculture including its alleviation procedures. The crop simulation models helps in knowing the variation of environmental factors such as light, temperature, and water which stimulate crop response and enhance crop yield. Use of improved technologies can address three intervened challenges: ensuring food security, impacts of climate change on agriculture and agriculture impact on climate change. Climate Smart Agriculture helps stakeholders at all varied levels to identify agricultural strategies suitable to the local conditions. It is in harmony with FAO vision for sustainable food and agriculture , supports the organizations goal to make crop and livestock systems, forestry, fisheries and aquaculture more productive and more sustainable. CSA technologies can provide potential opportunities effective for agriculture.

Keywords: Global Warming; Resource Conservation Technologies (RCT); Information and communication technology (ICT); Crop Simulations Models.

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Assessment of Land Degradation Using GIS

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ABSTRACT

Land degradation is one of the biggest global challenges for the people's livelihoods and environment. Land degradation can be described as reduction in the present and prospective land quality and production, due to natural or anthropogenic dynamics. This phenomenon is one of the most important problems which is being faced by farmers and decision makers.There is about 329 m ha total geographical area of India, the area under agriculture is about 187.8 m ha area that is degraded through one or more degradation types. Water erosion is the most serious degradation problem in India, resulting in loss of topsoil and terrain deformation. Based on first approximation analysis of existing soil loss data, the average soil erosion rate was 16.4 ton $ha^{-1}year^{-1}$, resulting in an annual total soil loss of 5.3 billion tons throughout the country (ICAR and NAAS, 2010). Nearly 29% of total eroded soil is permanently lost to the sea, while 61% is simply transferred from one place to another and the remaining 10% is deposited in reservoirs (Bhattacharya et al., 2015). Majority of the degraded area needs attention and degradation recovery plans to prevent loss from these lands, so more work needed to be done for acquiring the spatial data. Remote Sensing and GIS applications are often considered as cost effective procedures for the collection of data over large areas. The ease with which satellite Remote Sensing data can be rapidly processed with computers provides further opportunities for the analysis and interpretation of data, resulting in the acquisition of valuable information over large areas for Policy formulation, Planning and Management decisions. So, GIS tools manifested

great efficiency in land degradation assessment process, which results hopefully may help decision makers to take the necessary actions to protect the most degraded spot.

Keyword: Land, Degradation, GIS

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Usefulness of Sulphur in Toria Variety Tapeshwari

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ABSTRACT

Usefulness of sulphur was observed in toria crop by Krishi Vigyan Kendra, Mankapur Gonda-2 during Rabi 2018-19. Toria variety Tapeshwari was sown on twenty farmer's field. Each farmer's plot area was 0.40 ha. Each plot of 0.40 ha was divided in two equal parts. In one part sulphur was used while there was no use of sulpur in another part of the plot. Twenty farmers were selected for sowing of toria. Sowing of toria was done in the last week of September. Seed rate of toria was 4.0 kg/ha. Nitrogen @ 80.0 kg, Phosphorus @ 50.0 kg, Potash @ 50.0 kg and Sulphur @ 25.0 kg/ha was used. Half quantity of nitrogen, full quantity of phosphorus, potash and sulphur was applied at the time of field preparation. Rest half quantity of nitrogen was top dressed after first irrigation. For weed management pendimethlene 30 EC @ 3.30 liter/ha was sprayed just after sowing of crop. First irrigation was done after four weeks of sowing. Second irrigation was done at pre-flowering stage. Harvesting of crop was done in last week of December. Observation revealed that average yield of toria was obtained 12.57q/ha in case of using sulphur while only 10.68q/ha yield was obtained in case of no use of sulphur. An additional yield of 1.89 q/ha was obtained by using sulphur. Economic analysis revealed that Net return Rs 9524 /ha was found in case of using sulphur while only Rs 4076 /h was found in without use of sulphur. Benefit- cost ratio was higher in case of using sulphur. B: C ratio was 1.31 and 1.13 in case of using and no use of sulphur respectively.

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Market led-extension

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ABSTRACT

India's agricultural extension system is the largest in the world. It caters to the technology and information needs of about 100 million farm families. Focus of extension agencies on production technologies yielded very good results and hence India becomes self reliant in food production. Significantly, the extension system had played its role untiringly in the transfer of production technologies from lab to land, besides the agricultural scientists, farmers and marketing network. But the farmers at individual level are not realizing remunerative prices for their produce. Therefore, extension functionaries need to play a major role to build the capacity of the farmers to meet the emerging challenges and make the farmers to realize better prices to their farm produce. Extension efforts were directed towards transfer of production technologies and almost no or very little attention was paid for higher price

realizations for the farmer's produce. This has made no substantial impact on increasing farm incomes over decades. However, the advent of globalization and emergence of new market mechanisms has opened new opportunities for the farmers of the country across crop categories and agricultural regions. This calls for transfer of new extension approaches involving productivity to profitability, subsistence to commercial agriculture, commodity oriented to farming systems orientation, local market to export market, mono cropping to crop diversity and so on. In the present scenario, Market led Extension is the perfect blend for reaching at the door steps of our farmers. With globalization of the market, farmers need to transform themselves from mere producers-sellers in the domestic market to producers cum sellers in a wider market sense to best realize the returns on their investments, risks and efforts. Besides the production technologies, the extension workers now have to get equipped with market information which requires imparting new training skills to the Extensionist. This emphasizes the wider role of extension agency ranging from SWOT analysis of market to the organization of farmers interest groups. The Government in this regard is providing much of the infrastructure required for efficient marketing along with the other information and extension services.

Keywords: Extension approach; Market driven and farming

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Initiatives for Food and Nutritional Security for Rural Communities

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ABSTRACT

Food and nutritional security are the foundations of stable societies but are threatened by increasing population consumption. India's food demand is poised for unprecedentedly rapid growth over coming generations. As large section of India is unable to have nutritious and sufficient food twice a day it becomes a challenge to meet the food and nutritional security of rural people. If farmers are provide capital and education in the under yielding areas yield increases on already cleared agriculture lands which could meet the food nutritious needs of our nations. The nutritional status of population often serves as a proxy for wider progress and setbacks. Currently we are facing burden of under nutrition with food insecurity. Malnutrition is major cause of child mortality in the country. Despite giving importance for financial growth, emphasis must be made on meeting the food demands of rural communities. There is no section that has all remedies rather the solutions are permanently affecting, engaging professionals and specialists across agriculture, rural development and public regimen with flattering improvements and speculations. Our food safety system has considerable role to play in contributing to significant improvements in nourishment for all. Advance scan be made by including nutrient rich crops as an option for farmers in production systems and linking production with marketing which includes digital marketing (eNAM), forward and future marketing practices which helps in storing excess produce during surplus production and distribute through public distribution systems (PDS) during scarce production. This helps in providing food to major portions of rural communities Cutting food wastage is a relatively important and reliable way of increasing food availability where it is needed the most. India is ranked at 103rd position among 119 countries in Global Hunger Index. This shows our country undernourishment, child stunting and child mortality. Equitable and secured food supply could be achieved by safeguarding biodiversity and preventing the excessive use of pesticides and over dose of fertilizers that disrupts the fertility of soil. This helps in securing sufficient supply of food to meet the hunger needs of rural communities.

Keywords: Nutritional security, Food demand, Under nutrition, Equitable and secured food supply.

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Causes Responsible for the Technological Gap of Green Gram (Moong) Cultivation District Ramabai Nagar Uttar Pradesh

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ABSTRACT

The study was carried out during the year 2011 conducted in district Ramabai Nagar of U.P Two Blocks were purposively selected, four villages, two form each development blocks were selected randomly for the study .The today No. of respondents were 80. Most of the respondents 50 per cent belonged of the middle age group followed by 41.25 per cent old and 8.75 per cent young age. 56.25 cent respondents belonged to backward caste followed by 25 per cent high caste and 18.75 per cent schedule caste. Most of the respondents were having (68.75 per cent) joint family and remaining 31.25 per cent for cent for single family. 16. The analysis of technology gap in green gram crop showed that highest gap was found in farmer about knowing of the Insect, Pest and disease control and the lowest gap was found about knowing of the sowing time. The findings reveal that wider technological gaps exist in the farmers about the production recommendation for green gram cultivation. This gap in most of the green gram growing operations needs to be reduced, if the green gram yields have to improve on the famers' field. Thus it emphasizes on green gram demonstration and farmer training for reducing for reducing the gaps.

Keywords: Technology, socio-economics, Production and demonstration.

ISEE Seminar/2019/ABS/321

Analysis of Women Workers including Agricultural Sector in India with Special Reference to Haryana

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ABSTRACT

In India there is a major role of women in working. Out of total population of female in India, 25.41% of the female are working in one or another sector. In India Unorganized or informal sector constitutes a pivotal part of the Indian economy. More than 90 per cent of workforce and about 50 per cent of the national product are accounted for by the informal economy. A high proportion of socially and economically underprivileged sections of society are concentrated in the informal economic activities. India is a traditional country and there is diversity in religions, culture and customs. Role of the women in India mostly is household and limited to domestic issues. Informal employment is generally a larger source of employment for women than for men in the developing world. The informal economy in India employs about 86 per cent of the country's work force and 91 per cent of its women workers. Many of these women workers are primary earners for their families. Their earnings are necessary for

sheer survival. Majority of women work in unorganized sectors for low wages due to low level of skills, illiteracy, ignorance and surplus labour and thus face high level of exploitation. The social and economic profile of female worker is greatly affected by the nature of industrial sector where they work. This paper tries to know the status the female workers and their participation in working. The socio-economic status of the women workers are also miserable due to one or another reason. The Socio-Economic is also been interpreted by the results of the prior studies.

Keywords: Unorganized Sector, Status of female workers, Socio-Economic Profile.

ISEE Seminar/2019/ABS/322

Status of Rural Marketing and its Opportunity & Challenges in India

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ABSTRACT

Out of the total population 68.84% population of India reside in 6, 38,000 villages and due to this reason in last few years the rural market have acquired significance and attract the attention of marketers and overall growth of economy has resulted into substantial increase in the purchasing power of the rural communities. Under the changing economic scenario, the rural markets have great potentialities in India and offer bright prospectus and attractions to the companies. More than three-fourth of country's consumer base resides in rural areas and more than half of the national income is generated by them. All the major industries in India are tilting towards rural India as the Indian rural market is full of opportunities and has been impressive growth in the recent years. This paper "The Status of Rural Marketing in India" aims at studying the different aspects of rural marketing. This paper tries to understand the rural marketing, importance of rural marketing, status of rural market, share of rural market in India, Indian Rural marketing as Economic powerhouse in country, Govt. initiatives for Rural Market and opportunity and challenges to Rural Marketing.

Keywords: Rural Marketing, Importance of Rural Marketing, Status of Rural Market, Share of Rural Market, Economic Powerhouse, opportunity and challenges.

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Integrated Management of Shoot Gall Psylla Insect, *Apsylla cistellata* (Homoptera : Psyllidae) in Mango Orchard

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ABSTRACT

Mango is the king of fruits cultivated in India. In addition to abiotic stresses, the major challenge in mango cultivation is insect pests and diseases, now days shoot gall psylla insect, emerge as a devasting insect of mango

which makes orchards unproductive. Over use of synthetic pesticides increases the cost of production at farmer level and the environmental and health hazards at consumer level. The study was carried out by KVK, Amberpur, Sitapur to assess the integrated pest management strategy against shoot gall psylla insect in mango crop during 2017-18 on farmer's field. The experiment was laid out in randomized block design with three replication and two treatments including the control (Farmer's practice). The trials comprised T1- Farmer's practice (Injudicious use of hazardous pesticides), T2- IPM package - Leaves having eggs in month of March and shoot galls in month of September were collected and destructed. Three spray of Dimethoate 30 EC @ 2.0 ml/liter of water solution from second week of August at 15 days interval and one spray of Profenophos 50 EC @ 2.0 ml/liter of water solution in the month of March were done in mango orchard having attack of shoot gall psylla insect. The mango orchard taken under trail was found free from shoot galls due to Shoot gall psylla insect at completion of trail. The IPM package was found most effective for increasing the average fruit yield (29.40%) by managing shoot gall psylla insect with benefit- cost ratio of 4.33. Farmer's practice proved least effective with lowest average fruit yield and benefit- cost ratio.

Keywords: Integrated Pest Management, shoot gall psylla insect, Apsylla cistellata

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Information Management Behaviour (IMB) of IFN and Non-IFN Farmers in Nagarkurnool District of Telangana

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ABSTRACT

A group of twenty five farmers were selected under the programme Innovative Farmers Network (IFN) based on parameters like cosmopolite, information sharing behavior, social mobility, empathy, innovativeness and opinion leadership. The programme has been initiated in the year 2015-16. Since then these farmers were trained on modern crop production technologies before commence of both Kharif and Rabi of every year. The trained farmers used to disseminate the learned knowledge at KVK to their fellow farmers and are considered as Brand ambassadors of the KVK. The proramme has been implemented at KVK, Palem, Nagarkurnool dist since 2015-16. Each farmer has been developed a sub network with their fellow farmers in their village. They used to disseminate the technology though Social media like Whats app, Group meetings, Group discussions, Small scale exhibitions, Press and electronic media. A study has been taken up in the Nagarkurnool dist of Telangana state to understand the Information Management Behavior (IMB) of the farmers of innovative farmer's network compared to the non-IFN farmers. These two categories of farmers were compared on the IMB parameters like Information acquisition behavior (IAB), Information storing behavior (ISB), Information processing behavior (IPB) and Information dissemination behavior (IDB). A sample of each 60 farmers was selected following ex-post facto research design and random sampling. The innovative farmers had high level of acquisition and processing behavior and had medium storing and dissemination behavior. In case of non-IFN farmers- they had low level of acquisition, storing, processing and dissemination behavior. Further the Information acquisition is studied in terms of personal – cosmopolite , impersonal – cosmopolite and personal –localite channels; storing behavior either in the forms of electronic gadgets or news papers; processing behavior either through trialability, compatibility, complexity or feasibility; dissemination interms of using social media, group discussions, personal contacts, group discussions, rytusadassus, field tours or study tours. It is known that the IFN farmers are in direct contact with primary sources and had more risk taking ability compared to non-IFN farmers. The main technologies disseminated are controlling pink boll worm in cotton, fall army worm in Maize, BPH in Rice, stem rot in Groundnut through seed treatment, Usage of pheromone traps and sticky traps against sucking pest complex either in Cotton and Chilli,

popularization of shredder to remove the Cotton stubbles etc. 12075 farmers were motivated and benefited with the help of innovative farmers in the district.

Keywords: Information Management Behaviour, Innovative Farmers Network, Information dissemination behavior

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Nutritional Status of Women Residing in Rural Areas of Sitapur District

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ABSTRACT

Nutritional status is the condition of the body in those respects influenced by the diet; the levels of nutrients in the body and the ability of those levels to maintain normal metabolic integrity. The present study was aimed to assess the current nutritional status of the rural women. The study was undertaken at a village Ranuapara and Garhi of Sidhauli block of District Sitapur, Uttar Pradesh and was conducted on 30 women of age 22 to 40 years. Information on socio-demographic variables was collected by pre-designed interview cum schedule method. A 24-hour recall method was used to assess dietary intake. The nutrient intake was calculated using tables of Nutritive value of Indian foods developed by National Institute of Nutrition, Hyderabad. The mean age among the study population was 31.3 years. Majorities (75%) of them were Hindus,90.5% were illiterate, and all were doing some additional work (chikankari/zari embroidery) other than playing a role of housewives. The study revealed that the dietary intake was low in every aspect. Overall, the mean calorie intake was observed to be 1265.94, vitamin A 517.53mcg, phosphorus 128.2, calcium593.78mg/day, iron115.49 and protein 38.38gm/day in the daily diet.

Keyword: Nutritional, Metabolic Integrity, Socio-Demographic

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Awareness, Access and Usage of Information and Communication Technologies between Female Researchers and Extensionists

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ABSTRACT

Information and communications technology (ICT) has become a very important feature in the Indian agricultural sector in contemporary times. Even though it is still a new concept, an increasing number of professionals are appreciating its use for development work. Female researchers and extensionists are important stakeholders in the development of agriculture in the context of India. They are important because they are required to provide support to the female farmers who ordinarily would be more comfortable with female researchers. It is therefore pertinent that female researchers and extensionists be abreast with modern information and communication technologies so as to discharge their duties more effectively. This study examines awareness, access and utilization of ICT

among female researchers and female extensionists. Data was obtained from 106 female researchers and 27 female extensionists in NEH Region of India, with the aid of a questionnaire. Information collected showed that female researchers and female extensionists are aware of ICT; both categories of respondents know how to access Internet on their own. Respondents do not have adequate access to IT. Also, 65.7 and 74.7 per cent of female researchers and female extensionists respectively used ICT for between 3 to 5 times a week. The types of ICT needed by female researchers and female extensionists include; WorldWide Web, Electronic Mail, Word Processing, CD-ROM, Use ofProjector, Use of computer, Web Design, Chat room and Video Conferencing *etc*.

Keywords: ICT, Agriculture, Researcher

ISEE Seminar/2019/ABS/327

Promotion of IFS Module for Nutritional and Economic Security of Marginal Farmers

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ABSTRACT

In India about 82% marginal farmers and in U.P. 88.5% marginal farmers are concern with agricultural production system, it depict role of marginal farmers in Agricultural food security. Integrated Farming System is a smart approach for agriculture production, nutritional food and economic security of marginal farmers. The inverse relationship between farm size and aggregate productivity has been pronounced in recent years (*Padaria et-al_ 2015*). Therefore, it is thought desirable to develop and adopt IFS module according to resources available, diverse enterprises and nutritional food security. Integration of crop production, animal husbandry and fisheries cum ducker, enterprises in compatible manner insure high productivity, resource utilization, nutritional and economic security of marginal farmers. A marginal farmers which has one hectare land may adopt IFS approach as- crop production (0.5 ha.), animal husbandry (0.25 ha.), fishery cum duckery (0.25 ha.) as modified IFS module able to produce food, feed, nutritional and economic security of marginal farmers. The impact analysis of IFS potensial resulted total cost of production Rs. 1,28,500.00, gross return Rs. 3,48,800.00 and net profit Rs. 2,20,300.00 with CBR 2.85/year/annum. Thus, IFS module is able to sustain resource conservation, production, income, safeguard environment and response to consumer concern about quality. Therefore, there is urgent need to promote and support wide adoption of productive, remunerative and eco friendly IFS in agriculture.

Keywords: IFS module, Nutritional security, Economic feasibility

ISEE Seminar/2019/ABS/328

Climate Smart Agriculture and Advisory Services: Need for Future

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ABSTRACT

Climate change is the most serious environmental threat to fight against hunger, malnutrition, disease and poverty

in countries. Agriculture is the most vulnerable and sensitive sector affected by climate change because of its dependency on local climate parameters like rainfall, temperature, soil health etc. To alleviate the challenges posed by climate change, agriculture has to become "climate smart", that is, sustainably increase agricultural productivity and incomes, adapt and build resilience to climate change, and reduce or remove gases emissions, wherever possible. The importance of Climate-Smart Agriculture (CSA), the dissemination and uptake of climate-smart technologies, tools and practices is still largely an ongoing and challenging process. The adaption of climate-related knowledge, technologies and practices to local conditions, promoting joint learning by farmers, researchers, extension worker and widely disseminating CSA practices, is critical. There is a need for site-specific assessments to identify suitable agricultural technologies and practices needed for CSA. So extension can play an important role in helping the farmers to cope with the diverse impacts of climate change by using appropriate approach to create awareness and make them aware about the different adaptation and mitigation strategies. In this regard, a study was conducted to find out the different extension approaches used in CSA.

Keywords: Climate smart agriculture, advisory service and agro-met knowledge.

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Development of Agriculture in Sultanpur through agri-preneurs

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ABSTRACT

The role of the farmer in India is changing, as farmers have to develop new skills to be competitive. There is needed to become more entrepreneurial. Many of the skills associated with running a successful business are not necessarily skills that the farmer has. Suggests Farmers do not systematically access business advice networks (BAN) and that is the reason to access opportunities limited in business networks and feel farming is different. Farmers do not systematically engage in continual professional development to update their skills and competences. The study is intended to find out the role of agri-preneurs in agriculture development in Sultanpur. Entrepreneurship has been named as one of the key driver for economic development. During an economic crisis, when employment is negative, the importance of entrepreneurship development has increased. During recent worldwide financial turbulence the importance of entrepreneurship has more obvious. Entrepreneurship has been linked to amplified growth, increased aggressiveness of district, increased creation of wealth and increased quality of life. After economic liberalization, entrepreneurial activity is playing a major role in socioeconomic. In Sultanpur for raising the living standard of the vast majority of the villagers, planning and implementation for development of entrepreneurial programmes are essential because of their over-dependence on agriculture for employment. Kamla Nehru KVK started Agri Clinic and Agri Business Programme 2017 for development of agri-prenurship in diverse field of agriculture. During last three years 120 agriculture graduates has been trained as competent agriprenures and out of total agriprenures 38 for agri-input dealers, 12 dairy, 10 vegetable production and 03 duckry. Thus entrepreneurship development in rural industries appears to be the best potential alternative such as poultry, fisheries, value addition, input centre, custom hiring, mushroom production to find employment avenues for the rural population. The importance of entrepreneurship development in agricultural sector and business planning for agricultural firms-from input traders-producers-processors and the steps required to prepare a thorough business plan.

Keywords: Entrepreneurship, Agriculture, Economic, Employment, Business, Entrepreneurial Skills

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Promotion of Climate Smart Agriculture for Socio Economic Development of Marginal Farmer

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ABSTRACT

Climate smart agriculture (CSA) can be defined as sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change and reducing green house gases emissions. CSA is an approach to increase the technical, policy and investment on environment to get sustainable agricultural growth for food protection under climate change. A number of strategies can be adopted to achieve the objectives of climate smart agriculture. Climate change impacts on agriculture are special challenge for not only in India but all over world. There are number of factors that influence the extent to which farmers in a particular location adopt Climate –Smart Agriculture technologies. This study applied a participatory assessment method to assess farmers' preferences and willingness-to-pay for selected Climate –Smart Agriculture practices and technologies in eastern plain zones. The study found that farmers' preferences for Climate –Smart Agriculture technologies are marked by some commonalities as well as differences according to their socio-economic characteristics and rainfall in eastern plain zones. The most preferred technologies by local farmers were crop insurance, weather-based crop agro-advisories, rainwater harvesting, site-specific integrated nutrient management, contingent crop planning and laser land levelling. The results also indicate that farmers' preferences and willingness-to-pay are influenced by technologies and their cost of implementation. This study shows the potential for using a participatory Climate –Smart Agriculture prioritization approach to provide information on climate change adaptation planning at local level. Resource conserving technologies (RCTs) like zero tillage permits the farmers to plant wheat soon after rice in order to avoid warm weather detrimental for grain filling. The emergence of newly developed varieties which are tolerant to heat, drought and salinity is also a better strategy of CSA. It is necessary to differentiate regions and crops that are very much prone to climate change so that these should be repositioned to more appropriate areas. The weather forecast and early warning systems will be very helpful to minimize the threats of climate losses. Information and Communications Technology (ICT) can efficiently help administrators and researchers in planning the contingency programs. Computer aided crop simulation models can guide to find out the possible risk of climate variation on future crop yields, climate smart agriculture development and mitigation procedures. The crop models permit variation of environmental factors such as the water regime and temperature and simulate the crop response through many estimated growth parameters like crop yield.

Keywords: Climate-smart agricultural technologies, Resource conservation technologies (RCT,) Information and communication technology (ICT).

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Smart Technology in Agriculture for Reducing Women Farmers' Drudgery in High Climatic Risk Areas

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ABSTRACT

Technological intervention and mechanism have significant role to play in reducing the gender gap in labour burden for women in agriculture. A targeted approach can be useful in developing a women-responsive climatic risk management plan focused on reducing their labour burden in agriculture, especially in areas with high climate risks. A top–down approach to identify potential labor-saving Climate-smart agriculture technologies for women farmers in areas facing high climate risks in the district Sultanpur. Role of women in agricultural activities for reducing the levels of labour drudgery. The study is illustrated for district Sultanpur where feminization of agriculture is rapidly increasing, a high level of climatic risks persists, and adaptive capacity to climate change is very low, especially among women in agriculture. Results are presented for two blocks of the district- Kurebhar and Akhandnagar. In Sultanpur65% agricultural production depends on women's labour and agricultural technology able to reduce 35-40% drudgery in agricultural sector. Household socioeconomic characteristics were found to play a major role in women labour contribution in different crop production activities. Discussions with farmers provided a list of more than 10 Climate Smart Agriculture interventions with labour reduction as well as yield-improving potential. Accordingly, considering the local crop, agro-climate, and social conditions, and women's participation in different agricultural activities. Agriculture technologies and practices such as direct seeded rice (zero tillage and low tillage using machine), Direct seeded rice (DSR), laser land levelling (LLL), and system of rice intensification (SRI) were found to potentially reduce women's drudgery in agriculture along with improvement in productivity and farm income.

Keywords: Drudgery, Technical Intervention, Mechanization in Agriculture, Women Labour

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The Smart Technology Transfer Approach: An Analytical Study of Usage of PAU Kisan Mobile Application

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ABSTRACT

The relevance of ICT's for agricultural development and for agricultural extension is extremely high for a country like India. PAU Kisan mobile application is a major ICT initiative by PAU, it is an omnibus mobile application developed to help farmers by providing relevant information to them quickly. With a click of button they can get information on weather, marketing of produce, plant protection, field crops, horticultural crops and other things. This study is done to explore and to know the usage of this mobile application by farmers. The study was

conducted on 100 respondents. This study revealed that 40% of the respondents were of young age. Nearly 46 % of the respondents were matric pass. Around 42 % of the respondents were having medium size of operational land holdings. Approximately 68% of the respondents were having medium mass media exposure. Out of all the respondents 85% were aware regarding the PAU *kisan* Application. It was revealed from the study that 70 % of the respondents were having PAU *kisan* application in their mobiles and all of them were using the application. Most of them use this mobile application for getting knowledge about weather conditions, for watching PAU videos, for knowledge about diseases of crops. Few people also use this for agricultural marketing and for knowledge about eradication of weeds. The study revealed that 40 % of the respondents found it medium useful. More than half of the respondents found the contact numbers of the scientists given in PAU *kisan* mobile application helpful to them. Nearly half of the respondents gave 9 and 10 stars to the application out of the total 10 stars.

Keywords: PAU Kisan Mobile Application, ICT Initiatives

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Remote Sensing and GIS Application for Mapping of Groundwater Potential Zones

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ABSTRACT

Water is an essential natural resource which supports human needs, economic development and ecological diversity. The tremendous increase in population and modern industrial and agricultural activities in the last couple of decades has increased the demand for freshwater to meet the growing needs. Due to these activities changes in groundwater by the change in land use/land cover, soil cover, and reduction in groundwater recharge. Groundwater is a dynamic and replenishing natural resource and it is a major source of irrigation, drinking and other purposes of water requirements in several areas of India. Hence, the accurate assessment of this resource is extremely significant for sustainable management and planning of groundwater systems. The integration of remote sensing with GIS is one of the advanced technologies that can provide quick and useful baseline information about the factors controlling the occurrence and movement of groundwater with their advantages of spectral, spatial and temporal nature of data that can be available for even inaccessible areas within a short span of time.

Keywords: Groundwater, Hydro Geological, Remote Sensing and GIS.

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Impact of the Commercial Rationale on the Performance of Broiler Chicks

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ABSTRACT

The work was conducted determinate of some commercial rationale on the performance of certain parameters Vencov, Hubbard and Croiler breeds. The average feed intake, body weight, weight gain, feed conversion efficiency, weight gain at slaughter and dressing weight was determinate. 1.08± 0.02, 1.15± 0.04 and 1.08± 0.04 for body

weight, 1.05± 0.02, 1.10 ± 0.04, 1.04 ± 0.04 for weight gain, 1.96 ± 0.03, 1.78 ± 0.05, 1.90 ± 0.02 for FCE, 1.09 ± 0.02, 1.15 ± 0.04, 1.11 ± 0.02 for weight gain at slaughters and 0.76 ± 0.02, 0.79 ± 0.04 and 0.77 ± 0.04 for dressing weight, respectively for the breeds of Vencov, Hubbard and Croilers accordingly. The cumulative effect of different, feeds and breeds does not seen any statistically significance.

Keywords: Vencov, Feed Intake, Dressing Percentage

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Feeding Pattern of Cow in Mardah Block of Ghazipur District

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ABSTRACT

India had approximately 512.07 million No. of Livestock and about 135 million cows found in India. In current Scenario total milk production of India 132.75 million ton and 278gm milk consumption per/day per/person. About 17.85 percent milk contribute of U.P. in total milk production of India. Feeding pattern is a most important role for cow obtaining of the maximum milk production, about 70% expenditure through feeding of total milk production and other by product of cow and livestock. Mardah Block of Ghazipur district had total Number of cows 16835. But feeding policy are not good, some farmer are large, marginal and small, holding capacity of land 4 to 0.5 hectare, not proper pasture land available. Only depend on stall feeding such as conventional feed and unconventional feed. Feed providing by farmer to cause such as Roughages and Concentrate, Both feed are given cows on the basis of milk production and the basis of body weight of animals, feed receive of farmer from scrapping of land, growing of grass or green fodder and purchasing to market. The farmer obtain feeds direct or women and children. Timing of feeding morning, noon and evening are also best, but grazing should be compulsory 2-3 hours in a days. High milk producing cows 3 litres milk production on provide one kg concentrate and 8-10 kg roughages with the 6- 8 kg green fodder on the 100 kg body weight for better pattern of feeding for cows.

Keywords: Feeding Pattern, Cows, Concentrate, Roughage

ISEE Seminar/2019/ABS/336

Advancement for the Better Preparation of Mozzarella Cheese

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ABSTRACT

Mozzarella belongs to the “pasta filta” variety of cheese, which involves knowledge full stretching, pulling and kneading the curd under hot water to arrive at smooth texture and grain in cheese. An ideal mozzarella has a smooth, moist surface with a perfect sheen an elastic, stringy body free from mechanical opening, being an un ripened variety, It may be consumed shortly after manufacture. Its melting and stretching characteristics are highly appreciated in the manufacture of pizza, where it is key ingredient. The best Italian mozzarella comes from capua, cardito, averso, and the selevalley. Many Indian companies are also now producing excellent mozzarella. In the

most traditional manner the curd is set, cut, drained and then iced until the pH of the curd is 5.20-5.30. The option usually takes three days, in the modern cheese plants, the curd is held at 30-32^{0}c for 1-3 hrs until the pH reaches 5.20-5.30, when the pH is at the optimum level. Mozzarella cheese packed in polyethylene bags without vacuum. Polyethylene bags with vacuum and cryopac have been stored successfully at refrigerating temp for 18 days. 21 to 42 days and average 42 days, respectively.

Keywords: Mozzarella, Pastafilta, Processing

ISEE Seminar/2019/ABS/337

Enabling Rural Women Organizations to Benefit More Equally From agri-Food Value Chains

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ABSTRACT

Global agricultural markets reflect the increasing complexity of modern consumer demand for food safety and quality. This demand has triggered changes throughout the food industry, and led to greater opportunities for product differentiation and the potential to add value to raw commodities. Greater differentiation and value adding over time has in turn dramatically changed the price spread or marketing bill between the farm value of products and the retail value. Thus a significantly greater percentage of the final price paid by consumers is now garnered down chain rather than up chain over the last 20 years. This apparent shifting of value creation or addition, as measured by the marketing margin, has invigorated empirical questions as to where, and how much value, is created along the agri-food value chain. First we define value creation/adding, and then we estimate the economic value added for 454 firms. We validate our findings by creating and employing three additional value creation measures – the modified economic value added, the creation or destruction of value, and the persistence of value creation. Finally we estimate value creation at each node of the value chain, measure the relative differences among firms and nodes, and estimate a model measuring the drivers of value adding. The entire paper will give a gross outlook of marketing channels en- route through which agricultural products move from producers to consumers.

Keywords: Value-Chain, Women SH, Groundnut, Marketing Channels, Producer-Consumer

ISEE Seminar/2019/ABS/338

Monitoring of Cotton Whitefly, *Bemisia tabaci* (Genn.) With Yellow Sticky Traps: A Reliable Tool for Sustainable Approaches

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ABSTRACT

To monitor the cotton whitefly, *Bemisia tabaci* (Genn.) on *Bt* cotton, hybrid BIO 6588 BGII was sown during *Kharif*, 2017 in an area of 400 square metres except any insecticidal spray on the Cotton Research Farm, CCSHAU, Hisar. Twenty double-sided yellow sticky traps (15x25 cm^2) installed in the plot at the beginning of crop season

to monitor the adult whiteflies. Ten traps placed horizontally in the middle of the canopy and ten traps placed vertically 1m above the plant canopy. These traps replaced at weekly intervals and counts made for trapped whitefly adults. In direct count method, weekly observations on whitefly (adult and nymph) was taken from upper, middle and lower leaves of plant canopy on each of the 20 randomly selected plants. Mean whitefly population observed directly and through yellow sticky traps were correlated with the weather parameters like maximum and minimum temperature, morning and evening relative humidity, sunshine hours and rainfall obtained from the Dept. of Agro-Meteorology, CCSHAU, Hisar. Results revealed that in direct count method, peak population of whitefly adults 15.9 per leaf and nymphs 46.76 per leaf observed during 39th and 38th Standard weeks, respectively. On other hand, the population of adult whitiflies was so high during 38th standard week caught on horizontal and vertical traps i.e. 15,602 and 11,732 per trap, respectively. In direct method, whitefly adult population showed significant positive correlation with morning relative humidity and total rainfall. Whitefly nymph's population was also showed significant positive correlation with evening relative humidity. There was no significant correlation between weather parameters and whitefly adult catches on yellow sticky trap.

Keywords: Monitoring, White Fly, Sustainable Approach

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Scope of Farmer's Rights Research in India

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ABSTRACT

Right is a legal or moral entitlement given to someone towards something. Indian constitution provides multiple rights to each and every citizen of our country under the articles 12 to 35 (Fundamental Rights). Apart from fundamental rights there are other rights which are very specific that deals with the people related to farming. For example, Protection of Plant Variety &Farmers Rights Act 2001 (PPV&FRA), contract farming act, labour related rights, land related rights, input related rights, intellectual property rights, etc. And the above mentioned rights are not necessarily to be always governed under constitution as an act but at least shall be notified under rule or regulation or order, because right is right. PPV & FRA and Contract farming act are the acts which directly deal with farmers and farmer's rights and rest all are more common for bothfarmers and common people. Up till now farmer's rights is generally perceived as a subject related to plant breeding and genetics and further to notice that there is very few social science research in this area of legal aspects of farming and farmer's rights. So, the purpose of this article is to encourage social scientists especially extension professionals to take up this new arena of research to investigate how rights are working with farmers and other stakeholders of agriculture and allied activities. To study how the research on legal aspects related to agriculture and allied activitiescould help our policy and law makers to create valid and reliable policies and laws. And to study the scope of farmer's rights with special reference to Right to access to water, Right to access to input, Right to access to technology, Right to access to extension services, Right to market access, Right to food security and livelihood of farmers etc. the list may can be further expanded with precise research on farmer's rights with reference to specific geographic and agro-climatic regions. By doing such researches, it is possible to design more precise and focused policies and laws which benefit the farming community at the maximum.

Keywords: Rights, PPV&FRA, Policy, Law, Farmer's Rights.

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Factors Affecting the Extent of Knowledge about Post-Harvest Management Practices; in Mango fruits

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ABSTRACT

At present, India is the second largest producer of fruits in the world. Diversified agro climate across the country provides a unique advantage for fruit production through extended period of availability and differential quality. Mango is the king of fruits. In India, Lucknow is playing a vital role in import and export of mango. Post harvest management practices are inter disciplinary "Science and Technology" applied to mango after harvest for its protection, conservation, processing, packaging, distribution, marketing and utilization to meet the nutritional requirements of the people in relation to their needs. The majority of respondents 68 percent were found having medium level of knowledge, 8.50 percent respondents who were low and 23.50 percent high level of knowledge respectively, the majority of mango growers have 92.25 percent knowledge along with grading practice. This conclusion reveal that out of 14 variables, only one variable was moderately significant and rest of all variable were found greatly significant nature influenced the extent of knowledge. The study shows that majority of mango growers were dominated in average category of knowledge.

Keywords: Mango Post-Harvest Practices, Mango Growers, Knowledge

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Agri-Innovation for Enhancing Production & Rural Employment

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ABSTRACT

In the present paper, the importance, issues and challenges of developing entrepreneurship in the area of agriculture for involvement of rural youth has been highlighted. Agripreneurship is solution to many economic problems like urbanization, poverty, unemployment and economic development. It helps in rural development inclusive of men and women, especially the youth. But development of entrepreneurship in the areas of agriculture requires special skills like human development, knowledge of agriculture, knowledge of global agriculture market.

Keywords: Agripreneurship, Rural youth, Employment.

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Growth of Rice Production: A Zone Wise Analysis in Eastern Uttar Pradesh

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ABSTRACT

The paper attempts to study the growth and instability of rice production in Eastern Uttar Pradesh. The time series data on area, production and productivity of rice pertaining to the period 1980-81 to 2014-15 were used for the study. The study relates to 1980-81 to 2014-15 which is further divided into four sub- periods. The production under rice has registered positive growth rate in all three zones viz. North Eastern Plain Zone, Eastern Plain Zone and Vindhyan Zone. The area, production and productivity of rice are found to be highest in North Eastern Plain Zone. After instability analysis it was observed that there is high instability in area, production and productivity in Vindhyan Zone.

Keywords: Growth functions, Growth rate, Instability index, Trend analysis.

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Impact of New Varieties of Horticulture Crops (Fruits and Vegetables) In Term of Productivity and Diversification in Tribal Area under NAIP

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ABSTRACT

The ambitious agricultural research Programme in the country was launched in India on 26thJuly, 2006. It is known as National Agricultural Innovation Project (NAIP), the project focuses on innovations in agricultural technology. It can support poverty alleviation and income generation along with livelihood and nutritional security of tribal families. This is possible through collaborative development and application of agricultural innovations by the public organizations in partnership with farmers' groups, the private sector and other stakeholders. Four districts of Rajasthan, namely, Udaipur, Banswara, Dungarpur and Sirohi figure prominently as the disadvantaged districts, which are identified by the planning commission, based on income, tribal population, their resources, state of agriculture, etc. Keeping in view the challenges of food and nutritional security, National Agricultural Innovation consortia project was initiated by the ICAR in MPUAT, Udaipur (Rajasthan). In the present project proposal, two models (I) Horticulture based Integrated Farming system (HBIFS) and (II) Livestock based Integrated Farming system (LBIFS), with judicious mix of proven need assessed technologies, appropriate for small and marginal farmers encompassing end to end approach were planned and implemented for development of appropriate replicable model. To the best of knowledge to the researcher so far, no evaluation study has been conducted by only researcher to find out the impact of Horticulture based IFS.

Keywords: NAIP, IFS, Tribal Farmers

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Critical Analysis of Problems and Prospects of Pea Cultivation in Kota Region of Rajasthan

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ABSTRACT

Pea is the major vegetable crop of rabi season in Rajasthan. It occupies on area of 3729 hectares with the production of 5807 tonnes in Rajasthan (vital statistics, 2009-10). It is mainly cultivated in Jaipur, Nagaur, Kota, Bundi, Alwar and Chittorgarh districts in the state. The Kota region of Rajasthan is leading in area and production of pea. It occupies on an area of 1176 hectares with the production of 1493 tonnes in Kota region. The soil and climatic condition of this region is most suitable for pea cultivation, while the productivity is far below as compared to recommended by the scientists. The constraints in pea production might be the reasons for low productivity of the pea in Kota region of Rajasthan. Keeping the above facts in view, the present research study entitled "Critical analysis of problems and prospects of pea cultivation in Kota region of Rajasthan". The findings revealed that 45.50 per cent respondents had low information processing behaviour and 31.50 per cent farmers having medium level of information processing behaviour. Whereas, only 23.00 per cent respondents were observed in high information processing behaviour group. There was significant difference in information processing behaviour between marginal and small farmers about pea cultivation technology.

Keywords- Pea Cultivation, Production, Information

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Effect of Paclobutrazol on Flowering and Fruit Yield of Mango cv. *Dashahari* under Saharanpur Condition

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ABSTRACT

Mango(*Mangifera Indica L*) are important sub tropical fruit crop of India and grown almost every state. Production and productivity of Mango can be increased by efficient and judicious use of inputs, ecofriendly pesticides, expending area in problematic soils through selecting cultivars/ rootstock, canopy management, high density planting etc. exhibits wide variations in growth habit, flowering and fruiting. Orchard efficiency and productivity of mango is affected by problems of biennial bearing, high fruit-drop during initial stages of fruit development and unfavorable environmental conditions resulting in low fruit sets. Plant growth retardants especially paclobutrazol, has been found beneficial in combating some of the production-related problems. Studies have shown paclobutrazol application to be promising for improving flowering and fruiting in several mango varieties in India. Beneficial effects of paclobutrazol in mango have been attributed to manipulation in phytohormones, water relations and C: N ratio. In this study, an assessment was made on the effect of dose and time of application of paclobutrazol on

flowering and fruiting of mango cv. Dashahari. The experiment was conducted at farmers' field in Saharanpur district of Uttar Pradesh on 20 year old, uniform trees of the alternate bearing cv. Dashahari, planted at 10 x 10m spacing during 2015-16 and 2016-17. Soil at the experimental site was sandy loam, and the average, canopy diameter of trees was 6.1m. Paclobutrazol (Cultar, 23% w/w paclobutrazol) was applied once, as soil drench, at a concentration of 3.2ml and 1.6 ml per m^2 of average canopy diameter by spreading the solution in a circular band of 25cm width around the tree, three feet from the trunk, during the 3rd week of September 2015 and 2016 compared with farmer practice (Control). Control and both doses of paclobutrazol treatment consisted of five trees each. In off season soil application paclobutrazol(3.2ml per m. canopy)had recorded 65.45% yield followed by 55.36% in soil application of paclobutrazol (1.6ml per m. canopy) with compared farmer practices of control tree during 2016. In off season soil application paclobutrazol (3.2ml per m. canopy)had recorded 67.55% yield followed by 61.06% in soil application of paclobutrazol(1.6ml per m. canopy) with compared farmer practices of control tree during 2017.The total flowering percentage in mango tree at all paclobutrazol application was higher than that the farmer practices but applied paclobutrazol had no effect on fruit sets.

Keywords: Paclobutrazol, Effects, Yields, Mango, Sub-tropical

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Effect of Mulching on Plant Growth and Yield of Pineapple [*Ananascomosus* (L.) Merr.]

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ABSTRACT

The Impact of mulching on plant growth and yield of pineapple was investigated during spring season 2015-16 and 2017-18 on farmer's field with ten replications and four treatments namely T-1, farmer practice/control, T-2 dry grasses, T-3 straw and T-4 plastic mulch with RBCD by Krishi Vigyan Kendra, Kishanganj. The performance of the pineapple crops was found to vary in relation to mulching throughout its life cycle *viz* water requirement, weed infestation and productivity of pineapple. Farmers face problems in weed management by hand weeding due to vigorous canopy and long duration of the crop. The result showed that the significant higher fruit yield 482.5 q/ha with 50 per cent of flowering (16 days before from control) and early harvesting of fruit (28 days before from control) with maximum average fruit weight 1.84 kg/plant under plastic mulching was found in comparison to control (392.8 q/ha), dry grasses 428.3 q/ha and straw 446.6 q/ha due to favorable yield components and less weed incidence in mulched plot. The treatment with plastic mulch recorded higher B:C ratio (2.34) than the other treatments. The use of mulches typically results in higher yields and quality of pineapple fruit enhancing profitability to the growers.

Keywords: Pineapple, Mulching, Weed, Plant Growth, Yield

ISEE Seminar/2019/ABS/347

Socio economic Profile of Green Gram (summer season) Growers in Fatehpur District (U.P.)

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ABSTRACT

This study was conducted in Malwanblock of Fatehpur district (U.P.) by conducting personal interview with 100 respondents which were selected through random sampling technique from 5 sample villages on the basis of majority of green gram (summer season) growers. There were the majority of the respondents 67% were found in middle categories (38-52) of age group, like this 96 % literate, 38% general caste, 56% joint family, 49% medium family size (7-10 members), 43% medium farmers land holding size (2-4 ha.), 75% agriculture occupation, 70% annual income (83001-220000),64% mixed house of housing pattern, 57% social participation (participation one organization), 83% medium scores (32-47) of overall material possession,39% medium level of scientific orientation,31% low levels of economic motivation and 30% medium levels of risk orientation respectively.

Keywords: Socio-Economic Profile, Technological Gap, Awareness

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Digital Strategies for Empowering Rural Communities

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ABSTRACT

It is well-known fact that Digital India is the outcome of many innovations and technological advancements. The 'Digital India' programme, an initiative of honourable Prime Minister Mr. Narendra Modi, will emerge new progressions in every sector and generates innovative endeavours for Next generation. The motive behind the concept is to build participate, transparent and responsive system. Appropriate efforts are being made for the development of agriculture and rural India through various schemes and positive results are also coming out but the significance of all the schemes is their successful implementation and for this it is not only necessary but inevitable to take Digital India to Rural India. In year 2018-19, the Digital India program has been allocated Rs 3073 crore by the Government of India, which is double as compared to the previous year. Hence, the objective of the paper presented is to consider the points that remain barriers in the journey from Digital India to Digital Agriculture or Digital Village so that the government can take corrective measures in this direction and India can establish itself as a digitally empowered society and effectively implements all the schemes of agriculture or rural development.

Keywords: Digital Strategies, Empowerment, Rural Communities

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Screening and Identification of Chilli leaf Curl Virus Resistance Genotypes in Chilli

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ABSTRACT

The performance of nine genotypes of chilli namely; KDSC-410, Phule Jyoti, Punjab Lal, AKC-89/38, Pant C-1, JapaniLongi, CV-2, Kalayanpur Chanchal (Check-1) and Pusa Jwala (Check-2) was assessed for yield attributes and CLCV tolerance at Research farm of Nalanda College of Horticulture, Noorsarai, Nalanda (Bihar Agricultural University, Sabour, Bhagalpur) Bihar during 2015-2016. Among the nine genotpyes, JapaniLongi exhibited significant superiority with the highest production of No. of fruit per plant (206.500), fruit yield/plant (367.990 g.) with lowest days to 50 % flowering (52.530 days) and low CLCV incidence (9.130%), over the genotypes under investigation. On the other hand, out of nine screened genotypes, variety Pujab Lal showed lowest incidence of chilli leaf curl virus (5.770%) and also registered higher no. of fruits per plant (195.700) and fruit yield /plant (322.840 g). Pant chilli also showed low incidence of CLCV (6.330 %) and highest values for fruit diameter (11.390 mm), fruit length (8.800 cm). On the basis of overall performance of the genotypes, JapaniLongi is the superior genotype for most of the traits studied among the nine chilli genotypes followed by Pujab Lal and Pant C-1.

Keywords- Genotypes, Chilli, Leafcurl.

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Yield Performance of Wheat Genotype under Conservation Agriculture Technology in Gurgaon district of Haryana

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ABSTRACT

Conservation agriculture technologies involve minimum soil disturbance, permanent soil cover through crop residues and crop rotations for achieving higher productivity. 120Mha area covered under Conservation agriculture globally and area under this system is increasing. Efforts to develope, refine and disseminate Conservation agriculture-based technologies have been under way for nearly two decades in India and made significant progress. However, the major efforts have been on no tillage in wheat under rice-wheat rotation of Indo-Gangetic plains. Conservation agriculture-based management practices have demonstrated potential role in arresting land degradation, soil health, improve diversity, improving resource use efficiency, farm profitability and adaptation & mitigation to climate change effect with different production system and farmer agro-ecology. A suitable crop diversification with non rice-wheat cropping system is being investigated. Maize, cotton, pigeon pea and pearl millet are suitable alternative crops to rice during Kharif season in North Western India due to their relatively low water requirement. Conservation agriculture-based practices for these non-rice crops under wheat-based cropping system are scanty and need to be investigated. Accordingly, this study was designed with objective i) To demonstrate and refinement of Conservation agriculture technology in wheat-based cropping system (Pearl

millet-wheat system) ii) To evaluate suitable genotype of wheat under zero tillage system. The results show that grain yield was 18% higher in wheat var. HD 2967 as compared to PBW 550 genotype and total biomass was 37 & 27% higher in wheat var. CSW-1 & CSW-18 respectively, as compared to one of other six genotype of wheat under raised bed zero till conditions.

Keywords: Conservation Agriculture, Yield Performance,Wheat Genotype

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Inclusion of Pulses for Higher Productivity and Improved Soil Quality in Jhum Cropping System in Tamenglong Manipur of North Eastern Himalayan Region

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ABSTRACT

The shifting cultivation is an indigenous land use system widely distributed and practiced in Manipur, where most of the farmers growing rice, which is not productive and economical. The NEH Region of India comprises about 1.47 million hectares land under shifting cultivation wherein about 0.44 million tribal families are dependent for their livelihood support. Pulses production in hill agriculture plays a significant role in nutritional security and used for various purposes and as well as for second cycle produce in livestock farming. Pulses are mostly grown under hilly regions of north-eastern states including Manipur. Pigeon pea, rice bean black gram, lentil, pea, etc. are important legume crops (pulses) of Manipur. In Manipur pulses are grown in an area of 30.92 thousand ha with the production of around 29.44 thousand tones and the productivity is around 2.03 t/ha. Rice grown in Jhum land gives very low yield (0.5 to 0.9 t/ha). In Manipur, farmers have been growing upland paddy in Jhum areas, with net returns from Rs. 12000 to 19000/ha due to lower yield in Jhum areas. Tamenglong District of Manipur being composed of hills ranges and narrow valleys possesses presently about 2.90 thousand hectares area under pulse crops with a production value of 2.66 thousand MT (Economic Survey, 2015) and it is gradually increasing. Hence, there is a great scope for promotion of pulse with value addition. Keeping above facts in view ICAR-KVK Tameng, long started introduction and promotion of pulses in Jhum land through crop diversification. Front line demonstrations at farmers' field were conducted using HYVs of Black gram (PU-32), Pigeon pea (UPAS-120), Rajma (Chitra), field Pea (Rachna), Green gram (Pusa vishal) Rice bean (Local), and Lentil (HUL-57). Altogether 115 beneficiaries from three blocks (40 from each block viz. Nungba, Noney and Haochong sub division) were covered from 10 villages of Tamenglong district. The farmers produced 1.2 to 1.76 tonnes of pigeon pea/ha, 1.3 to 1.7 tonnes rice bean/ha, 1.4 to 1.9 tonnes Rajma/ha, 1.4 to 1.8 tonnes pea/ha and 0.85 tonne lentil/ha being net returns highest from pigeon pea. The beneficiaries especially from Jhum cultivated areas received net returns of Rs 56000 to 105000/ha, where, rice mixed cropping is dominant and less remunerative. From economic return point of view inclusion of pulse crops have proved to be a sustainable alternative crop for replacing rice from Jhum areas.The amount of green matter added to soil thorough different pulse crops varied from was 17-25 t ha^{-1} being lowest in lentil and highest in green gram respectively. Dry matter addition capacity of these pulse crops was found to be 3.94, 5.87 and 5.71 t ha^{-1} respectively. The N, P and K gain to soil through these pulses also varied from 60-80 kg ha^{-1}. The C: N ratio of these crops was also found to be ideal for rapid decomposition in soil. ISEE

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Constraints in Farmers Participating Seed Hub Production under Seed Hub Project

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ABSTRACT

Participatory seed production programme was conducted under Seed-Hub project of Govt of India M/O Agri. & Farmers Welfare on different location of district Mirzapur (U.P). Since the district Mirzapur comes under Rainfed / dryland, the pulses cultivation is suitable and economic. Therefore, under seed hub project pulses were undertaken on farmer's fields. The study was comprising the information collected through an interview scheduled by personal contact. The scheduled contained 15 items constraints index under four categories viz. Situational, inputs availability economic and technological. The constraints index was prepared with consultation with expert and innovative farmers. The respondents were asked to rate each item in the index with respect to their relative importance on three points continuous having major, Minor, and least with score i.e. 3,2 and 1 respectively. After that itemizeand categories score was calculated analyzed and interpreted. The finding revealed that the main constraints were of economical nature. The inputs availability constraints were second in order. Seed was available in seed hub, but the fertilizers and other inputs available timely. The third important category of constraints composed of situational in nature. The least score was in case of technological constraints because the KVK Scientists were regularly monitoring the fields from time to time. It can be concluded that the major constraints in participatory seed production in the district are of economical nature and timely input availability followed by easy seed certification process. These in turn handicap the framers to exploit the potential of advocated technologies in the fields to increase yields. Thus, introduction of low-cost technologies, ensuring timely supply of inputs and easy seed certification process would certainly help in increasing yields of pulses seeds at the farmer's fields to a great extent.

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Assessment of Kisan Mobile Advisory (KMA) Service for Dissemination of Agriculture Information and Technology UP-Scaling

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ABSTRACT

Indian agriculture is essentially small farm agriculture with the majority of farmers owning less than 1 hectare land. Introduction of information and communication (ICT) in the field of Agriculture has brought many changes in traditional methods of extension. It enables the dissemination of requisite information at the right time to the right people. Kisan mobile Advisory Service was started with the aim of passing the Agriculture information to maximum numbers of farmers in shortest, cheapest way and also timely advice without any distortion of the message. The experiments conducted by various institutions accumulated the rich experiences of information technology utilization in agriculture technology dissemination. This study was conducted during year 2017-18 in the Paris of Nimar i.e. Barwani district of M.P. The content of messages were typed in Hindi language and information related to weather forecasting, crop production, crop protection, vegetable and fruit production,

spice crops, dairy farming, post harvest management and other agricultural and allied related information sent to end users. To evaluate the sending information and usefulness of information, the present study was constitutes, survey of 160 farmers, 20 in-service personnel and 20 input suppliers of district. Result of survey shows that messages were highly understandable for large majority 62.50 % of the members of farmer's category. It was highly understandable for 90% and 70% KMA members of in-service personnel and input supplier category respectively. Messages were needful and timely for 87% of KMA member of farmer's category and about 82% and 68% for in- service personnel and input supplier, respectively. As far as applicability of message is concerned, the messages were fully applicable for about 64% of KMA member of farmer's category whereas medium and partially applicable were reported by 26% and 10% of members, respectively. KMA provided important role in dissemination the information to farmers.

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Role of Big Data Analytics in Agriculture

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ABSTRACT

With the advancement of technologies like Sensor, Remote sensing, Geographic Information System (GIS), Global Positioning System (GPS) etc., the growth of data is increases rapidly which coined a new term in the field of data science known as Big Data. In agriculture Big data is mainly visualized as the combination of technology and analytics that can collect and combine novel data and process which help in decision making. Big data can help agriculture policy makers in diverse field like insurance, marketing, precision farming etc. which directly affect the socio-economic condition of farmers. But problems and challenges are also associated with Big data, as data is of very huge size, how and where to store it; how to process this complex structure data; these challenges must be resolved in near future to utilize all the capabilities present in Big data.

Keywords: Big Data Analytics, GIS, Remote Sensing, GPS

ISEE Seminar/2019/ABS/355

Effectiveness of Integrated Nutrient Management in Transplanted Rice *(Oryza Sativa)*for Sustainable Agriculture

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ABSTRACT

Chemical fertilizers became popular throughout the World. They were associated with instantaneous increased in the crop yield, thereby increasing the profit to the farmers. But in recent years notable environmental damage is observed because of their continuous field application and overuse. Water and soil pollution, loss of micro-

organisms and beneficial insects and overall reduction in soil fertility are some of the ill effects of chemical fertilizers. DurgDistrict of the Chhattisgarh is a major rice growing District situated in agro climatic zone of Chhattisgarh plains. Average rainfall of the Durg district is 1200-1300 mm. The experiment was conducted at Village-Batang, Durg district of the Chhattisgarh. It was concluded that application of Integrated Nutrient Management in Transplanted rice produce 26 tillers per plant and 44.5q/ha yield as compared to farmer's field, which produced 24 tillers/plant ,produced 43.5q/ha positively it was almost similar. Hence it could be recommended that Integrated Nutrient Management being essential component and play vital role in maintaining long term soil fertility and sustainability and also reducing overuse of chemical fertilizers.

Keywords: INM, FYM, Bio-fertilizer, Sustainability

ISEE Seminar/2019/ABS/356

Chick Pea Cultivation in Bundelkhand Region of Uttar Pradesh: An Economic Analysis

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ABSTRACT

This study shows the economics analysis of Chickpea cultivation in Bundelkhand region of Uttar Pradesh. The study was conducted in the seven districts of Bundekhand region of Uttar Pradesh i.e. Jhansi, Hamirpur, Mahoba, Banda, Chitrakoot, Jalaun and Lalitpur in 2018-19. A sample of 243 farmers has been drawn. Chick pea is one of the major rabi crop of this region and the study identified that, the input like, seeds, fertilizers, farm machinery, plant protection chemicals are underutilized. Cost incurred on per hectare cultivation of Chickpea was found to be Rs. 42907 with average yield of 18 Quintals per hectare. Cost incurred on human labour was Rs.9308 and of machine labour it was Rs. 4841.8. Cost incurred on total working capital was calculated Rs. 26626. Crop Insurance premium was calculated Rs. 474.6 per hectare. Gross income was calculated Rs. 86922 with the Net income Rs. 44014.8. Cost of production was found Rs. 2371.6 per quintal. Resource productivity analysis revealed that the farmers are getting increasing returns to scale and inputs like man-days, seeds, Fertilizers are contributing significantly in increasing the gross returns.

Keywords: Economic Analysis, Chick Pea, Cost of Cultivation, Bundelkhand region

ISEE Seminar/2019/ABS/357

Superabsorbent Polymer: A Sustainable Approach for Security of Water in Bundelkhand Region of Uttar Pradesh

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ABSTRACT

Scarcity of water during the crop growth period has become the major challenges for marginal and small farmers

for cultivation of crop in the Bundelkhand region and country as well. Irrigation water is becoming increasingly limited in Bundelkhand and hence it is important to improve the water use efficiency of plant. With improved water use efficiency (WUE), limited amount of available water can be used effectively. Water is the most abundant constituent of all organisms including take place in the water milieu. The presence of water in the soil is essential for vegetation which ensures the feeding of plants with nutritive elements, and makes it possible for the plants to obtain a better growth rate. Hence, intervention for adoption of improved scientific methods for improving the productivity by decreasing the impact of water stress during active growth period with the application of chemicals i.e. superabsorbent polymer will help to increase the productivity of the crop. It seems to be interesting to exploit the existing water potential by use of soil conditioners like superabsorbent polymer has a great potential to exploit the existing water in soil for agriculture and other crops. The results of such studies have demonstrated that crop production could be improved by adding polymer into the soil. Application of the polymer helps to bind the soil moisture and release slowly by which plants become enable to utilize the same over longer time than normal.

Keywords: Water use efficiency, Water stress, Superabsorbent polymer, Soil moisture.

ISEE Seminar/2019/ABS/358

Enhancing productivity and profibility of Indian mustard by hydrogel and thiourea under moisture stress condition

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ABSTRACT

The experiment was conducted during the *Rabi* seasons of 2013-2014 at the Research Farm, Andro of CAU, Imphal- Manipur. The said experiment was laid out in randomized block design consisted 13 treatments and 3 replications. The 100% recommended dose of NPK (60-40-30 kg/ha) was applied with hydrogel @ 2.5 kg/ha as basal followed by thiourea @ 0.05% as foliar spray at 50% flowering and 50% pod formation (as alone or in combination) to Indian mustard except control. However, Lucid improvement in growth parameters (plant height 125.72 cm, dry matter accumulation 17.26 g/plant and leaf area index 3.40, 5.38 at 45 and 75 DAS respectively). Phenological events (days to attain 50 % flowering and 80 % maturity) and productivity efficiency (45.5 Kg/ha/day) of mustard were recorded due to application of 2.5 kg/ha of hydrogel + 0.05% of thiourea at 50% flowering and 50% pod formation. However, the various treatments applied to mustard failed to influence the level of significance in terms of number of days taken to attain 50% flowering. The net return, economic efficiency and B:C ratio due to application of T_{12} and T_{13} though remained comparable but both were proved statistically more remunerative than rest of the treatments.

Key words: Moisture stress, Hydrogel, Thiourea, Productive efficiency, Economic efficiency and B:C ratio.

ISEE Seminar/2019/ABS/359

Study on Livelihood Options among Tribal in Rayagada District of Odisha

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ABSTRACT

The research study entitled “Livelihood Options of Tribal in Rayagada District of Odisha” was conducted among

randomly selected 120 tribal respondents of Rayagada, district of Odisha to know the priority given by tribal to their livelihood options basing on their practices and experiences. Ex-Post facto research design was applied to conduct the study. The study revealed that that agriculture as livelihood option was ranked first, followed by government/semi-government/private job as second, horticulture ranked third, animal husbandry ranked fourth, fishery ranked fifth, caste- based occupation of the respondents ranked sixth, NTFP's collection ranked seventh, agricultural labour ranked eighth and non-agricultural labour ranked ninth, respectively. The mean scores with regard to strength of agriculture, animal husbandry, forestry, fishery and wage labour were estimated as 18.09± 0.16, 19.70 ± 0.15, 19.25 ± 0.17, 17.97 ± 0.27 and 19.16 ± 0.16, respectively, with significant difference among them. The threat of forestry and animal husbandry were found to be similar but animal husbandry as a livelihood option has the lowest weakness in the present study. The degree of association between annual income and strength was estimated as 0.023. Corresponding values with weakness, opportunity and threat were found to be -0.025, -0.080 and -0.084. None of the above correlations were found to be significant. So it is revealed that very weak association existed between annual income and SWOT of livelihood options viz. agriculture, animal husbandry, forestry, fishery and wage labour. Further, very strong and significant degree of association among four components of SWOT was revealed in the present study ranging. The correlation coefficient between strength and weakness was estimated as 0.671, which was found to be significant. Corresponding values between strength vs opportunity and strength vs threat were 0.677 and 0.529, respectively which were also significant. Similarly, weakness showed strong and significant relationship with opportunity and threats having estimates of 0.644 and 0.450, respectively. Further, opportunity was found to have strong, positive and significant degree of association with correlation coefficient of 0.603 in the present study.

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Status of Electronic National Agricultural Market (e-NAM)

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ABSTRACT

The e-NAM was first launched in India in 2016 with an initial coverage of 21mandis across 8 states of country which has trading in 24 commodities on pilot basis. This will help farmers get better market access, more buyers/ traders has realize better prices for their produce.Thefarmers can access the information on e-NAM easily through electronically from anywhere and 585 regulated markets of 16 States and 2 Union Territories have been integrated under e-NAM platform and sold by more than 150 commodities. The aim of electronic National Agricultural Marketing is to protect the farmers from middleman and commission agents for their huge commission. Presently 1.11crore farmers have been registered on e-NAM portal to sell their produce online across the country to get the higher returns of their produce. The state of Uttar Pradesh has first ranked in country which has connected more than 100 mandies under electronic National Agriculture Marketing (e-NAM) and 27.31 lakh farmers are registered on this portal. It has possible due to better electronic auction, infrastructure and awareness facilities which are provided by government. The Madhya Pradesh has placed second rank to connect the mandies followed by West Bengal has occupied the very least connected mandies on e-NAM portal. Currently this portal has recorded total trade of transaction of commodities about 25876016 million tonnes with total value of 71069 crore.

Keywords: e-NAM, Market, Commodities, Mandies

ISEE Seminar/2019/ABS/361

Economical Evaluation of Sowing Methods of Pigeonpea Variety TJT-501 on Farmers Field in Sidhi District of Madhya Pradesh

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ABSTRACT

Pigeon pea is one of the major *kharif* crop grown in district. The experiment were conducted on farmers field during the year 2015-16 and 2016-17 introducing new and high yielding variety "TJT-501" and applying scientific practices in their cultivation. The FLDs were carried out in different villages of Sidhi district. The showing practice Broadcasting (Farmers Practice), SPI and Line Sowing were evaluated. The productivity and economic returns of pigeon pea in improved technologies were calculated and compared with the corresponding farmer's practices (local check). Improved practices recorded higher yield as compared to farmer's practices. The improved technology recorded higher yield of 16.8 and 17.3 q/ha in the year 2015-16 and 2016-17, respectively than 10.5 and 12.20 q/ha. In spite of increase in yield of pigeon pea, yield attributing attributes, technology gap, extension gap and technology index existed. The improved technology gave higher gross return (67200 & 69200 Rs./ha), net return (45080 & 47380 Rs./ha) with higher benefit cost ratio (3.03 & 3.17) as compared to farmer's practices. The variation in per cent increase in the yield was found due to the lack of knowledge, and poor socio economic condition. Under sustainable agricultural practices, with this study it is concluded that the cluster demonstration programmes were effective in changing attitude, skill and knowledge of improved package and practices of HYV of pigeon pea adoption.

Keywords: Pigonpea, Farmers, Technology.

ISEE Seminar/2019/ABS/362

Evaluation of Integrated Nutrient Management and Sulphur Application on Yield and Economics of Chickpea (*Cicer arietinum* L.) in Rewa district of Madhya Pradesh

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ABSTRACT

The field experiment was laid out at farmers field during the year 2015-16 and 2016-17 in different villages of Raipur Karchuliyan block of Rewa district with an object of evaluation of integrated nutrient management and sulphur application on yield and economics of chickpea (C*icer arietinum* l.) variety JG-11. The farmers were selected of different categories small, medium and large holding size and soil samples were collected from their fields for fertility analysis. The average soil fertility status were obtained Nitrogen (112 kgha^{-1}), Phosphorus (9.87 kgha^{-1}), Potassium (339.7 kgha^{-1}), pH (6.3-7.4), Electrical conductivity (0.24-0.39 dsm^{-1}), Organic carbon (0.39 %) and micronutrients were found sufficient except Zn and S. The three treatment were taken the experiment viz. T_1- Farmers practice (9:23:0 NPK kgha^{-1}), T_2-Improved practice (40:60:40:25NPKS kgha^{-1} on soil test basis) and T_3- (T_2 + Vermicompost @ 3 tha^{-1} + PSB@5 kgha^{-1} soil application). The maximum yield was obtained in T_3 (14.0 q/ha) and minimum in T_1 (8.88 q/ha). Maximum grass return and net return were also obtained higher in T_3 (29695 Rs./haand 17610 Rs./ha) over T_2 and farmers practice observed lowest gross return and net return. The B:C ratio was observed maximum (1:2.13) in T3 and minimum (1:1.18) in T1. Average effective root nodules were found maximum in T3 (114/plant) and minimum in T1 (69/plant). Plant biomass (Fresh and dry) gave more value in T_3

(237 g/plant and 103.6 g/plant) in compression to T_2 and T_1. The no of branches per plant at 60 days stage were obtained in T1, T2 and T3; 5.0,6.0 and 6.6 respectively. The superiority in T3 may be due to application of PSB and vermicompost.

ISEE Seminar/2019/ABS/363

Impact Assessment of Kisan Mobile Advisory System in Relation to Dissemination of Agriculture Technology to The Beneficiary Farmers in Bathinda District

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ABSTRACT

Abstract: Kisan Mobile Advisory System (KMAS) is one such initiative of Information & Communication Technology (ICT) which provides location-specific, crop specific and animal husbandry specific farm advisory Services and facilities to the farming community in a particular area. Kisan Mobile Advisory service has been considered as a communication service by which messages are being provided in the form of Short Message services (SMS) through the Krishi Vigyan Kendras (KVK).Out of the total 40,000/- beneficiaries, 500 farmers were selected randomly for the present study. The results in respect of overall impact of Kisan Mobile Advisory System (KMAS) obtained by farmers presented that out of the total beneficiaries, a higher proportion (59.40%) of the beneficiaries obtained complete knowledge followed by 32.0 % by incomplete knowledge and 7.60 % beneficiaries confronted partial knowledge respectively.

Keywords: Kisan Mobile Advisory System, Dissemination of agricultural technology, Krishi Vigyan Kendras

ISEE Seminar/2019/ABS/364

How Technology can Change the Game for Indian Farmers

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ABSTRACT

Agriculture has remained as a centerpiece of Indian economy. Though it is a main source of livelihood for a majority of Indian population, it still stands as a technologically backward sector. Despite its importance to the economy, little has been done to revive the sector. From production challenges to financing inefficiencies, Indian agriculture is plagued by several issues. Inadequate farm equipments, lack of access to fairly priced credit, distribution challenges due to intermediaries between farm to fork are some of the challenges facing the Indian farmer. Here's how: Currently farmers choose crops on the basis of the trends of the last season. Technology can assist them in making right growing choices by carefully analyzing demand, pricing and fluctuations in weather conditions. Technology enabled cold storage chains that are controlled using smart devices can prevent post harvest losses. Automated grading and sorting of crops using robotics and machine vision, can also reduce efforts and wastage in the supply chain. With growing usage of smartphones, farmers can tap into the wisdom of the crowds, other knowledgeable farmers and agronomists to take inputs during the growing period. Unlike the olden day farmers, the new age Indian farmer is not the stereotypical 'kisan'. They are tech savvy and are open to adopting

new technologies that can help them improve their income. For instance, a Facebook group for organic farmers in India with a member strength of 22,000 has become an engaging platform for farmers to seek help or advice from other farmers. Whatsapp groups are now used extensively by farmers to exchange knowledge and collaborate with peers. From ordering seeds online to seeking inputs on social media, there is rapid adoption of information technology by Indian farmers.

Keywords: Economics, E- Market Place, Scientific Advisory, Financing

ISEE Seminar/2019/ABS/365

Mushroom Cultivation – Ensuring and Food Security and Livelihood for Tribal Women in Singrauli District

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ABSTRACT

The mushroom cultivation is implemented on a small scale through local traders, tribal women SHGs. The agro-climatic condition as well as easy availability makes mushroom cultivation an economically viable preposition in these areas. The food habits of tribal families comprises consumption of local rice primarily, but they rarely eat pulses or any protein rich food. Lack of protein and less calories thus causes malnutrition and especially the children and women are the worst affected. In a bid to address such concerns, the community was encouraged to cultivate mushroom which is very rich in protein. Mushroom Cultivation is cost effective, it involves minimal input and do not require large space. per unit of Mushroom costs Rs.30, it is cultivated within 45 days and gets sold in the market for Rs.300.Mushroom can also be stored and after drying can be used in the lean season. This cultivation is helping the families' access protein in their food. Further, it also provides a scope to enhance their earnings, which will contribute to the improvement of their health and standard of living. Consuming fruits and vegetables of all kinds has long been associated with a reduced risk of many lifestyle-related health conditions. Increasing consumption of whole, unprocessed foods, like mushrooms, appears to decrease the risk of obesity and overall mortality, diabetes, and heart. disease. They also promote a healthy complexion and hair, increased energy, and overall lower weight. Mushrooms are high in antioxidants, just like carrots, tomatoes, green and red peppers, pumpkins, green beans, zucchini, and other whole foods. Antioxidants are chemicals that get rid of free radicals, a type of chemical that can harm a person's body cells, potentially leading to cancer. Selenium is a mineral that is not present in most fruits and vegetables but can be found in mushrooms. It plays a role in liver enzyme function, and helps detoxify some cancer-causing compounds in the body. Additionally, selenium prevents inflammation and also decreases tumor growth rates.

Keywords: Food Security, Health Benefits, Antioxidant, Selenium

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Strategies of Entrepreneurship Development in Agriculture

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ABSTRACT

India's economy is based on agriculture where around 50% of its population depends on Agriculture to make a livelihood. This scenario shows that Agriculture has to be seen as agribusiness, not only a way of livelihood of rural people. Unless technology is merged with agri entrepreneurship, the productivity would continue to remain less as in the traditional methods of farming and agribusiness. Entrepreneurship provides immediate large-scale employment. Thus, it helps to reduce the problem of unemployment, the root of all socioeconomic problems, in the country. The fact that majority of rural entrepreneurs are facing many problems due to non availability of primary amenities in rural areas of a developing country like India. So, proper strategies should be taken to improve the quality of life of agripreneurs. Strategies like the contribution of stakeholders in agri entrepreneurship development through public agencies, district rural development agencies, small and medium entrepreneurs development agencies, micro, small and medium enterprises development agencies, entrepreneurship development institutes, private vocational training institutes, NGO's etc conducting agri clinics and agri business centre training programmes. These training programmes increase farmer's level of innovativeness, risk orientation, self-confidence, leadership and decision making ability. DRDA, SMEDA, TCO's, MSME development agencies etc should work in collaboration to channelize these positive entrepreneurial behaviour components to encourage rural youth to establish more agro-based enterprises. The empirical studies by many authors on strategies of entrepreneurship development in agriculture will be dealt in the full paper.

Keywords: Entrepreneurship, agripreneurs, agriculture, strategies and rural.

ISEE Seminar/2019/ABS/367

Cultivation of Trapa (Aquatic Plant) in Fish Pond and Its Role in Natural Fish Food Organisms Production

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ABSTRACT

The aquatic plant having common name Singhara and also known as water chestnut, its botanical name is *Trapabispinosa*. The plants is very ancient origin having quality of wide spreading in water. The plants partly sloping and partly submerged. It accurse most part of Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh, Assam and small level in all over India, in pond, tank, lake and paddy fields. Its fruits eaten either raw or cooked, used in fasting day and also used for different dices like kheer, halwa etc.The plant has contained two types of roots, one near the base of stem which fixed the plant into the muddy zone. The second type roots are free floating fibrous and borne ion pairs below the leaf bases. The flower appears after pollination dense down and submerged in water column for fruits formation. The fruit are one seeded, triangular in shape with two well developed spines

from the seed court. Cultivable fish species with trapa farming in 4 to 5 feet water depth are Bhakur (*Catlacatla*), Rohu (*Labeorohita*), Mrigal (*Cirrhinusmrigala*) and in shallow water cultivable fish species are Mangur (*Clariasbatrachus*)**,** Singhi (*Heteropneustes fossilis*), Snack head fish (*Channa Sp.*) Kawai (*Anabas testudineus*).

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Role of Pradhan Mantri Fasal Bima Yojana in Doubling Farmers Income in India

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ABSTRACT

Agricultural crops depends on the monsoon (agriculture is the gambling of monsoon) P.M.F.B.Y.scheme was introduce in the union budget 2016-17. Soon on the 13 February 2016 Prime Minister Narendra Modi officially launched P.M.F.B.Y. On 18th February 2016 , Indian Prime minister released the operating guidelines of P.M.F.B.Y in Sherpur village, Shore (M.P).The Uttarakhand become the first state to adopt this scheme. The scheme is now compulsory for loanee farmer availing crop /KCC account for notified crop and voluntary for others. This scheme helps the farmers and to provides insurance coverage and financial support to them in the care of failure of any notified crop as a result of natural calamities, pest and disease. To stabilize the income of farmer to ensure their continuance in farming and to ensure flow of credit to the agriculture sector. Thus scheme will have uniform premium of only 2% to be paid by farmer for all kharif crops and 1.5% for all the Rabi crops .In case of annual commercial and horticultural crop the premium to be paid by farmer will be only 5%. The scheme will be implemented by multiple insurance companies but under over all control of Ministry of Agriculture and Farmer Welfare. The scheme shall be implemented on an area approach basis. Define area is village / village panchayat level, in due course of time the unit of insurance can be geo fenced /geo mapped region having homogenous risk profile the notified. A total 16 insurance companies participated in 2016-17 out of which 11 were private agencies and 7 where public agencies. Total farmer insure under the scheme in the year 2017-18 were 5.56 crore .The share of loanee farmer (L.F) was 75.35% and non loanee farmer (N.L.F.) 24.65%. The financial target of budgetary allocation for P.M.F.B.Y in financial year 2018-19 in Rs 13,000 crore. The scheme has farmer risk the coverage of started from sowing /planting risk ,standing crop or sowing to harvesting ,post harvested losses , localized calamities ,and general exclusions.

Keyword: P.M.F.B.Y., Scheme, Farmers, Insurance, KCC.

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Nutritional Menefits of Mango

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ABSTRACT

Historically, *Mangifera indica* L. cultivations have been widely planted in tropical areas of India, Africa, Asia, and Central America. However, at least 20 years ago its spreading allowed the development of some cultivars in Sicily, an island to the south of Italy, where the favourable subtropical climate and adapted soils represent the

perfect field to create new sources of production for the Sicilian agricultural supply chain. Mangoes are tropical stone fruits, plump and oval in shape and about the size of a grapefruit. They have an inedible skin that ranges in colour from yellow to green through to red-green, depending on the variety, whilst inside is a soft, edible yellow flesh and a hard inedible stone. Mangoes are tropical stone fruits, plump and oval in shape and about the size of a grapefruit. They have an inedible skin that ranges in colour from yellow to green through to red-green, depending on the variety, whilst inside is a soft, edible yellow flesh and a hard inedible stone. Mango is a low-calorie fruit that is high in fibre, and is a great source of vitamins A and C. It also contains folate, B6, iron and a little calcium, zinc and vitamin E. Mangoes are a good source of antioxidants, containing certain phytochemicals such as gallotannins and mangifer in which have been studied for their health benefits. Vitamin C is involved in the formation of collagen – the protein that provides the skin's elasticity. Vitamin C is one of the most important antioxidants, playing a protective role against environmental damage; a deficiency of vitamin C can affect wound healing and increase fine lines and wrinkles. Our hair also requires vitamin C both for collagen production and also to help with the absorption of iron – an important mineral needed for hair growth. All cells require vitamin A for growth, including the skin and hair – and some studies suggest that it may offer potential protective effects against the signs of ageing. One of vitamin A's key roles in hair and skin health is its involvement in the production of sebum, the oily substance that moisturises both our skin and scalp.

Keyword: Nutritional, Vitamin and Environmental

ISEE Seminar/2019/ABS/370

Yield evaluate the comparative performance of promising wheat genotypes

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ABSTRACT

Wheat (*Triticum aestivum* L.) is the second important cereal crop for the majority of world's populations. It is the most important staple food of about two billion people (36% of the world population). It exceeds in acreage and production of every other grain crop (including rice, maize, etc.) and is therefore, the most important cereal grain crop of the world. Wheat is a major ingredient in such food as bread, porridge, crackers, biscuits, muesli, pancakes, pasta and noodles, pies, pastries, pizza, polenta and semolina, cakes, cookies, muffins, rolls, doughnuts, gravy, beer and vodka. Wheat grain also contains carbohydrate, protein minerals, vitamins and fats (lipids). In 100gm wheat provides 327 kilocalories. With a small amount of animal or legume protein added, a wheat-based meal is highly nutritious. These aspect conduct study was carried out to yield evaluate the comparative performance of promising wheat genotypes under display agronomy crop cafeteria with balanced fertilizer dose (120 kg nitrogen, 60kg Phosphorus, 40kg Potash, 20kg Sulphur and 25 kg Zinc Per hectare) on conducted during rabi season 2012-13 at Krishi Vigyan Kendra, Bichpuri, Agra. Thirteen genotypes *viz*. HD-2985, WH-1097,PBW-509,DBW-17,GW-173,HD-3065,WH-1021,WH-1080,PDW-291,C-306,PBW-373,PBW-343 and Raj-3777 were evaluated for yield. The results showed that among these variety DBW-17 gave highest yield 50.6 quintal per hectare compared to all display cafeteria genotype of wheat and after the next best varieties was HD-2985 this variety yield was observed 43.9 quintal per hectare.

Key words : Wheat, Genotype, Cafeteria, Performance, Yield.

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Impact of New Varieties of Horticulture Crops (Fruits and Vegetables) in Term of Productivity and Diversification in Tribal Area under NAIP

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ABSTRACT

The ambitious agricultural research Programme in the country was launched in India on 26thJuly, 2006. It is known as National Agricultural Innovation Project (NAIP), the project focuses on innovations in agricultural technology. It can support poverty alleviation and income generation along with livelihood and nutritional security of tribal families. This is possible through collaborative development and application of agricultural innovations by the public organizations in partnership with farmers' groups, the private sector and other stakeholders. Four districts of Rajasthan, namely, Udaipur, Banswara, Dungarpur and Sirohi figure prominently as the disadvantaged districts, which are identified by the planning commission, based on income, tribal population, their resources, state of agriculture, etc. Keeping in view the challenges of food and nutritional security, National Agricultural Innovation consortia project was initiated by the ICAR in MPUAT, Udaipur (Rajasthan).In the present project proposal, two models (I) Horticulture based Integrated Farming system (HBIFS) and (II) Livestock based Integrated Farming system (LBIFS), with judicious mix of proven need assessed technologies, appropriate for small and marginal farmers encompassing end to end approach were planned and implemented for development of appropriate replicable model. To the best of knowledge to the researcher so far, no evaluation study has been conducted by only researcher to find out the impact of Horticulture based IFS.

Keywords: NAIP, IFS, Tribal Farmers

ISEE Seminar/2019/ABS/372

Digital Initiatives in Agriculture with Respect to Tamil Nadu

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ABSTRACT

Information communication technologies have the potential to reach many farmers with timely and accessible content to solve the location specific farm related problems for improving the productivity, production and income of the farmers. Tamil Nadu Agricultural University have already taken lot of initiatives in ICTs for further improvement of agricultural extension system in Tamil Nadu. India's largest Agritech Portal, ICAR sponsored unique Expert System in Agriculture and Animal Husbandry for taking automatic advisory services without human expert help, mobile based agro advisory system, dynamic market information for vegetables and fruits, domestic and export market intelligence cell to forecast market prices for the agricultural crops, weather network for all the 385 blocks, e-community radio station, video clippings for hosting in the cloud and remote sensing techniques for assessing the ground realities. These initiatives have been integrated with the existing extension delivery system for the benefit of the farming community and extension workers. The seperate unit called e-Extension Centre, Educational media centre, e-market cell, weather advisory unit and remote sensing lab have been established in Tamil Nadu Agricultural University for facilitating the ICT in Agriculture in Tamil nadu. Similarly Agriculture Department, Govt of Tamil Nadu have also launched Uzhavan Mobile app for providing e-Governance Service along with advisory service to the farmers. Farm Crop Management System also unique product which developed by the Government of Tamil Nadu and integrated with the TN-Agrisnet for digitalization the farmers document. Digitalization of individual farmers database is one of the importance task which needs to be completed for entire country so that farm specific advisory could be delivered by using ICT tools. Mobilizing and scouting contents directly from the primary sources and users are very important task along with managing the contents by using appropriate content management system for effective utilizing both contents and online platforms for the benefit of the farmers and other stakeholders.

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Organic Farming: A Path of Sustainable Development

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ABSTRACT

Most countries, nowadays, are facing a major environmental challenge. In recent decades, emerging issues such as the destruction of the ozone layer, global warming, loss of biodiversity, pressures on natural resources and the recent economic crisis have led to the need for a more environmental friendly growth model. It is erroneous to learn how to improve the living conditions of all the citizens of the world through definitively exhausting the Earth. Therefore, by learning how to economically and equitably share resources, using technologies that pollute less, waste less water and less energy, and especially by changing our consumption patterns and behaviours. Sustainable development encompasses three dimensions of well-being economic, environmental and social. The ecological or environmental pillar relates to respect for the environment, the natural dynamics and the management of natural resources. The economic pillar refers to efficiency, dynamics, and economic coherence. The social pillar deals with questions of social equity, solidarity, social ties and cultural identity. Sustainable development presents an interesting approach that allows us to face environmental, economic and socio-political problems. This sustainable development can be achieved through organic farming. Organic farming is the practice that relies more on using

sustainable methods to cultivate crops and it avoids chemical inputs that do not belong to the natural eco system. Organic agriculture can contribute to meaningful socioeconomic and ecologically sustainable development, especially in developing countries. This is due to the application of organic principles, which advocates the application of local resources viz., indigenous seed varieties, manure, etc. and therefore cost effectiveness. Organic farming is one of the several approaches found to meet the objectives of sustainable agriculture. Ecological friendly Organic farming is the answer to the problems being faced by agriculture in India today. It will also keep agriculture more sustainable. This form of agriculture conserves our soil and water resources, protects our climate, improves agro-diversity, ensures biodiversity, meets the demand for food and safeguards livelihoods. In brief, it ensures that the environment blooms, the farm is productive, the farmers makes a net profit and society has adequate nutritious food.

Keywords: Organic farming, Sustainable development, Path

ISEE Seminar/2019/ABS/374

What Speaks the Large Scale Cluster Frontline Demonstrations of Pulses (CFLD-P) In India: A Macro-Level Analysis

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ABSTRACT

The present study is the analysis of large scale data (31949 ha area and 79873 farmers) generated through the CFLD on pulses across various major pulses growing states under the ICAR-ATARIs of Kanpur (Uttar Pradesh), Jodhpur (Rajasthan), Pune (Maharashtra), Jabalpur (Madhya Pradesh), Kolkota (West Bengal), Guahati (Assam), Hyderabad (Andhra Pradesh) and Patna (Bihar). The major pulse crops included for the present analysis represented the crops of all three growing seasons namely *kharif* (pigeon pea-5556 ha, black gram-6067 ha and green gram-2689 ha), *rabi* (chickpea-8376 ha, lentil-3747 ha and field pea-1890 ha) and summer (green gram-3624 ha). The average performance data of CFLD were obtained for the above states for all the crops representing various growing seasons during the cropping seasons of 2016-17 and 2017-18. Thus, CFLD data were analyzed from across minimum of 07 states (green gram) and maximum of 10 states (black gram). The major variables analyzed were average yield obtained from the check plots and demonstrations plots. These yields were computed for yield advantages and also compared with the reported district level, state level, National level yields and also the potential yields of the respective crops in the given states (data procured from secondary sources for the year 2017-18). The likely diffusion of the produce as the quality seed (upto second generation) was also worked out. The analysis revealed that that the maximum yield gap was observed for lentil with respect to national yield level (14.50 q/ha) followed by field pea (15.59 q/ha) and chickpea (11.57 q/ha). The *kharif* pulses showed lesser yield gap at all level. Per cent yield gap also showed similar trends. With reference to the *kharif* pulses, the variation in the yield gap for check yield and state yield was quite high for pigeon pea and black gram (35% and 37% respectively) and for *kharif* green gram (45% and 32% respectively). Lowest variation of these two yield gaps was noted for *rabi* lentil (10.5%, 9%) and field pea (12% and 18%). The highest yield advantage from the improved pulses varieties was computed over the reported state yield (39.25-190.47%), national yield (35.65-109.59%) and the check yield (31.63-51.36%).

Keywords: CFLD-Pulses, Yield gap, Yield advantages, Diffusion and India

ISEE Seminar/2019/ABS/375

Challenges and Opportunities in Digital Marketing

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ABSTRACT

Digital Marketing is an online medium of doing business. It is a platform which provides opportunities for new entrepreneur to explore and intervene the market through the use of internet. It enables the consumer and producer to stay connected through different channels. Digital marketing also known as online marketing, made the job easier for people to just view the products online on phones or laptops and order it directly, saving time and resource available. As our country, India is developing and getting globalized, this form of technology, like digital marketing has paved way for a new era for flourishment of business sector. Due to its high popularity among customers, it helps in sensitizing of customer's demand. People are highly acknowledging this technology and applying it in their day to day life. In this fast growing and competitive age, knowing the consumer is not enough, marketers should also know about the receptivity of consumer towards marketing messages. So digital marketing creates an opportunity for marketers to collect and use information about consumer's experience and preferences, thereby keeping them intact in business cycle. On the part of marketers, they should have knowledge about the advantages and disadvantages of digital marketing for strengthening their strategies in setting up their goals in business. Digital marketing also sets a challenge for the marketers, they should have the skill of search engine optimization and marketing through advertisement and should have the ability to standout in this field. It is really easy and cost effective. Many companies are adapting digital marketing and have been recognized by all business organisations. Digital marketing should focus more on target audiences, responding to them about their enquiries through customer service is one way in keeping the market trend alive. Thus digital marketing has become an essential need in today's digital world.

Keywords: Digital marketing, Consumers, Business, Digital world

ISEE Seminar/2019/ABS/376

Impact of Soil Health Card Scheme on Farmer of Maharajganj District of Uttar Pradesh

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ABSTRACT

Soil is one of the important element required for farming as it provide nutrient to the plant. Earth need to be nurtured with mother's care because earth given us everything for sustaining life. So any kind of torture on it is a sin, to protect soil for sustainable. The present study was conducted in brijmanganj block of maharajganj district of uttarpradesh. For determination of variables and procedure of data collection, empirically and statistical method used for data analysis. The study reveals out of 93 inhabitant villages only 60 are benefited with the scheme of soil health card. As regards to the impact of scheme on knowledge and adoption of standard level of soil nutrients and recommendation of scheme. The finding of the study reveals there is significant impact of economic development of farming community. Study also reveals that there are mainly three constraints viz. socio-personal, socio-psychological, administrative problems which hinder the success of scheme.

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Digital Marketing in India and Its Challenges & Opportunities

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ABSTRACT

Digital marketing is often referred to as 'online marketing', 'internet marketing' or 'web marketing'. Electronic commerce has unbridled hitherto another revolution which is changing the tactic in which businesses buy and sell products and services. The internet has given a helping hand to e-commerce. It involves the use of interactive, virtual spaces for the sake of promoting and selling goods and services. Digital Marketing is the process of marketing a brand using the Internet. In comparison to traditional marketing, everything remains the same, change lies only in the options available to customers. Opportunities of digital marketing are direct Advertising, global Advertisements, easy Brand Promotion, enabling effect especially on small businesses, removes all geographical limitation from the practice of buying and selling, provide customers with timely information due to its availability 24 hours a day, 7 days a week, helps marketers to evaluate and audit their online contents for quality purposes, clearly cost-effective and can accomplished its objectives at a fraction of the cost, the marketer is enabled to track the visitors to her/his website and understand their behavior, brings Personalization in marketing. Being cost-effective, flexible, and fast and enjoying an exceptional global reach, digital marketing has brought about different businesses' absurd gains. However, new technique also embroils its special challenges or hindrances. e.g.: problem of integrity, lack of face-to-face contact between buyer and seller, high competition of brands, advertisement for Limited Products, nowadays customers' data can easily be shared with other companies without asking for their permission, Closely related with the problem of security and privacy is the issue of lack of trust on the part of customers.

Keywords: Digital Marketing, Internet Marketing, Web Marketing, Challenges, Opportunities

ISEE Seminar/2019/ABS/378

Significance of Dairy Farming in Rural Economy of Punjab

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ABSTRACT

Punjab is an agrarian state of country achieving highest per capita income of the farmer and one of the leading state in milk production. The study was conducted in six district of the state to understand the significance of dairy farming in rural economy. Descriptive survey design was employed to collect data by personal interview technique. Multistage random sampling technique was used for selection of farmers (n=600) rearing dairy animals for the purpose of income generation. Asper the guidelines of Government of India, the farmers were categorized as landless/no land (11.00%), marginal (21.80%), small (30.80%), semi-medium (21.30%), medium (12.20%) and large (2.80%) farmers based on land holding and the average land holding was 0.59 ha, 1.60 ha, 3.11 ha, 6.32 ha and 15.08 ha respectively. Majority of respondents were of middle age (36-50 years), having education upto secondary level and medium annual income, mostly engaged in agriculture as well as dairy farming activities. Around 53% of farmers reared both cattle and buffalo followed by only buffalo (31.70%) and only cattle (15.50%) owners. Further it was found that though the herd size was significantly greater in large and semi-medium farmers,

the percent contribution of income from dairy farming towards the total income was significantly ($p<0.01$) greater in landless, marginal and small farmers category contributing around 64% of total sample. But the milk per capita availability is significantly higher (1.65 liters) large, medium, semi-medium and small farmers than the landless and marginal farmers (0.60lit). This might be due to the reason that landless and marginal farmers incline to sale more milk in view of earning more income. The significantly lowest wet average in landless category indicates that the resource poor farmer is poor manager as well as low technology adopter. This study concluded that dairy farming is major source of income and employment generation in rural areas of Punjab. Policy makers and researchers have to focus more on landless, marginal, small farmers, while promoting and developing technologies for enhancing productivity and profitability of dairy farming. This way the much needed diversification in agriculture and nutritional security can be simultaneously achieved through dairy farming.

ISEE Seminar/2019/ABS/379

Adaphicand Epidemic Factors Responsible for Development of Wilt on Chickpea.

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ABSTRACT

The present investigation on wilt of chickpea caused by *Fusarium oxysporum*f. sp. *ciceri* was carried out to study the adaphic and endemic factors responsible for development of wilt. In the present study, correlation between chickpea wilt disease incidence and adaphic factors on resistant to highly susceptible four lines revealed that there was a significant strong correlation between disease incidence and soil temperature and soil moisture (%). All the four entries were showed positive correlation with soil temperature, while negative correlation with soil moisture. Coefficient of determination (R^2) showed that both the factor contributes 54.70 % (JG-315), 56.32 %, (IGP-187), 54.88 % and 39.42 % in development of wilt.

Key words: Wilt Incidence, Soil Temperature, Soil Moisture

ISEE Seminar/2019/ABS/380

Impact of Bypass Fat Supplementation on Milk yield, its Compositions and Disease incidence in Lactating Cattles

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ABSTRACT

In high yielding dairy cows, especially during early lactation, the amount of energy required for maintenance of body tissues and milk production often exceeds the amount of energy available from diet. This condition arises because of reduced feed intake due to the stress of calving and onset of milk production. This forces the mobilization of body fat reserves to meet energy requirements, which may lead to ketosis and other post-calving complications and poor reproductive efficiency. The reduced disease resistance may also lead to secondary infections and an overall loss in milk yield of the animal. The research based on this problem in lactating cattle in area specific at Unnao district level was conducted. In this research, 20 cattle are divided into 2 groups (10 cattle's in each group),

in which T_1 was fed by farmers practices (Use of cake,

wheat straw and some green fodder), T_2 was fed by farmers practices with supplementation of Bypass fat and Fentas as used Dewormer (20 g/ltr/day for 60 days and Fentas 3 g tablet orally at once). The result revealed that the Milk yield, Fat per cent and Total solids per cent were significantly ($P<0.05$) higher in treated group T_2 (5.95, 4.85 and 13.25) followed by groups T_1 (3.78, 3.15 and 11.5), respectively. Whereas, The Solid not fat was no-significant but numerically higher in treated group T_2 (8.40) followed by group T_1 (8.35). The Disease incidence *liz.* Milk fewer and Ketosis was significantly lower in treated group (T_2) than farmer practices (T_1). Based on these observations, Supplement of Bypass fat with dewormer (T_2) was found significantly superior as compared to farmers practice (T_1).

Keywords: Bypass fat, Disease incidence, Lactating Cattles, Milk composition and Milk yield

ISEE Seminar/2019/ABS/381

ICT Access among Remote Tribal Community Dependent on Traditional Agroforestry in Northeast India: An Empirical Study

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ABSTRACT

Traditional agriculture is the major activity in the hill economy of Northeast India confronted with uncertainties like low yield of food and cash crops, fodder, fuel and other minor forest produce affecting the agrarian economy including the household food security. The scattered land holdings, traditional mode of production (e.g. Jhum cultivation), low use of modern inputs and lack of market access have affected the ecosystem. Though the rich variety of flora and fauna existed all along the topography of the Northeastern region these are all yet to be converted into productive opportunities. In such a situation, Information and Communication Technologies (ICT) may have potentials to act as a diver for change, provided that the remote tribal community can effectively access ICT. In this context, the present study was conducted during 2016-17 in Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura states of the North-East India to assess the extent of ICT use among remote tribal community dependent on traditional agroforestry. The study revealed that extension contact was found to be very poor. Though 87.80% respondents (farmers) used mobile phone, majority of them (65.37%) use their mobile phone for listening music followed by 62.92% of them for watching videos and 21.46% farmers use for listening to radio. The younger tribal generations are inclined to use mobile phone for different purposes including for agricultural purposes. Hence, mobile based agro-advisories has real potential in this region for accurate and timely sharing of agricultural information, which will eventually help the farmers to enhance productivity and profitability.

Keywords: Agro-advisories, Information and Communication Technologies, traditional, agroforestry, Tribal community.

ISEE Seminar/2019/ABS/382

Effect of Bypass Protein Supplementatation on Milk Production in Buffalo Under Village Condition

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ABSTRACT

The present study was conducted to evaluate the effect of supplementation of bypass protein among the buffalo farmers of adopted village of Krishi Vigyan Kendra, Gwalior M.P. The buffaloes in their 2nd or 3rd lactation were divided into two uniform groups of 10 each, on the basis of Farmers' practice (T1) and Recommended practice (T2) groups. Farmers of T_1 group fed their animals with ration as per the traditional or local practice (wheat 2.0 Kg+1 Kg mustard oil cake and salt 50 gram etc.), however the (T_2) groups farmer fed their animals with traditional feed supplemented with bypass protein @ 100 gram/day/buffalo for a period of 2 months. The average milk yield in T_1 group was 462.2 liters/animal/ 2 months period where as in T_2 group it was 504.4 liters/animal/ 2 months period. It was noticed that milk production in T_2 group was increased to the tune of 9.133%.The net return of Rs11368/-and Rs.12300/- per farmer per 2 month period was obtained in farmers practice (T_1) and recommended practice (T2) respectively. The study demonstrated the beneficial effect of bypass protein supplementation in buffalo feeding for increase in milk production..

Keywords: Buffalo, Bypass Protein

ISEE Seminar/2019/ABS/383

Organic Farming: Promote Sustainable Agriculture development in India

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ABSTRACT

The scope of Organic farming as an effective way to promote sustainable agriculture in India. The promotion of sustainable agriculture is a need of present day world to overcome the challenges arising from chemical fertilizer based farming. Agriculture is backbone of Indian economy with more than half of the population still depend on this sector for their livelihood. At the same time contribution of agriculture in India's GDP is less than other sectors in the Economy. Modern crop farming has enhanced the food grain production but it has caused many problems to the environment and human health. Besides it has contributed to global warming. The imbalanced use of agro-chemical in soil and on plant is not only damaging the soil bacteria, fungi, actinomycetes etc. but has given rise to phenomenon like pest resistance and pest resurgence. Dependence on the external inputs like fertilizers, pesticides, machine etc. have increased rural indebtedness and created dependencies. Or farmers have indulged in indiscriminate use of chemical fertilizers and pesticides. In order to increase the agricultural production and control of insect –pest and diseases, our country is increasingly depending on agro-chemicals. Now the people are questioning the impact of modern agriculture on environment, economic and social aspect. Now many farmers are seeking the alternative practices that would make agriculture more sustainable and productive. Organic farming is the only alternative taking care all ecological aspect. A natural balance need to be maintaining for sustainability of production system. The chemical fertilizers, pesticides, herbicides are not renewable and diminishing in a availability. It may also cost heavily on our foreign paramount importance. The organic farming is based organic relationship. The understanding of these relationships is the nucleus of organic farming. The organic farming is

not only derived from organic matter but rather is a type of farming comprised of organic principles. Organic farming can be perceived as a system which should always be in search of natural alternatives suitable to the local specificity. The organic manures supply the nutrients in the soil, promote microbial activities and improve physical, biological and chemical properties of soils. The sustainable agriculture can mitigate the socio economic and environmental problems of chemical fertilizer based farming. Sustainable Agricultural development in India is essential to support the farmers who are struggling to sustain in this sector. As an initial step to promote Sustainable Farming, the Governmental inventiveness to assist the unorganized frames through various means are essential to overcome the present problems faced by Organic farmers and enable them to achieve social and economic development thorough successful sustainable agricultural practices.

Keywords:*Organic Farming, agro-chemical, sustainable Agriculture, Agriculture.*

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Strategy for Sesame (*Sesamumindicum* L.) Improvement

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ABSTRACT

Sesame is an oldest oilseed crop belong to family *Pedaliaceae*, which is cultivated in topical and sub-tropical areas for edible oil, protein, vitamins and amino acids. Sesameplays important role in nourishment of humans because its seed is rich in oil and protein.The seeds contain 4.5-11% moisture, 48-56% oil, 19-27% protein, 2-6% ash, 2.5-4% fiber and 20-25% carbohydrate. Because of its composition, it has become one of the main sources of edible oil. Sesame oil has natural antioxidants such as sesamin, sesamolin, and sesamol known as the most stable vegetable oils having long shelf life. Sesame seed oil, is rich in Omega 6 fatty acids, but lacks Omega 3 fatty acids. So there is need to produce more Omega 3 fatty acids like alpha linolenic acids with the help of various desaturase enzyme pathways for improvement of quality of sesame oil as healthy oil.Production of sesame in term of seed yield is limited by various biotic and abiotic stresses like fungal diseases, water logging, salinity, and shattering of seed capsules during harvest. Introgression of useful genes from wild species into cultigens by conventional breeding has not been successful due to post-fertilization barriers. The alternative for the improvement of *S. indicum* is to transfer genes from other sources through genetic transformation techniques.

Keywords: Sesame, Improvement.

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Effect of Integrated Crop Management practices on Yield and Economics of Sesame (*Sesamum indicum* L.) under Rainfed Condition

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ABSTRACT

Sesame *(Sesamum indicum* L.) is an oilseed crop of Indian origin. India is the largest producer of sesame catering to the world market. In the year 2018-19, the production was 7.84 lakh tons from 15.62 lakh hectares with an average productivity of 502 kg/ha. It is cultivated in diverse ecosystem such as, under rainfed condition (rainfall>300

mm), dryland condition (rainfall <300 mm), irrigated condition and in coastal ecosystem under residual moisture conditions. Cultivation of sesame should increase in the high productive zones such as West Bengal, Rajasthan, Gujarat, Tamil Nadu, Madhya Pradesh, Haryana and Punjab. Although the crop has high economic value, majority of the area is confined to rainfed situation in marginal fertility soils with adoption of poor management technologies in terms of high yielding improved varieties, plant population, weed management, soil test based fertilizers application and management of insect-pest and diseases.Keeping in view, farmers' participatory cluster front line demonstrations (CFLDs) on integrated crop management (ICM) practices in sesame were conducted at 25 locations during the year 2016-17 under CCS, HAU, Krishi Vigyan Kendra, Jhajjar, Haryana. The results reveals that on an average 5.60 q/ha yield of sesame was recorded in demonstration plot as compare to 4.48 q/ha under farmers' practice which was 24.9 percent higher over that of the farmers' practice. The data on economic parameters reveals that a net return of Rs. 11340 per ha was recorded in demonstration compare to Rs. 3860 per ha in farmers' practice. The benefit-cost (B:C) ratio was worked out 1.38 and 1.13 in demonstration and farmers' practice, respectively.

Keywords: Sesame, integrated crop management, yield and economics.

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WhatsApp: A Digital and Sensible tool for Technology Dissemination to Farmers

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ABSTRACT

Indian Agriculture includes crops, dairy, fishery, horticulture, agroforestry along with small enterprises like beekeeping, mushroom growing, etc. needs the utilization of modern and recent technologies to attain the target growth. The need is to harness productivity along with sustainability, minimize post-harvest losses and getting appropriate prices for the produce. For this, the extension has to play expanded role including improved access to markets, research, advice, credit, infrastructure, farmer organization development and business development services. The ICT like radio, TV, Mobile, Internet, newspaper, telephones and magazines are playing a major role in sustainable agricultural development since early decades and now the modern ICTs as mobiles and computers and have created a revolution. With the globalization of technology, we are in the era of quick forwarding information. In 21st century, cost-effective and efficient communication technologies are required to take lead in ever-changing agricultural scenario. New ICT initiatives tools like WhatsApp agricultural messages to satisfy the requirements and expectations of the farmers. The growing information needs of farmers due to diversification and commercialization need to be addressed immediately but at the same time extension system needs to continuously evaluate ICT initiatives to improve and improvise the delivery of information. It provides the electronic messaging facility on smart phones. It permits beingsent text messages, photos, videos,audio, video calls, voice calls and document sharing. In keeping with the WhatsApp blog one Billion are the daily active users of WhatsApp, 1.3 Billion monthly active users and among them, fifty-five billion messages sent per day, 4.5 Billion Photos and one billion videos shared per day. Over sixty languages supported.

Keywords: *WhatsApp, ICT, Smartphone, Social Media, Group Chat, etc.*

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Role and Impact of Statistics in Agricultural Sciences

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ABSTRACT

Agricultural investigations are based on the application of statistical methods andprocedures which are helpful in drawing inference by testing hypotheses, estimation ofparameters and also in predictions. The application of statistical principles and methods is necessaryfor effective practice in resolving the different problems that arise in the many branches of agricultural scienceslike: field crop production, vegetable production, horticulture, fruit growing,grape production, plant protection, livestock, veterinary medicine, agricultural mechanization,water resources, agricultural economics etc. The importance of statistical science in agriculture is more where the collection,analysis and interpretation of numerical data are concerned. Statistical principles have a very important role in agricultural experiments as it can apply in all areasof experimental work. The current study mainly discusses the problemsofjustification of resultsinagriculture and necessity of the uses of statistics in agricultural sciences.

Keywords: Testing Hypothesis, Estimation, Design of Experiment.

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Organic Farming: A Holistic Approach to Adapt and Mitigate Effect of Climate Change

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ABSTRACT

Nowadays, the greatest environmental concern is climate change affecting all walks of life in one or other form viz. global warming due to high emission of green house gases (GHGs), aberrant weather and climatic conditions, endanger and extinction of various flora and fauna species etc. Similarly, agriculture the main stay of large population as well base of economy of our country is greatly affected in form low production and productivity of food grains especially rice and wheat due to terminal heat effect resultant of high temperature at maturity, increased frequency and severity of floods & draughts, uncertain monsoon onset as well withdraw influencing sowing and harvesting of crops even change in predator prey dynamics influence crop yields greatly. Organic farming being a eco-functional intensification practice has high potential to mitigate effects through significant reduction in emission of GHGs due to less use of external inputs, no use of inorganic fertilizers and pesticides, closed nutrient cycle (crop residue manures) and optimal use and conservation of natural resources along with recycling of agri., animal and other bio-wastes etc. Being regional and seasonal oriented it promotes responsible consumption and production helpful in reduced emission of GHGs due to less energy use in travelling and transportation. Not only in reduction of emission of GHGs but it has great potential of carbon sequestration. Studies have reported that this practice has the potential up to 32 per cent sequestration of GHGs by sinking in soil and vegetation. Since organic farming increase the organic carbon content of the soil and ultimately enhancing the stress management capacity of plants i.e. moisture as well as temperature stresses and ultimately minimize the production risks. Maintenance of biodiversity is integral part of organic farming which integrates crops, animals, agro-forestry as well other agri.-based enterprises utilizing indigenous species or breeds instead of genetically modified plants or species promotes eco-functionality, ultimately enhancing the sustainability of agriculture in changing climate.

Keywords: Green House Gas, Climate change, Organic farming, Sustainability

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Adoption and Impact of Salt Tolerant Mustard as Climate Resilient Technology in Sodic Soil

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ABSTRACT

Pratapgarh district of UP has about 47000 ha salt affected area; a source of livelihood to the thousands of small and marginal farmers. Rice-wheat cropping system is predominant, covering nearly 88% of total cultivated area out of this, nearly 32% area severely suffers from sodicity and salinity problems and only one crop (rice) is grown. In Pratapgarh district, *Kunda* and *Lalganj,* tehsils are highly affected from sodicity and high-water table. Because of high water table conditions, wheat cultivation is seldom possible in most of the area. Although, 15-20% farmers have tried to cultivate wheat in the past, but the performance of wheat crop was poor due to water logging problem. Majority of the farmers follow rice mono-cropping (rice in kharif and fallow in *Rabi*, and that forced to introduce salt tolerant mustard variety 'CS-56' in the affected area. KVK Pratapgarh conducted front line demonstrations (FLD) on 375 farmers' fields covering 150 ha area, in the study Performance of 'CS 56' compared with local popular varieties '*Varuna*' and '*Urvashi*'. Crop cutting data revealed that 'CS 56' yielded 65% to 90% more grain yield than '*Varuna*' and '*Urvashi*'. The farmers growing 'CS 56' obtained average seed yields of 1.6 to 1.8 ton/ ha with a net return of about Rs. 46000 to 154000 ha (B:C ratio of 3.9 to 4.4). Some of the farmers sold the seeds of 'CS 56' to the neighbouring farmers @ Rs 80 kg. With the introduction of CS 56 in these villages, farmer's income increased up to double.

Keywords: Doubling, Mustard, Technology, Salt tolerant, Adoption.

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Effect of Resource Conservation Technology on Soil and Crop Productivity in Sodic Rice-Wheat Cropping System

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ABSTRACT

Resource Conservation Technologies in India, substantial increase in food production and a multitude of environmental problems co-evolved during Green Revolution of 1960s-1970s characterized by the heavy and indiscriminate use of agro-chemicals in rice and wheat crops. Many present and emerging challenges such as stagnating yields, decreasing factor productivity, fast receding water table, climate variability, deteriorating soil health, environmental pollution and secondary salinization have posed grave threats to the sustainability of rice-wheat cropping system in the Indo- Gangetic plains of India (Aggarwal *et al.*, 2004). KVK, Pratapgarh conducted a study on long-term effects of green manure and crop residues on crop yields and soil productivity in rice-wheat cropping system. In laboratory incubation studies large amount of N was immobilized with the application of rice and wheat straw. Nitrogen immobilization was lower with rice straw than with wheat straw. Under optimum temperature and moisture conditions remineralization of immobilized N started 6 weeks after incubation. In a long-term study green manure along with crop residues not only counteracted the adverse effects of crop residues but

also improved soil health. Long-term application of crop residues significantly increased the organic carbon, and total as well as available N, P and K contents of soil. Incorporation of green manure and crop residues improved soil aggregation, reduced soil bulk density and increased infiltration rate of the soil.

Keywords: Soil Productivity, Cropping System, Conservation, Sodic, Bulk density.

ISEE Seminar/2019/ABS/391

Pesticide Residues in Vegetables: Farmers' Adoption Level Pertaining to Practices to Minimize the Effects

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ABSTRACT

Research finding clearly indicate that overall awareness of vegetable farmers pertaining to pesticide residue was moderate to high since approximately 86.00 per cent of farmers belonged to these categories. Cent percent farmers were found aware to purchase branded pesticides followed by pesticide residues remain in fruits and other food commodities, soil and underground water, identification/symptoms of insect pest, weed, fungal attack, nematodes etc., no reuse of empty containers for drinking water or eating purposes at field, single spray of different recommended pesticides to avoid repeated sprays, safe waiting period for harvesting after application of pesticides and banned pesticides by university or other governing body were the other aspects on which majority of vegetable farmers possessed awareness while, they were least aware of aspects such as dose of agrochemical on the basis expert's advice, consume vegetables in the field immediately after pesticide spray, pesticides should be applied at ETL level or it is beyond pest: defender ratio and marketing the harvested fruits immediately after pesticide spray and alternatives of pesticides for safe and healthy crops like botanical measures or biological measures, cow products etc. Regarding adoption of practices for minimization of residual effects, a vast majority did not grow vegetables in sewage water (mean score 4.00) followed by use of branded pesticides, consume vegetables in the field after washing with clean water/ peeling, pesticide measures after proper identification of insect pest, diseases, weeds, nematodes etc., no use of pesticides banned by university or government and no tank mixing of pesticides in one operation to avoid separate sprays of 2-3 kinds of pesticides were the other regularly adopted practices to minimize residual effects by farmers whereas rarely adopted or not adopted practices included such as use of Malathion or any other insecticide dipping for shining product, marketing take harvested fruits/ vegetables to market immediately after whitening with bleaching powder, marketing of harvested vegetables immediately after dye for colour enhancement, anduse of aspartame to add sweetness in watermelon, muskmelon etc. (mean 1.00), followed by use of Oxytocin for increasing size of fruit (mean 1.07), use of pheromones traps or other hormones/ yellow sticky traps to save the crop, use botanical measures (Neem, Garlic, Dhatura, Oak, Tulsi, Tobacco, etc.) or biological measures (*Trichoderma, Pseudomonas*, *Metarhizium* and growing organic vegetables, fruits and food grains, fodder for home use with weighted mean scores of 1.07, 1.23, 1.47, and 1.55 respectively.

Keywords: Pesticide residue, Economic threshold level, Botanical and Bio control agents

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Extent of Adoption of Recommended Production Technology of Brinjal among the Vegetable Growers of Banda District of Bundelkhand Region

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ABSTRACT

Brinjal (*Solanum melongena*) commonly known as Baingan, eggplant or aubergine in our belongs to nightshade family. Brinjal is cultivated in almost all parts of the country, except in the high mountain areas. Various species of eggplant are cultivated on the basis of its yield, colour, size, weight and consumer's choice throughout the country. The germplasm of eggplant in our country has huge biodiversity, which includes all types of brinjal species from long, round, white, purple, green, thorny, without thorns, large, small, spotted etc.In Uttar Pradesh, Bundelkhand area is comprised seven districts viz., Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Jhansi and Lalitpur. Mostly the cultivation of vegetables is done by the farmers in village adjacent to most urban areas in Bundelkhand and the cultivation of the brinjal is done throughout the year. People in Bundelkhand prefer to eat either green colour small, round or oval fruits with thorns on calyx or green coloured small, round or oval with white strips. The climate of Bundelkhand is dry and the rainfall is very scanty and irregular. The present study was undertaken in Banda district of Bundelkhand region of Uttar Pradesh where the Brinjal is the most popular vegetable among the consumers as well as growers. From the selected district, seven villages based on production potential of the brinjal crops were drawn up for inclusion in the present study. Among the commercial vegetables growers of each village, 20 brinjal growers with sample size is 140 were selected purposely for this study. The study revealed that majority (68.57%) of the brinjal growers had medium extent of adoption; followed by 20.00 per cent and 11.43 per cent of the brinjal growers had low and high level of adoption, respectively. The non-cost and low cost inputs in the package of practices were adopted more by the respondents. The independent variables like education, occupation, extension contact and caste had positive and highly significant correlation with adoption of recommended production technology of brinjal crop by brinjal growers. Whereas, size of family and social participation had negative and non-significant relationship with adoption behaviour of the brinjal growers.

Keywords: Brinjal, eggplant, brinjal growers, commercial vegetables

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Yield Gap Analysis of Mustard in Banda District of Bundelkhand, Uttar Pradesh

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ABSTRACT

Rapeseed – mustard crops in India are grown in diverse agro climatic conditions ranging from north-eastern /north –western hills to down south under irrigated /rainfed, timely/late sown, saline and mixed cropping. Indian mustard account for about 75-80% of the 6.07m ha under these crops in the country during 2016-2017 crop season. India is the third largest rapeseed and mustard growing countries in the world after Canada and China. Globally, India

accounts for 19.8 % of the total acreage and 09.8 % per cent of the total production of the world (USDA 2016-17). Rapeseed and mustard have caught the infatuation of farmers in Bundelkhand region and this is more particularly in areas where the major crops is grown in rabi session only. Soya bean, rapeseed-mustard and groundnut are the major oilseed crops in India contributing nearly 84% to 88% to its total acreage and production. Due to various factors the productivity of the crop is less and it varies from year to year and place to place. Rapeseed is grown in irrigated and non-irrigated condition as a rainfed crop, because of non–availability of assured irrigation facilities. Production of rapeseed is also limited owing to non adoption of recommended agronomic practices like timely sowing, improved variety, recommended fertilizer application, seed rate, spacing, irrigation etc. which also reduce the yield to a greater extent. The present study was carried out at Banda district of Uttar Pradesh, to know the yield gaps between improved package of practices (IP) under Front Line Demonstration (FLD) and farmer's practice (FP) of mustard crops. Yield attributes of both demonstration and farmers' practice were recorded and their yield gap, technology gap, extension gap and technology index were analysed. The study shows that the yield of rapeseed –mustard in IP under irrigated conditions ranged from 12.75 to 17.30q/ha whereas in FP it ranged between 7.29 to 11.00 q/ha. The per cent increase in yield with IP over FP was recorded in the range of 39% to 83%. The extension gap and technological index were ranging between 4.8- 6.6q/ha and 09.50-19.60 per cent, respectively. The benefits cost ratio was 1.8- 3.5 under demonstration, while it was 1.4 to 2.2 under farmers practice. By conducting front line demonstration of proven technologies, yield potential of rapeseed and mustard crops could be enhanced to a great extent with increase in the income level of the farming community.

Keywords: Front line demonstration; improved package of practices; farmer's practice Yield gap.

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Integrated Farming System: An Effective Approach for Livelihood Security of Small Farmers

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Farmers of Sidhi District generally produce subsistence farming when they need to produce a continuous, reliable and balanced supply of foods as well as cash for basic needs and recurrent farm expenditures, therefore there is need to develop suitable module for integrated farming system (IFS) for such farmers which involve only crop production. Crop productions are subjected to high degree of risk and ambiguity due to seasonal, uncertain and irregular income and employment to the farmers. The integrated farming system only has potential to wipe out all these constraints.

Study was conducted in one village of each five developmental blocks of Sidhi district under Kymore Plateau and Satpura Hills Agro climatic Zone of Madhya Pradesh. Ten representative farmers were selected randomly from selected villages for further studies. The findings of the study revealed that the average size of holding of sample households was 1.24 ha before IFS and was no change after adopting IFS. The cropping intensity was observed to be 165.9 percent before IFS and 215.5 per cent after IFS it increased about 29.89 per cent of cropping intensity. The major portion of farm household's income was generated by on farm Rs. 98934.5 and only small portion by off farm activities of Rs. 17670 before adoption of IFS, due prevalence of almost low value crops like cereals, pulses and oilseeds but with the adoption of IFS, the income of average farm households were also changed. A major portion of farm household's income was generated by on farm activities of Rs. 202457.5 and only a small portion by off farm activities of Rs. 7659.0. The reduction of number of working days of off farm after adoption of IFS indicate the conversions of off farm working days into on farm and non-farm within households. The share of services activities showed positive relation with farm size and the percentage of change in on farm, off farm and non-farm were 69.61, per cent 16.49 per cent and 13.9 per cent respectively. A percentage change in average total farm income was 80.67 percent. The percentage change in total employment days per farm was 35 per cent.

Keywords: Integrated farming System, On farm, Off farm, Income and Employment

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Assessment of Socio-Digital Approaches for Agricultural Extension in Shri Muktsar Sahib District of Punjab

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ABSTRACT

Electronic and print media has always played an important in transfer of technology. Now the social media has been becoming instrumental in bringing changes in behavior of people. Keeping in view the importance of social media, the Krishi Vigyan Kendra, Sri Muktsar Sahib started using social media for the purpose of agricultural extension. This center has enrolled 799 farmers for spreading scientific technologies among farmers. To study the preference of farmers and constraints faced by farmers in using social media, a survey of 250 respondents was conducted during the year 2018-19. The majority (56.4%) of the respondents selected in the study were in the middle age group. Little less than one third (29.2%) were in young age group. Near about two third (66%) had medium level education and about fifty per cent (48.8%) of the respondents had medium land holdings of size > 2.0 to ≤ 4.0 hectares. The results of the study revealed that social media has became a preferred source of information for farmers. Only 4.0 of the farmers preferred radio as source of information, 7.2 % preferred television, while 70% of the farmers preferred social media (*WhatsApp*) as source of information for latest agricultural technology. The preference for use of social media in agricultural extension was had significant correlation with age (r = -2.68*), education (r = 2.67*), media exposure (r = 3.01*), economic motivation (r = 2.76*) and socio-economic status (r = 2.79*). Fake and irrelevant messages and were considered as major problem in communication through social media by majority (27.6 & 21.2 %) of the farmers.

Keywords: Preference, WhatsApp, Social Media and Technology Transfer

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Application of ICT in Agriculture Cyber Extension

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ABSTRACT

This manuscript on applications of ICT in Agriculture Cyber Extension is based on literature survey from research papers, popular articles, government and NGO reports, discussions in social media, print and electronic media. The paper describes the concept of cyber extension, its components and application in the field of Agriculture. It reveals that cyber extension has been a realisation in present day era. Its use for promotion of agricultural technology and agricultural extensionis remarkable. Different experiments on ICT and cyber extension have yielded satisfactory results and have brought changes in quality of social, political and economic fronts of human beings. It has played a vital role in dissemination of personalised right information related to agricultural marketing , post harvest management, crop protection and crop production technologies.

***Key words**: ICT, Cyber, Agriculture, Extension, Application, Experiments.*

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Technological Interventions through Integrated Farming System for Enhancement of Rural Livelihoods- A Case Study

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ABSTRACT

The declining trend of per capita land availability with shrinking operational holding size poses a serious challenge to the sustainability and profitability of existing farming systems especially in marginal and small households. As per the projections, in India, more than 95 per cent holdings will be under the category of small and marginal holders by 2050. Under such circumstances, agriculture has the onus of providing household food and nutritional security to billion plus population. A paradigm shift in agricultural research through some technological interventions integrating with locally available farm resources along with restoration of environment is essential to address all the issues which are being faced by Indian agriculture.Smallholder farmers face various climate-related risks that include prolonged dry seasons and increased incidence of pests and diseases, which have become more frequent and intense, and have negative impacts on agricultural production. Integrated Farming System (IFS) model can act as a technological intervention tool to transform less remunerative production systems into highly remunerative systems using available farm resources to generate better farm gains, livelihood and employment on sustainable basis.Case study to access the effect of IFS at farmer field as compare to traditional farming system of Sh. Satish Kumar, a progressive farmer of village Kheri-Khummar, district Jhajjar Haryana was carried out by Krishi Vigyan Kendra, Jhajjar, Haryana during the year 2016-17.He is popularly known as grower of guava and ber fruits. He has established an farm of 1.0 hectare out of which 0.4 ha area is under Guava plants, 0.4 ha area is under Ber plants and wheat, peal-millet and fodder crops are taken as intercrops. In dairy component, he is having two Murrah Breed of buffalo. Economics analysis of the study reveals that net return of Sh. Satish Kumar was 2.73 lakhs under IFS system as compared to traditional farm i.e. 0.51 lakhs per annum, while B:C ratio was worked to be 2.26 and 1.66 under IFS system and traditional farm, respectively. In general, IFS enable the agricultural production system productive, profitable (3-4 folds) and sustainable on long term basis.

Keywords: IFS, traditional system, fruit plant, intercrop, dairy net return and B:C ratio

ISEE Seminar/2019/ABS/398

Incessant and sporadic outbreak of *Heiroglyphus banian* Fabriciusin South West Haryana, India

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Survey of rice grasshopper, *Hieroglyphus banian* Fabricius was conducted during two years i.e. *kharif*, 2017 and 2018 in the district Rewari of South-West Haryana. Sporadic outbreak of the population of study insect was observed during the *Kharif* season in both the years. The greatest population and damage was observed during the month of August-September when both adults and nymph feed on bajra, jowar and other crops, causing defoliation. Population was recorded randomly at 20 points of one square meter area in each block of the district Rewari of total five blocks. Population was found more in the waste land, uncultivated land, canal and rainfed areas rather than cultivated and irrigated areas. Average maximum population (20 nymphs and adults per square meter) of grasshopper was recorded in Bawal block followed by Rewari block (11.36). The minimum average population of

2.46 nymphs and adults was found in Khol block followed by 0.85 nymphs and adults in Jatusana block. Hence, it is concluded that some immediate preventive measures at block level in Bawal block to be started from the next year by the government so that foliage of crops specially of bajra could be saved as it is a major crop of this block.

Key words: Incessant, Sporadic, Grasshopper and Population

ISEE Seminar/2019/ABS/399

Impact Assessment of Social Media for Sustainable Agricultural Development in Central and South-Western, Punjab

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ABSTRACT

Social media has been extensively used by rural youth due to tremendous increase in the number of smart-phones users during last decade. A survey was conducted during 2018-19 to study the use of social media as a source of agricultural information, use pattern, preference towards different media, and frequency of use among rural youth and its impact on agricultural practices. For the purpose of study, 200 rural youth below the age of 40 years were randomly contacted from the central and south-western, Punjab. Results of the study revealed that majority had education level upto 10+2 followed by matriculation, primary, graduation and post graduation. Average land holding of the respondents was 2.3±0.5 ha. Results of the study revealed that only ~2% of the young farmers were using Radio as source of information for agriculture. Majority of the young farmers preferred social media viz. *YouTube*, *WhatsApp* and *Facebook* as a source of agricultural information. The young farmers had subscribed agriculture based channels on you tube for getting agriculture related information. The trend in use of social media for receiving agricultural information was more in central Punjab. Majority of young farmers had been maintaining 4-5 *WhatsApp* groups to share and receive information on agriculture and allied fields. Use of *PAU Mobile App* and *Digital Newspaper (Kheti Sandesh)* was also popular among farmers. Young farmers observed that use of social media has a significant impact on crop management practices. About one-fourth (~27%) of respondents had increased acreage under recommended crop varieties, ~16.5% had reduced the average number of sprays on rice crop, ~22.5% had been scheduling irrigation based on weather based agro-advisory and ~24.5% were getting information on marketing of crops from social media.

Keywords: WhatsApp, Social media, Information, Technology. Sustainable Agricultural Development

ISEE Seminar/2019/ABS/400

Promotion of Climate Resilient Technologies for Holistic Agricultural Development-In Central and South Western, Punjab

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ABSTRACT

Rice residue management (RRM) has been the major challenge in north-western India having rice-wheat as a predominant cropping system. Annually, ~23 million tons (Mt) of rice residue is produced, of which ~80% is burnt

after mechanical harvesting as loose stubble impedes the wheat sowing operation. Therefore, to encourage farmers to stun open field residue burning, large scale demonstrations were conducted during *rabi* 2018-19 at farmer's field in in central and south-western Punjab. The data from demonstrations in central and south western, Punjab on wheat sowing following climate resilient agriculture including residue incorporation with reversible mouldboard plough (MBP), residue mulching with happy seeder (HS) and zero tillage (ZT) and conventional tillage (CT) following residue burning was collected. Data from the demonstrations in south-western, Punjab showed that average wheat grain yield with MBP, HS, ZT and CT were 59.2, 52.4, 50.4 and 54.9 q ha^{-1}, respectively. However, in central Punjab wheat productivity in HS (50.2 q ha^{-1}) and CT (50.3 q ha^{-1}) method was statistically non-significant. The volume of irrigation water used in wheat sown with MBP, HS, ZT and CT methods was 937.5, 715.5, 729.2 and 962.2 mm, respectively indicating a saving in irrigation water by ~26% in HS sown wheat, compared with CT. Weed infestation of *Phalaris minor* was 7.5, 5.7, 5.3 and 16.9%, respectively in MBP, HS, ZT and CT indicating that infestation was decreased by ~3-times in HS, compared with CT method. Average cost of cultivation were Rs. 12930.1 ha^{-1} (MBP), Rs. 10,390.3 ha^{-1} (HS), Rs. 10,671.4 (ZT) ha^{-1} and Rs.11,097.8 (CT) ha^{-1}. Although, wheat grain yield in HS sown wheat was lower by ~4.6% than the CT, but the benefit-cost (B-C) ratio was statistically non-significant among HS (4.1) and CT (4.1) due to decreased cost of cultivation (~6.4%) in HS sown wheat. These results thus showed that retaining residue as mulch in HS method has been the most economically viable option for RRM. The successful conduct of large-scale demonstration on RRM will be help promoting environmentally friendly and climate resilient technologies among farmers.

Keywords: Agricultural Development, Technology, Climate.

ISEESeminar/2019/ABS/401

Promotion of Climate Resilient Technologies for Holistic Agricultural Development-In Central and South Western, Punjab

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ABSTRACT

Rice residue management (RRM) has been the major challenge in north-western India having rice-wheat as a predominant cropping system. Annually, ~23 million tons (Mt) of rice residue is produced, of which ~80% is burnt after mechanical harvesting as loose stubble impedes the wheat sowing operation. Therefore, to encourage farmers to stun open field residue burning, large scale demonstrations were conducted during *rabi* 2018-19 at farmer's field in in central and south-western Punjab. The data from demonstrations in central and south western, Punjab on wheat sowing following climate resilient agriculture including residue incorporation with reversible mouldboard plough (MBP), residue mulching with happy seeder (HS) and zero tillage (ZT) and conventional tillage (CT) following residue burning was collected. Data from the demonstrations in south-western, Punjab showed that average wheat grain yield with MBP, HS, ZT and CT were 59.2, 52.4, 50.4 and 54.9 q ha^{-1}, respectively. However, in central Punjab wheat productivity in HS (50.2 q ha^{-1}) and CT (50.3 q ha^{-1}) method was statistically non-significant. The volume of irrigation water used in wheat sown with MBP, HS, ZT and CT methods was 937.5, 715.5, 729.2 and 962.2 mm, respectively indicating a saving in irrigation water by ~26% in HS sown wheat, compared with CT. Weed infestation of *Phalaris minor* was 7.5, 5.7, 5.3 and 16.9%, respectively in MBP, HS, ZT and CT indicating that infestation was decreased by ~3-times in HS, compared with CT method. Average cost of cultivation were Rs. 12930.1 ha^{-1} (MBP), Rs. 10,390.3 ha^{-1} (HS), Rs. 10,671.4 (ZT) ha^{-1} and Rs.11,097.8 (CT) ha^{-1}. Although, wheat grain yield in HS sown wheat was lower by ~4.6% than the CT, but the benefit-cost (B-C) ratio was statistically non-significant among HS (4.1) and CT (4.1) due to decreased cost of cultivation (~6.4%) in HS sown wheat. These results thus showed that retaining residue as mulch in HS method has been the most economically viable option for RRM. The successful conduct of large-scale demonstration on RRM will be help promoting environmentally friendly and climate resilient technologies among farmers.

Keywords: Agricultural Development, Technology, Climate.

ISEE Seminar/2019/ABS/402

Initiatives for Food and Nutritional Security for Rural Community

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ABSTRACT

Organic farming is one of the most important ways of sustainable agriculture which is based upon a set of processes that lead to safe and healthy food without using any harmful chemicals. Today organic farming is looked upon as the answer to problems posed by conventional farming. The study was undertaken in Kudappanakunnu village, Thiruvananthapuram district, Kerala. Five case studies were done by analyzing their economic condition. The data were collected using questionnaire method. From the study it was found that majority of the respondents had medium levels of knowledge on organic farming techniques. Majority of the samples had a poor health condition. More than half of the women were anemic. The researchers provided grow bags and vegetable seeds to the samples for improving their nutritional status. Through the organic farming initiative, they were able to dispose their kitchen waste in a proper manner. The investigators provided them an awareness class regarding the different aspects of organic farming, and they could improve their nutritional status.

Keywords: Food and Nutritional Security, Rural Community, Organic Farming

ISEE Seminar/2019/ABS/403

Digital Marketing: Challenges and Opportunities

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ABSTRACT

Digital marketing is a new form of marketing which minimize the gap between Buyer and Seller. It is very economical and a great way towards conversion- oriented marketing. India is one of the biggest marketing countries in the world. It is also one of the fastest growing economics and top in digital trends. The 45 % business enterprise completely depends on digital marketing. This paper is an attempt to explore the major challenges and opportunities of digital marketing, particularly, in context to Indian agriculture. Studies revealed that 'Dealing with Technical issues', 'Understanding Traffic Generation', 'Keeping up-to-date with digital', 'Digital Divide', 'Customer Data Privacy', etc. are the major challenges identified in different reports, research studies and surveys. On the other hand, digital marketing has many opportunities such as 'Low Cost and High Rate of Investment', 'Artificial Intelligence', 'People based marketing', 'Social Networking Apps', etc. It is evident from various studies that digital marketing is beneficial for both Consumer and seller because as consumer wants a right product on right price and as Seller gets a best price for his product and they both are bound in time.

Keywords: Digital Marketing, e-Market, Agriculture Marketing, Artificial Intelligence.

ISEE Seminar/2019/ABS/404

Extent of Empowerment of Employed Women Through Employment

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ABSTRACT

Empowerment of women has been recognized as a central issue in determining the status of women. The role of employed women has changed throughout the country and the world due to economic conditions and social demands. It has found in a scenario in which employed women have tremendous pressure to develop their career as robust as their male counterparts while sustaining active engagement in personal life. Economic empowerment is the capacity of women to participate in, contribute to and benefit from growth process in ways which recognise the value of their contribution, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth. Employment empowers women by providing financial independence, alternative source of social identity and exposure to power structures. In the economic sphere, paid employment is seen as essential to women's empowerment which focuses on access to employment opportunities and working conditions at work place and at community level, and on a woman's decision making power freedom of movement, control over resources and contribution to total family earnings in the household. This paper is an attempt to know the extent of empowerment of employed women through employment. It was measured by four indicators of women empowerment. The statistical tools used for the study and data were subjected to descriptive statistics and it was found that empowerment of employed women was in medium level under empowerment index. It also concluded that there are number of structural barriers which limit the extent of empowerment.

Keywords: Employment, Empowerment, Economic empowerment.

ISEESeminar/2019/ABS/405

Local Self- Governance: A Right Platform for Empowering Rural Women

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ABSTRACT

PRI is beginning to transform the process and priorities of local Government in India as well as the women also have been brought into politics. Then representation in the Panchayati Raj system is a unique experiment which translates the idea of empowerment of women in reality. The process of challenging the existing power relation and of gaining great control over the sources of power may be termed as empowerment. This is how feminist scholars and activities have broadly defined the term. At the same time empowerment is an active, multidimensional process, which enable women to realize their full identity and powers in all spheres of life. It is not a commodity to be transmitted nor can it be given away power has to be required and once acquired it needs to be exercised, sustained and preserved. Empowerment is a process of awareness and capacity building leading to greater participation decision making and transformative action. This paper is an attempt to know extent of empowerment of panchayat women. The study was carried out in Pusa Block of Samastipur district in Bihar. In order to have a clear knowledge of the extent of women empowerment through local self governance, the study included both the positional women leader of gram panchayats of Pusa block and reputational women leader of this institution. The data obtained were quantified as per rules and put to statistical analysis by using different statistical tools for drawing meaningful

conclusions. This paper concluded that there was an overall positive impact of increased participation of women in Gram Panchayats as the representations of the society.

Keywords: Local Self-Governance, Gram Panchayat, Decision Making, Empowerment

ISEE Seminar/2019/ABS/406

Extension Agencies Utilized by Camel Owners in Arid Zone of Rajasthan

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ABSTRACT

Camel management practices are more tradition than scientific in rural area of Rajasthan. The present study was carried out to know the extension agencies utilized by camel owners to get information about camel husbandry. A total number of 120 camel owners were selected randomly from 8 villages. These villages were selected randomly from purposively selected two districts, i.e. Bikaner and Jaisalmer. The quantitative and qualitative data were collected from a semi-structured interview schedule, discussion and observation. Each extension agency was ranked according to weighted mean score of utilization. For regular and occasionally contact, score of two and one were given, respectively. The results revealed that progressive farmers were the most utilized personal localite source of information with the weighted mean score of 1.47. Family member was the second most utilized localite source of information with the weighted mean score of 1.39, followed by friends (MSW 1.16) and neighbours (MWS 1.08). In case of personal cosmopolite source of information, Veterinary Officers and Livestock Assistant of animal husbandry department were most utilized source with weighted mean score of 1.27. They were easily and only available technical person to the camel owners. Other personal cosmopolite sources of information were medical store keepers (MWS 0.91), Officers of State Veterinary/Agriculture University (MWS 0.09) and NGO (MWS 0.04) with ranks, 2nd, 3rd and 4th, respectively. Camel owners were contacting medical store keeper in case of unavailability of Veterinary technical persons. Officers of State Veterinary/Agriculture University were the occasionally available extension agency as they were only available in trainings and veterinary camps.

Key words: Camel, Extension agency, Veterinary, Agriculture, Training

ISEE Seminar/2019/ABS/407

Technology Sharing among Trainee and Non-Trainee Layer Farmers of Uttar Pradesh State

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ABSTRACT

Uttar Pradesh is one of the northern states where poultry farming is in developing stage as compared to other

northern states like Punjab and Haryana. Layer farming has been practiced in few central and eastern districts of the UP by the farmer's entrepreneurs at small to medium scale. The layer farming has gained momentum through the entrepreneurship development scheme for the development of layer farming to meet out demand of eggs in the state. So, study was conducted to assess the extent of technology sharing among layer farmers. Total 84 layer farmers from five different agro-climatic zones (out of nine) of state UP were selected. Out of these total 84 layer farmers, 54 trainees and 30 non trainees were selected from same agro-climatic zones. Layer farmers share technical knowledge to the other farmers by motivating them to adopt the layer farming, further helping them in establishing the farm. This was measured by data collected through mailed questionnaire and telephonic survey. The study revealed that about 70 per cent of trainee layer farmers had low level (<6 farmers) of technology sharing among farmers. About 16.67 pe cent of layer farmers had medium (7-13 farmers) and rest (13.33%) were having high (>14 farmers) level category of technology sharing. While, in case of non-trainees, huge majority (85.18%) of layer farmers were belonging to low level, followed by medium (9.26%) and high (5.56%) level category of technology sharing among farmers. Altogether, huge majority (79.77%) of the layer farmers were belonging to low level category of technology sharing, followed by medium (11.90%) and high (8.33%) level of categories among farmers. However, the proportion of trainee layer farmers in medium and high categories was higher than non-trainee layer farmers. The pooled data reveals that the mean of technology shared farmers was 5.29. The average technology shared among farmers of the trainee and non-trainee layer farmers were 5.27 and 5.17, respectively. So, technology sharing was higher in trainee layer farmers. This might be due to their high knowledge and adoption level, high socio-economic status due to training which makes them early adopters.

Key words: Technology, layer farmers, Entrepreneurship, Knowledge, Adoption, Training

ISEE Seminar/2019/ABS/408

Enterprising Agriculture: Scopes and Strategies

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ABSTRACT

Agriculture and allied sectors are the backbone of our country's economy. They contribute about 15.8 per cent to the total GDP and is a source of livelihood to about 54.6 per cent of the total population of our country (Economic Survey 2018-19). The sector is currently facing a declining trend in productivity and profitability due to several challenges which include natural resource constraints, increasing fragmentation of land holdings, frequent climatic variations, rising input costs, post- harvest losses, etc. The highest percent of disguised unemployment is also seen in this sector. Rural youth who constitute about 70 per cent of the total youth population of the country (Youth in India Report, 2017) are leaving agriculture and choosing low wage jobs that is affecting both their livelihood and lifestyle. Entrepreneurship in agriculture sector can play a vital role in transforming agriculture by providing various on-farm employment opportunities to the farmers. It can improve the overall value chain of agriculture and make it more remunerative and productive. There is a vast scope for agripreneurship at various levels from Farm level producers, Service providers, Input producers, Agro-processors etc. There is a need to make our farmers aware about the vast scopes of agripreneurship and provide them with need based training on entrepreneurship knowledge and skills to increase their competency to start a new venture in agriculture. Strategies for entrepreneurship development are the long term plan which sets the goals and ways of achieving these goals. The strategies can be related to land, labour, capital, income or the whole business. Proper strategies need to be developed and implemented for enterprising agriculture and make the future of our food more secure and sustainable.

Keywords: Agriculture, GDP, Entrepreneurship, Youth, Scopes, Strategies

ISEE Seminar/2019/ABS/409

NICRA: A Smart Initiative towards Climate Smart Agriculture

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ABSTRACT

Climate is changing day by day, due to the man-made disturbances. These changes are having adverse impact on human health and environment. Agriculture in India is more vulnerable to the imbalances of weather, and the threat of climate change has increased this vulnerability further. The Inter-Governmental Panel on Climate Change (IPCC) predicts that temperatures in India are likely to rise by 3-4 degrees Celsius by the end of the 21st century. This change can have negative impact on irrigated crop yields across agro-ecological regions. National Innovation on Climate Resilient Agriculture (NICRA) is a flagship project of ICAR, initiated on 2nd Feb, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technical demonstration of climate resilient agricultural practices. In this paper, a review is made to highlight the major achievements, limitations and future implications of the project. For the purpose, literature from various secondary sources was collected and critically analysed in the light of the objective of the study.

Keywords: Climate, Resilient, Vulnerability, Climate Change, NICRA, IPCC

ISEE Seminar/2019/ABS/410

Behaviour of Entrepreneurship of Vegetable Growers of District-Kushinagar, Eastern Uttar Pradesh

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ABSTRACT

Entrepreneurship is a form of human resources. The entrepreneurs are considered most important for economic development of the world. The present study was conducted in Kushinagar district of Uttar Pradesh. There are 2 blocks and 11 villages selected randomly for the study purpose. 110 sample size. The data collected by interview schedule. The variables are 11 independent and 5 dependents respectively. The socio-economic status of vegetable growers shows: 46.37 % low but 7.28% of high status belong to the respondents and 24.55% low entrepreneur which is 67.27% of middle, other or high 8.18%. The major constraints faced by the farmers were unavailability of quality seeds, high cost of chemical fertilizer, price fluctuation in the market and lack of vegetable marketing facilities etc.

Keywords- Entrepreneurs, vegetable, Behaviour

ISEE Seminar/2019/ABS/411

Superfood Quinoa: A New Nutrient Dense Crop Opening Prospects to Restrain Malnutrition Among Rural Population

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ABSTRACT

Superfood quinoa (*Chenopodium quinoa* Willd.) was introduced in India as early as 1960s but it was able to gain much publicity recently, when FAO declared 2013 as Year of Quinoa. This is originally an Andean crop, which gained world wild attention because of its ability to grow with minimum of resources even on dry lands and saline soils. Quinoa has an excellent nutritional profile with having high level of quality protein with sulphur rich amino acid, minerals, vitamins, natural antioxidants, Dietary Fiber, etc. in the proportion best available in any vegetarian food at par with non- vegetarian diets. Cultivation of quinoa gain popularity due to its nutrient dense profile which attracts diet conscious elite class who wants to have it despite of its very high price. Karnataka, Tamil Nadu, Andhra Pradesh, Gujrat and Rajasthan leads in quinoa cultivation with the target of 50,000 farmers to take up its cultivation in the year of 2016-17 as it fetches better price with minimum of input cost required for its cultivation. As part of Crop Diversification and Nutrition Sensitive Agriculture Initiatives KVK-II, Sitapur (U.P.) introduced quinoa in the District among its 20 farmers for grain cultivation in collaboration with NBPGR, New Delhi and undertaken several experiments to develop agro-techniques for quinoa cultivation and found that early sowing in the first fortnight of November enhances weight of the grains and grain yield while it decreases when sown in December month. Plant spacing of 45x15 cm produced significantly higher weight and yield with RDF. The nutritional profiling of quinoa seed showed its superiority for protein (17.2-19.7%), dietary Fiber (16.8-21.7%), Minerals like Iron (22.8-31.7 mg/ 100g, Zinc (7.81-10.7 mg/100g) and Copper (1.31-1.91 mg/100g). KVK also introduced quinoa in nutritional gardens for its Green leaves consumption used as vegetable, as leaves also are found to be very nutritious. Through cultivation of quinoa is very easy but its processing is difficult, we developed local level process of Saponin removal from the grain to increase its household level consumption, as its marketing is still an issue for the farmer. We assume that quinoa will emerge as one of the best alternative crop to achieve nutritional security and resource conservation.

Keywords: Super Food, Malnutrition, Nutritional security

ISEE Seminar/2019/ABS/412

Performance of High Yielding Varieties of Mung Bean (*Vigna radiata*) in Bundelkhand Region

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ABSTRACT

Demonstrations on mung bean in the crop cafeteria of farm at Banda University of Agriculture & Technology, Banda-210001, Uttar Pradesh under dry condition in Bundelkhand region were conducted in kharif season of 2018 and 2019. Mung bean is a short-maturity summer pulse that fits well in existing cropping systems in Bundelkhand

region. It has much potential to improve human nutrition and agricultural sustainability in both countries. However, the expansion of mung bean is constrained by several factors. This study shows that only a minority of farmers were aware that the cultivation of mung bean can improve soil fertility and increase the yield of the subsequent crop. Unavailability of good seed, damage of crop from pests and diseases, uncertain weather conditions and shortage of labor are the main reasons for low productivity. Addressing these issues can unleash the potential of mung bean to contribute to human nutrition and agricultural sustainability. Two high yielding varieties (IPM 2-3 and PDM 139) and one local cultivar as a check were taken for demonstration. Average data of both the years showed that IPM 2-3 gave highest yield, gross income, net income B:C ratio and percent increase over check i.e. 13.25 Q/ ha, Rs. 92906.25, Rs. 70906.25, 3.22:1 and 43.27 followed by PDM 139 i.e. 10.00 Q/ha, Rs. 70106.25, Rs. 48106.25, 2.19:1 and 8.04 followed by check i.e. 9.25 Q/ha, Rs. 64856.25, Rs. 44356.25, 2.16:1 respectively.

Key words: Mung bean, yield, percent increase over check, demonstration, Bundelkhand region

ISEE Seminar/2019/ABS/413

Small-Scale Farmer to Entrepreneur: Response to Change

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ABSTRACT

The ongoing rapid changes in agriculture and allied sectors warrant smallholder farmers to transform as competent entrepreneurs for continued existence and raising income. Developing from a farmer to an entrepreneur requires intelligent response to these changes through timely adaptation and exploiting opportunities. Some of the strategies that can be adopted like capturing value within the value chain, farm and non-farm diversification, integration, specialization etc. are discussed. Since entrepreneurship is the key factor for the survival of small scale farmers, it is high time that agriculture and allied sectors develop as an enterprise and farmer as an entrepreneur.

Keywords: Small-scale farmer, entrepreneurs, response to change

ISEE Seminar/2019/ABS/414

Doubling Farmer's Income

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ABSTRACT

Under Indian context, the prosperity of a country depends upon the welfare of farmers and majority of the Indian farming communities follow traditional norms of agriculture which support their livelihood. Farming in India is characterized by small, marginal, and fragmented land holdings (about 86 per cent) and is highly depended on monsoon showers. Operating small holdings is often unviable and in this situation, farming is not a profitable business or enterprise. Major challenges and issues in agriculture are high cost & less availability of hybrid seeds/ HYV, low spread of hybrid and high yielding varieties, Imbalance or excessive use of chemical fertilizers and pesticides, High cost of production, Market price fluctuation in on and off season, Low level of farm mechanization and lack of marketing and transport infrastructure, primary processing facility etc. Therefore, there is an need of

transformation in agriculture production combined with integrated farming system approaches that involves crop cultivation, dairy, fishery, mushroom cultivation, poultry, agro-forestry, piggery, beekeeping, fruit and vegetable production, use of renewable energy source (*i.e.* Biogas, Solar energy) etc. For doubling of the farmer's income few strategies need to be adopted considering the basic requirements of the farmers. These strategies might be massive investments in agricultural research and development, adoption of Conservation Agriculture Technology, Good Agricultural Practices, Judicious use of available resources and inputs, Implementation of farmer's friendly policies along with improved market and transportation facility, Minimum Support Price Reform, Supported by adequate and timely availability of bank credits. It has been reported that a rise in MSP will raise farmer income by 13-26 per cent. Smart farming and credit supporting smart farming are other possible strategies in doubling farmer's income.

Keywords: Doubling Farmers Income, Good Agriculture Practices, Minimum Support Price

ISEE Seminar/2019/ABS/415

Extent of Mass Media Utilization among Dairy Women's

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ABSTRACT

The study was conducted in the Girwa and Salumbar tehsils of Udaipur district of Rajasthan to identify the different dairy animal management practices prevalent among the women dairy farmers. For the study 120 dairy farm women were selected purposively. The data were collected through pre-structured interview schedule. The study was conducted to assess the extent of mass media utilized by dairy women. The results reveals that majority (70 %) of the respondents in Girwa tehsil had low level of mass media exposure, whereas 30 per cent had medium level of mass media exposure and no one had high level of mass media exposure. Similarly, in Salumbar tehsil three-fourth (75 %) respondents had low level of mass media exposure, whereas only one-fourth (25 %) respondents had medium level of mass media exposure and no one had high level of mass media exposure. Overall, majority (72.5 %) of respondents had low level of mass media exposure, while remaining 27.5 per cent respondents had medium level of mass media exposure and none of them were having high level of mass media exposure. The pooled data indicate that majority of the respondents had low level of mass media exposure in the study area. Low mass media exposure may be due to the fact that most of the respondents were illiterate and were not well versed with the ICT tools like internet, mobile phones etc. illiteracy also restrict them to enjoy newspaper and magazines thereby leading to poor mass media exposure of tribal women respondents in the study area.

Keywords: Dairy women's, Mass media, illiterate, ICT

ISEE Seminar/2019/ABS/416

Group Approach for Protected Cultivation: A Technological Intervention for Climate Smart Agriculture

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ABSTRACT

Climate changes and Urbanization are compounding challenges to livelihood increasing distresses and require managing of vulnerabilities, adaptations, coping and mitigations. Participatory integrated management of resources within clusters consisting of transparency, contributions, equity, farming system and all inclusiveness is a major driver of the current rural development process. The recent strategy focus on enhanced farm productivity, diversification and income generation through high tech agriculture, this provides an opportunity to directly increase the income of farmers with very small land holdings. Considering this opportunity KVK, Parbhani gave support through capacity building and convergence for evolving a business model by using the protected cultivation for creating sustainable livelihood among the members of Jai Malhar Farmers Group established in 2013 which consists 20 members of big, small and marginal farm holdings from village Mangrul, Tq.Manvat of Parbhani district of Maharashtra State. This group was facilitated for raising high value flower crops under Shade net house in the village. KVK introduced Dutch rose cultivation under shade net house to fetch more income from less area. Group of 15 farmers was created and proposal submitted to the Mission on Integrated Development of Horticulture (MIDH) for subsidy. 10 farmers got sanction from district authority for construction of Shade net house of size 2000 sq.m. Separate proposal for plating material of high value flower crops was again submitted and also got sanction for the same. Technological support was provided for site selection, soil preparation, round top shade net house structure, purchasing all inputs together which gives noticeable discount, identification of high value crops like Dutch Rose (Variety - Top Secrete), procurement of seedlings, periodic inspection of the crop, training on handling and package of harvested crop, development of market linkage and contract agreement with buyer for regular purchase, etc. Dutch Rose (Top Secrete variety) under Shade net House in 2 ha. (2000 sq.m for each farmer) were raised. Drip irrigation system was used. Construction cost of Rs. 1,20,67,190/- was computed for group of 10 farmers. Subsidy of Rs. 59,90,000/- was availed. Cost of planting material was Rs. 85,20,000/- and subsidy of Rs. 42,60,000/- was also availed. In total, cost of construction and planting material was Rs. 2,05,87,190/-, in which Rs. 1,02,50,000/- total subsidy was taken up by the group. In first year, 35,00,000 flowers (25,00,000 long stem flowers and 10,00,000 loose flowers) were harvested by the group. Gross income of Rs 85,00,000/- was obtained by the farmers in first year. In second year, 3,00,000 flowers per month were harvested with gross income of Rs. 6,00,000/- and net income of Rs 4,80,000/- per month from 2 ha of land, it means each farmer in group were getting gross 6 lakhs with Rs. 4.80 lakhs net income in a year from 20 R. Group approach for protected agriculture technology enhanced crop yield by 3-4 times. And also reduces the other risks like varied climatic condition, glut in market price at season, high incidence of pest and diseases on traditional crops etc. It proves the importance of group farming approach for protected cultivation is the successful technological intervention for climate smart agriculture.

Keywords: Group Farming, Shade Net, Protective Agriculture, etc.

ISEE Seminar/2019/ABS/417

Implications of Institutional Interventions of Farm Diversification and Food Security

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ABSTRACT

One of the strategies to achieve food security is diversification of farm enterprises. Technology mission for integrated development of horticulture in NE region, National agriculture Insurance scheme,Technology mission on cotton,Watershed development fund,Seed bank scheme and Cooperative sector reforms (1952,1984) are the initiatives of central Govt. related with promotion of diversification of agriculture. Area specific diversification programmes also can be seen in green revolution belt in the form of crop diversification programme which is implemented as part of RKVY (2014-15).Haryana state has already implemented programmes like crop cluster development programme and Bhavantar bharpayee yojana and 50 percent subsidy to shrimp farmers as part of farm diversification. Government policies also favouring diversification which is visible in announcement of MSP. Govt. has announced MSP at a level of at least 150 percent of cost of production of 22 crops-14 Kharif season crops (Paddy, Jowar, Bajra, Maize, Ragi, Arhar, Moong, Urad, Groundnut-in shell, Soyabean, Sunflower, Sesamum, Nigerseed and Cotton), 6 Rabi crops (Wheat, Barley, Gram, Lentil, Mustard and Safflower), 2 commercial crops (Jute and Copra). Due to more ecological concerns in diversified farming, it plays a significant role in assuring food security.

Keywords: Implications, Institutional interventions, Farm diversification, Food security

ISEE Seminar/2019/ABS/418

Water Footprint as a Crisis Assessment Tool with Special Reference to Water Distress

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ABSTRACT

Water is a critical input into agriculture in nearly all its aspects having a determining effect on the eventual yield. Good seeds and fertilizers fail to achieve their full potential if plants are not optimally watered. India accounts for about 17% of the world's population but only 4% of the world fresh water resources. Surveys conducted by the Tata Institute of Social Sciences (TISS) showed most of urban cities are water deficient. Nearly 40% of water demand in urban India is met by ground water. The government outlined a National Water Policy in 2012 articulating key principles relating to demand management, usage efficiencies, infrastructure and pricing aspects of water. Major challenges include estimation of ground water resources, agricultural crop pricing and water intensive crops and energy subsidies and ground water extraction. The water footprint of a product is an empirical indicator of how much water is consumed, when and where, measured over the whole supply chain of the product. The water footprint of an individual, community or business is the total volume of freshwater that is used to produce the goods and services consumed by the individual or community or produced by the business. Moreover, a WF normally considers green and grey water and blue water as the components. In many parts of the world, consumers

and companies are becoming increasingly concerned with issues of sustainability and natural resource use. In this context, and as noted above, water scarcity is rising up the public agenda and water footprints of specific products have been developed to aid understanding of potential direct and indirect impacts on The connections between WF assessments, water policy and policy on related issues such as trade, economic development and agriculture have been the subject of discussions at major conferences in recent years. The Water Footprint Network has also begun to consider the policy implications of WF more systematically. A WF analysis is not a silver bullet and there are many water policy and water resources management tasks which are beyond its scope. No single stakeholder can solve the complex issues facing the agriculture sector today. Partnerships among stakeholders in the water, agriculture and climate-related sectors are necessary to tackle the challenges of food security under climate change and growing water scarcity.

Keywords: Water Footprint, Scarcity, Energy subsidies, supply chain, Natural resource, assessment

ISEE Seminar/2019/ABS/419

Gender Based Issues in Agriculture: A Need to Think

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ABSTRACT

Agriculture is the largest employment sector for 60 percentages of women in Oceania, Southern Asia and sub-Saharan Africa and women make up 2/3 of the world's 600 million small livestock managers. Despite this, women's activities in agriculture are characterized by a global gender gap in vulnerabilities, access to resources, and productivity. The aim of using gender analysis in agriculture is to generate economic and social gains , improve overall project performance , overcome gender-based barriers, promote equal opportunities , increase both men's and women's participation and ensure that new technologies will not have an adverse impact on women and assist in achieving agricultural growth to assist in achieving agricultural growth for global and national food security global and national rural income growth and poverty reduction rural income growth and poverty and sustainable natural resource management. Gender is one of the many constraints to increase agricultural productivity .Women tend to face more barriers than men through higher effective costs leading to lower productivity of information and technology, inputs, credit, lack of incentives to increase productivity because food crop prices are low, market infrastructure is poor, men's control of income from the products of women's labour and time constraints due to household and childcare tasks. Gender issues in agriculture can be addressed through enhancing women's participation in economic development , design gender-sensitive policies and programs by identifying barriers ,assessing costs and benefits of strategies , ensuring effective implementation, establishing effective gender-disaggregated monitoring and evaluation , reviewing and modifying the legal and regulatory framework ,strengthening the database for gender analysis and obtaining necessary financing. New commodities and technologies can increase the demand for women's labor through irrigation of crops, introduction of animal traction, introduction of modern hybrid varieties, sedentarization of pastoral societies, where women become responsible for crop production, more cooking of new grain-based diet and collection of water and fuel.

Keywords: Women, Gender, Agriculture, Gender disaggregated monitoring, Evaluation, Technology

ISEE Seminar/2019/ABS/420

E- Choupal: A Digital Approach for Marketing

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ABSTRACT

During marketing farmers have to face the challenges of fragmented farms, weak infrastructure, the involvement of intermediaries and weak market orientation. The solution to this can be E-Choupal. E-Choupal is an agri-based business initiative by ITC that provides internet access to rural farmers to sell their produce at their doorsteps thus reducing the intermediaries and multiple handling. This system also provides information about weather reports, new agriculture practices, price of crops in their area and risk management. A Sanchalak from the local community is appointed by the ITC with the internet training and access through whom farmers can register with the website to sell their produce. Farmers get higher price through this when compared to traditional Mandi (it reduces the transportation cost middleman charges and labour cost). The crops include rice, wheat, pulses, mango, coffee, shrimp and prawn. This website can also be used to order seeds, fertilizers and other products from ITC. It gives the farmers a Win-Win situation through market led business, customization and cost reduction.

Keywords: Agri based initiative, Doorstep; Market led business, Win-Win situation

ISEE Seminar/2019/ABS/421

Concept of Nutri-Smart village in Chhattisgarh

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ABSTRACT

KVK Gariyaband (C.G.) selected 7 villages namely Hardi, Kokadi, Kasarbay, Kochbay, Nahargaon, Patharmohanda and Maroda of Gariyaband block to develop them as model nutri smart villages of Gariyaband district. The total population of 7 villages is 8155 consisting of 2380 families. There are 13 Anganwadi Kendras and a total of 3,570 ha area in these 7 villages is under cultivation. Main crops being cultivated are rice, wheat, lathyrus, gram and pea. KVK Gariyaband has taken initiative to work towards nutritional security of women and children of these villages in collaboration with other departments like Women and Child Care, Health department and Agriculture etc. As a part of the initiative door to door base line survey was done to know the Agri Nutri Status of 7 selected villages. During the survey information regarding the traditional crops grown and their traditional use in the daily diet of the villagers was collected. Various capacity building programmes were conducted in convergence with Line Departments to promote development of Nutritional Kitchen Garden in these villages and to bring awareness on nutritional benefits of drum stick plants, curry leaves, aonla, lime fruits and guava etc. Nutrition Enhancement through Ready to Eat new recipes (RTE Halwa, Ladoo, Biscuit and Cheela) and Soybean badi recipes (Soybean badi kheer, Soybean badi rasmalai, Soybean badi pulaw, Soybean badi sabji, Dry soybean badi sabji) was also done by KVK. Training on Mushroom production technology and Small poultry farmer (dual purpose commercial poultry (Kuroiler) rearing technology) was imparted in these villages under MMKVY. During the trainings the women were advised to incorporate fruits and vegetables in their daily diet in order to get balanced nutrition. As a part of the initiative vegetable and fruit plants were distributed to malnourished families.

Keywords: Nutri-Smart village, Nutrition, Chhattisgarh

ISEE Seminar/2019/ABS/422

Sources and Measures of Water Pollution

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ABSTRACT

We already know that Water is the most important resource on the planet. It is the essence of all life on earth. And yet if you ever see a river or lake around your city, it would be evident to you that we are facing a very serious problem of Water pollution. Let us educate ourselves about water and water pollution. Water pollution is the contamination of water bodies (like oceans, seas, lakes, rivers, aquifers, and groundwater) usually caused due to human activities. Water pollution is any change in the physical, chemical or biological properties of water that will have a detrimental consequence of any living organism. Pollution can be defined as the introduction into a body of water of substances whose characteristics and quantity alter or impair its usefulness or render it offensive to the senses of sight, taste, or smell. It may involve either a surface or underground supply. By definition, the process involves an intermediary whose function is to introduce the pollutant into the body of water. Pollution may therefore be considered a direct function of population. Historically, population growth and increased pollution have occurred simultaneously. Waste abatement problems are increasing daily in number and complexity. Pollutants such as synthetic detergents, brines, heat, insecticides, herbicides, and radioactive sub-stances are assuming increased importance. Solutions to many of the modern pollution problems are yet to be obtained and can be developed only through concentrated research efforts. Prevention of Water Pollution: **Sewage treatments,** the household water should be treated properly so that they become environmentally safe. Adequate care should be taken to ensure that effective sewage treatment process is in place and that contaminated water does not get mixed with the environment. In order to prevent water pollution, human and animal excreta should be prevented from mixing with its sources. Construction of pit toilet and proper sewage treatments can offer some solution to this problem**. Prevent river water to get polluted:** The flowing water of the river cannot be cleaned easily by natural process. Since, a large number of external substances are discharged into the water, the river water becomes polluted. This may cause diseases to the people using river water, **Treatment of wastes before discharge:** Factories are expected to treat its effluent wastes prior to discharge. Toxic material must be treated chemically and converted into harmless materials. Use environmentally friendly products: By using soluble products that do not go on to become pollutants, we can reduce the amount of water pollution caused by a household. If possible, factories should try to recycle the treated water. **Strict adherence to water laws, treatment of drainage water:** It cities, a huge amount of water is put into drains every day. The water that flows through the city drainage system should be properly treated. **Treatment plants, Keep the pond water clean and safe, routine cleaning don't pour insecticides in sinks and toilets, Self-hygiene, sanitation and public awareness.**

Keywords: Water pollution, Animal excreta, Contamination, Sanitation, Cleaning, Measure

ISEE Seminar/2019/ABS/423

Impact of Front Line Demonstration on Chickpea to Meet the Deficit Pulse Availability in Malwa Plateau and Central Plateau Region of India

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ABSTRACT

Front Line demonstrations (FLDs) are the important extension techniques to convince the farmers about latest farm technologies. The present study was conducted to assess the impact of frontline demonstrations Bengal gram crops conducted in the Central Plateau Region of Maharashtra and the Malwa plateau of Madhya Pradesh. Study revealed that improved cultivation practices comprised under FLDs viz recommended varieties; seed rate, timely sowing and plant protection technology resulted in increase in yield in gram crop over the check plots. Technology gaps, extension gaps and technology indices were calculated to analyse the performance of these front line demonstrations at farmers' fields which indicate the role of extension functionaries to act in a mission mode to fill the gaps and make the region self-sufficient in pulses.

Key words: Front Line Demonstrations, Potential yield, Chickpea, Technology index

ISEE Seminar/2019/ABS/424

Constraints Faced by Livestock Farmers in Utilization of Livestock Services in Jaipur district of Rajasthan

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ABSTRACT

An exploratory study was conducted in Jaipur district of Rajasthan to find out the constraints faced by livestock farmers in utilization of different livestock service delivery systems and their suggestions for overcoming these constraints. Data were collected from 120 randomly selected livestock farmers through structured interview schedule.The study revealed that non (or disgraceful) availability of A.I./P.D. at doorstep (79.16%),no provision of subsidy on local animals (74.16%), non availability of staff during night (68.33%), inappropriate working timings of hospital facilities (58.33%) and high expenses of medicines and treatment (45.84%) were perceived as 'most serious constraints' by livestock farmers. High cost of private veterinary services (62.50%), less availability of qualified specialists (58.33%) andnon (or improper) availability of emergency treatment at doorstep (54.16%) were perceived as 'serious constraints' by them. Among the 'less serious constraints' were deficient medicines and other infrastructural facilities of hospitals (75.00%), non-availability of feed and input material and fodder seeds (51.66%) and inadequate facilities for deworming and vaccination (50.00%). A great majority of the livestock farmers were in agreement with the suggestions like provision of adequate medicines and infrastructure facilities (97.50%), provision of improved A.I. and P.D. facilities at farmers' doorstep (93.33%), provision of emergency treatment at doorstep (91.66%) and making services available round the clock (89.16%).

Keywords: Constraints, Emergency treatment, Livestock service delivery systems, Vaccination

ISEE Seminar/2019/ABS/425

Outstretching Food and Nutritional Security to Rural Communities

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ABSTRACT

India is one of the fastest developing nations of the world. It is achieving progress in almost all the fields and is of course giving tough competition to the developed nations most of the times. In terms of agricultural productivity, India has amazingly transformed itself from a food deficit agriculture to a self sufficient one with a total grain production of 283.7 Mt during the year 2018–19. In spite of this fact, this grain is not reaching all the mouths of the country. Also it is not promising that the food is able to meet their nutritional requirements leading to various physical and mental impairments. In this context, Food and Nutritional Security concept has become prominent .Food security is defined as the availability and the access of food to all people and Nutritional security demands the intake of a wide range of foods which provides the essential needed nutrients. Though India has large food security programmes, there are critical gaps in achieving the objective of food and nutritional security .One major reason for this which can be considered is that 833 million i.e., almost 68.84% of the Indian population lives in rural areas lacking accessibility to the basic amenities. Initiatives like special financing for food retailers, cooperative grocery stores, Farmers markets, Farm to School initiatives, Food pantries etc are few to mention which can be made use of to attain food and nutritional security in the country

Keywords: Food and Nutritional security, Farm to School initiatives, Food pantries

ISEE Seminar/2019/ABS/426

Achieving Sustainable Development Goals (SDGs) through Climate Resilient Livestock Production

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ABSTRACT

The Report of the United Nations Conference on Sustainable Development held in Rio-de-Janeiro, Brazil in June 2012 (**also known as Rio+20**) called "The Future We Want" paved the way for formal consultations on post-2015 development agenda in the form of Sustainable Development Goals (SDGs). The SDGs are a sequel to the Millennium Development Goals which will be completed in year 2030.The SDGs are a set of 17 specific goals and 169 targets offering special focus on sustainable development. Livestock are central to achieving many of the Sustainable Development Goals (SDGs) and directly relevant to most of them. The growing demand for livestock products in developing countries, driven by population growth, higher incomes and urbanization, represents a huge opportunity as well as burden on ecosystem and resulting in climate change. Improving the efficiency of livestock productivity per animal, can double livestock production while halving its adverse environmental impacts, including reducing emissions of greenhouse gases. Livestock production has been recognized as a key element to achieve the SDGs, therefore, it is creating inherent synergies and trade-offs between and within SDGs,

such as producing and consuming responsibly (SDG12), acting on climate change (SDG13) and preserving life on earth (SDG 15).Climate resilient livestock production will incentives and rewards for environmental stewardship to the sector for transition to existing and new resource use efficient ways of production and a greater contribution to climate change mitigation by ensuring availability and sustainable management of water and sanitation which helps to reduce discharge and pollution, as well as associated public health risks (e.g. waterborne and zoonotic diseases). Climate change affects livestock production in, both directly and indirectly, including through increase of CO_2 concentration in the atmosphere and variations in rainfall and temperature, while livestock make a significant contribution to climate change emitting 14.5 percent of human-induced GHG emissions. Improved feeding and grazing management and climate resilient adaptation strategies can lead to reduce the greenhouse gas emission by farm animals to combat climate change and its impacts.

Keywords: Sustainable Development, climate change, Mitigation

ISEE Seminar/2019/ABS/427

Study on Knowledge and Adoption level of Improved Practices of Wheat Cultivation in Kanpur Dehat (U.P.)

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ABSTRACT

Wheat is the major cereal crop in India with a cultivated area of about 30.23 m hectare and production of about 93.50 m tones. In India, Uttar Pradesh, Punjab and Haryana occupies a prime role in wheat production with a supply of about 72 per cent of country's wheat output. In district Kanpur Dehat, wheat is grown as the main source of food and money for the most of the people. There is a wide scope of increasing the productivity of wheat and the living standard of the farmers if they adopt the improved practices of cultivation. The investigation was done with the main objective to study the knowledge and adoption extent of improved practices in the cultivation of wheat among the farmers of district Kanpur Dehat, (U.P.). A total number of five villages from one block Sarvankhera were selected by following the random sampling method. One hundred and twenty respondents were selected based on simple random sampling method. The data was collected by personal interview method through pre tested structured interview schedule. Appropriate statistical procedure was employed to analyze and interpret the data. It was found from the study that majority of the respondents were of middle age groups, having education up to middle school level, with small land holdings and agriculture as their main occupation. Majority of the respondent were participants in one organization, Gram Pradhan was their main source of formal information while mobile was the main source of the mass media of exposure.

The respondents were medium in innovativeness, economic motivation, scientific orientation and risk orientation. It was observed that majority of the respondents had medium knowledge level and medium extent of adoption of improved practices in the cultivation of wheat. The most important constraints faced by respondents were lack of irrigation facilities, high cost of HYVs seeds, fertilizers and chemicals and weather conditions and unexpected rainfall at the time of harvesting. Suggestions given to overcome the constraints were provision of ample irrigation facilities, provision of training programme related to improved practices of wheat cultivation, availability of HYVs seeds on subsidized rates.

Keywords: Adoption, Improved Practices, Wheat, Cultivation

ISEE Seminar/2019/ABS/428

Digitalizing Indian Agriculture: A Boost in Marketing

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ABSTRACT

According to the Indian statistics, 500 million users of the internet have been reported by the end of 2018. India always relied on traditional methods of marketing like door to door advertisement, word-by-mouth publicity, television commercials, radio announcements, etc. until the internet happened which changed the marketing tools from humans to gadgets. In this modern era, social media is the biggest power for rapid growth of any sector viz. agriculture, service, and industry. The emerging market of gadgets like smartphones, laptops, tablets etc. only enhanced the pace of usage and penetrated a large mass of audience with minimal efforts. Digital marketing is already an established concept in service and industry sectors and has also penetrated the agriculture sector but quite late. Expertise in agriculture and allied sectors facilitate us to hit the social media algorithms that boost engagement of customer for agriculture brands, creating awareness of customer and adding values to agricultural services. In upcoming days, with the proliferation of internet access and increasing computer literacy rates, the digital marketing will play an important role in helping the agricultural producers. Being an emerging economy and one of the largest markets, India has huge potential to take the advantage of fastest growing digital marketing industry. Although there is unlimited access to the market information, low literacy level of farmers and multiple channels of distribution eat away the pocket of both farmers and consumers. This study will provide a brief overview of the constraints and opportunities of digital marketing in the Indian scenario.

Keywords: Digital marketing, agriculture, internet, social media

ISEE Seminar/2019/ABS/429

Constraints Regarding Animal Welfare Practices in Mumbai Metropolitan Region

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ABSTRACT

Animal welfare is the application of sensible and sensitive practices towards animals both in commercial farms and at domestic level. It is based upon how the animal is treated by its owner, does the animal have freedom to express the natural behavior. The present study was undertaken in Mumbai Metropolitan Region of Maharashtra from which three districts viz., Thane, Palghar and Raigad were selected. From each district, one block and from each block ten villages were selected randomly. Further, from each village 4 dairy farmers were selected who possessed at least five milch animals and 5 years experience in dairy farming. Data was collected through structured interview schedule and analyzed by statistical tools such as mean, percentage and standard deviation. The analysis of data showed that majority of dairy farmers were of middle age had dairy as primary occupation with medium family size, land holding, annual income, herd size, milk production, milk sale, experience and had education upto higher secondary. Regarding sources of information, family members had frequently contacted personal localite category whereas paravets in personal cosmopolite. Among ICT tools, TV was frequently used tool. Garret ranking method was used to give rank to the different constraints perceived by dairy farmers regarding animal welfare practices.

Inadequate knowledge about animal welfare practices was first constraint reported followed by lack of facilities and support from the government as second constraint regarding implementation of animal welfare practices. Other constraints in order were no gain from the adoption of animal welfare practices, inadequate money to follow animal welfare practices and inadequate veterinary services at the doorsteps of farmers.

ISEE Seminar/2019/ABS/430

Assessment of Animal Welfare Knowledge among Dairy Farmers in Mumbai Metropolitan Region

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ABSTRACT

The animal welfare concept arise from that the animals also have feelings and they have freedom to express the behavior. Animal welfare means how an animal is coping with the conditions in which it lives. The present study was undertaken in Mumbai Metropolitan Region of Maharashtra from which three districts viz., Thane, Palghar and Raigad were selected. From each district, 1 block and from each block, 10 villages were selected randomly. Further, from each village 4 dairy farmers who possessed at least five milch animals and 5 years experience in dairy farming were selected. A booklet on Animal Welfare Practices in dairy animals was prepared in local language and was distributed free of cost to dairy farmers. A cognitive test was developed to assess the knowledge of farmers about animal welfare practices. Around 60 items on various domains of animal welfare viz., feeding management, care and management of heifers, milking methods, housing and calf management were initially constructed as multiple choice, true or false and yes or no type of questions with a score of 1 for correct answer and 0 for incorrect answer. The discrimination and difficulty indices for each of these items were calculated after administering it to 30 respondents from non-sampled area. A total of 31 items with respect to various domains which had difficulty indices in the range 25- 75 and discrimination indices in the range 0.25-0.75 were finally selected for the knowledge test. For pre-test, knowledge test developed of 31items was administered to 120 respondents and their responses were recorded as 1 for correct answer and 0 for incorrect answer. Fifteen days after exposure to booklet, post-test was conducted by administering the knowledge test to all the respondents and their scores were recorded. The study revealed that before exposure to booklet (Pre-test) mean knowledge gain was 9 which enhanced to 13 after exposure to booklet (Post-test). Mean knowledge gain among dairy farmers was 4 and percent knowledge gain was 12.90.

ISEE Seminar/ABS/431

Effect of Feeding Calcium supplement after Deworming on Milk Production in Lactating Buffaloes

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ABSTRACT

An on farm trial was conducted on 18 lactating buffaloes randomly divided into two groups on the basis of milk yield (4.5 to 5.5 kg/d) and day of calving less than 60 d to note the effect of supplementing calcium after

deworming on milk yield. Buffaloes were fed concentrate, green and dry fodder and wheat straw in control group and addition of 80 ml calcium per day was given in treatment group. Experimental feeding was continued up to 90 days. The average milk production was significantly higher in treatment group. Milk production efficiency was also significantly higher in calcium supplemented group in comparison to control group. It was, thus concluded that bypass fat supplementation @ 80 ml per day per animal in buffaloes significantly increased the milk production over the control group.

Keywords: On farm trial, buffaloes, Experimental feeding, treatment group

ISEE Seminar/ABS/432

Attitude of the farmers towards agroforestry in Punjab

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ABSTRACT

This paper investigates the farmers' attitude towards agroforestry. The study was conducted in Hoshiarpur, Roopnagar and Shaheed Bhagat Singh Nagar districts of Punjab. Simple random sampling procedure was followed in selection of respondents. Two blocks from each selected districts and two villages from each block were selected randomly, thus, a total of 12 villages selected for the study. 15 agroforestry practicing respondents from each of 12 villages will be selected randomly. Therefore a total number of 180 respondents constituted the sample for the purpose of the study. The data for socio-personal characteristics and psychological characteristics were collected with the help of self-structured interview schedule. An attitude scale was prepared in accordance with Likert's summated rating scale technique for measuring attitude of the farmers towards agroforestry. Findings of the study revealed that about 60 per cent of the farmers had favourable attitude while only 5 percent of the farmers had unfavourable attitude towards agroforestry. Correlation analysis revealed that education, operational land holding, extension contacts, risk orientation and innovativeness, economic motivation of farmers significantly associated with attitude of farmers towards agroforestry. Therefore, agroforestry need to be well targeted in accordance to the socio-psychological and socio-personal characteristics of stakeholders.

ISEE Seminar/ABS/433

Agribusiness- A Concept Yet to be Unfolded

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ABSTRACT

Agribusiness industry deals with the production, processing, marketing and shipments of agricultural produce. It covers a variety of industrial, manufacturing and processing activities based on agricultural raw materials as also activities and services that go as inputs to agriculture. The development of the agribusiness industry can help stabilize and make agriculture more lucrative and create employment opportunities both at the production and marketing stages. This article tries to explore the opportunities and challenges of agribusiness sector in the country. There is no doubt that agribusiness industry has a lot of potential to improve rural incomes and can play a very significant role in creation of employment for rural youths. The present study focused on the need to critically

look at how can people get the opportunities and how can alleviate the constraints faced by the agribusiness sector in the country. There is also need to review the technological supply chain and storage facilities for a wide range of commodities produced in the country. A well-developed agribusiness system in country can make enables millions of farmers and agripreneurs to capitalize the emerging opportunities of the agriculture and allied sector. The development of agribusiness sector is the need of future to strengthening rural employment, food security and living standard of people in the country

Keywords: Production, Rural Incomes, Rural youth, Supply Chain, Agripreneurs

ISEE Seminar/ABS/434

Role of Agri-Clinic & Agri-Business Centers in Agri-preneurship Development

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ABSTRACT

India's economy is mainly dominated by agriculture with more than 60 percent population depends on agriculture. Agriculture contributes approx. 17 percent of GDP of the country. Unemployment, especially for the graduates is a major problem in the developing countries. Hence it turns to be very important to train jobless agricultural students and provide them finance to develop their own venture in agriculture and allied sectors. Agri-preneurship is an effective way to reduce unemployment and make graduates able to earn. The Agri-clinic & Agri-business Centers scheme provide training of two months to agricultural students to develop Agripreneurship. This scheme is run by MANAGE and NABARD monitor credit support of this scheme through commercial, cooperative banks. Yet 65800 students have trained under AC & ABC scheme in India, in case of Uttar Pradesh no. of trained students is 14800, out of which 7000 trained students established their own ventures.This paper is an effort to illustrate the role of Agri-Clinic and Agri-Business Centres in Agri-preneurship Development.

Keywords: Youths, Agri-preneurs, Graduates, Agriclinic, Agri Business Centre

ISEE Seminar/ABS/435

Rice Crop Manager: An ICT tool for Rapid Dissemination of Nutrient Management Recommendation

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ABSTRACT

The importance of nutrient management cannot be ignored for sustainable crop production. The imbalance use of nutrients not only affects soil health adversely but, also contributing towards significant air and water pollution. Although several work have been reported on better nutrient management, among the management practices site

specific nutrient management (SSNM) is one of the approach to ensure judicious use of the nutrients. However, the wide adoption of the SSNM approach, particularly to the resource poor farmers is major challenges. The International Rice Research Institute (IRRI) developed Rice Crop Manager, a web based decision support ICT tool which is based on SSNM principle. In this tool, Farmers have to provide 10-15 simple answers related to their crop cultivation and nutrient use pattern for the generation of SSNM recommendation. Further, the tool allows farmers to adjust the nutrient application to crop needs based on soil characteristics, water management, and crop variety on their farm. Before wide dissemination tool was evaluated in several locations of Odisha, India. RCM was identified as an important tool for increasing the profitability of farmers through improved nutrient use efficiency and better crop management. When RCM was tested in farmers' fields, it had produced more about 0.3 to 0.8 ton/ha in rice yields over traditional fertilizer application. In terms of income, there was an increase of USD 60-177 per ha per season. For the wide dissemination of SSNM recommendation, IRRI collaborated with Odisha Government, trained extension agents about the basic know how of the Tool. The local NGOs and private player were involved for wide dissemination of recommendations. In year 2016, The RCM recommendations were distributed around 850 farmers in 28 districts of Odisha. Till date in all districts of Odisha, several fertilizer recommendations have been generated by the different extension agents (Department of Agriculture, NGO and private Sector organizations) through tool. The generated recommendations were also implemented by farmers in their field. Therefore, ICTs tools can be considered as important tool in dissemination of SSNM recommendation. The RCM ICT tool ensures judicious use of nutrient and may significantly reduce air and water pollution.

Keywords: RCM, SSNM, ICT, Nutrient Management

ISEE Seminar/ABS/436

Extent of utilization of ICT tools by teachers and students in Agricultural Universities of Bihar

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ABSTRACT

The Information and communication Technologies (ICTs) can create new opportunities to bridge the gap between information haves and information have-nots in developing Countries.ICT is a part of our lives for the last few decades affecting our society as well as individual life. However teacher is a key element in the integration process of ICT in education but sometimes still credibility is lacking due to the lack of proper utilization of ICT, so emphasis must be given to the maximum utilization of Information and communication technology in present scenario. Present study was conducted to assess the extent of utilization of ICT tools by teachers and students in Agricultural universities of Bihar that included a random sample of 160 respondents. The empirical results revealed the extent of utilization of ICT tools that majority of teachers and students (52.5%) fall under the frequently Internet /web services followed by majority of teachers (51.3%) and students (66.30%) who fall under the frequently MS Word. Most of the teachers (63.80%) and students (65.00%) fall under the frequently MS Power Point and majority of teachers (52.50%) and students (63.8) fall under the frequently used MS Excel of utilization of ICT tools. Majority of 77.5% of the teachers had response for the medium level of extent of Utilization of ICT tools followed by 13.75% by low and 8.75% by high level of extent of Utilization of ICT tools and majority of 61.25% of the students had responded for the medium level extent of Utilization of ICT tools followed by low (22.50%) and high level (16.25%) .Hence, there should be an urgent need of proper training/ workshop should be arranged frequently for teachers and students for the utilization of ICT tools in agricultural universities of Bihar.

Keywords: ICT, Utilization, Teacher, Student, Internet

ISEE Seminar/ABS/437

Integrated Farming System for Livelihood Security for Farming Community

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ABSTRACT

At the advent of rainbow revolution era the knowledge intensive development plays a pivotal role in delineating the sustainable development of rural people in the country like India where in the livelihood primarily depends on agricultural vocation through the improvement of food and nutritional security and making agriculture more market driven to the rural people. Sustainable agriculture means an integrated approach to increasing farm yield and managing resources in order to address all three critical aspects of sustainability: economic, environmental and social. Integrated Farming Systems (IFS) approach is needed to stabilise income streams through natural resource management and livelihood diversification. The IFS approach has multiple objectives of sustainability, food security, farmer security and poverty reduction. It involves use of outputs of one enterprise component as inputs for other related enterprises wherever feasible, for example, cattle dung mixed with crop residues and farm waste can be converted in to nutrient-rich vermicomposting. The salient features of IFS include – innovation in farming for maximising production through optimal use of local resources, effective recycling of farm waste for productive purposes, community-led local systems for water conservation, organic farming, and developing a judicious mix of income-generating activities such as dairy, poultry, fishery, goat-rearing, vermicomposting and others. Women are also involved in income earning activities and household decision making with the introduction of integrated farming in small farm condition. Farming community, capacities for adoption of productive, remunerative, eco-friendly and self-sustaining integrated farming system is the need of hour.

*Keyword**: Integrated Farming System , Sustainability, Innovation***

ISEE Seminar/ABS/438

An Impact of successful SHGs of Bhagalpur District Of Bihar

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ABSTRACT

Self Help Groups (SHG) in India started with the global emergence of micro-finance as the solution for financial inclusion of rural and urban poor in developing nations. SHGs were developed along the lines of "Community Driven Development" with a focus on financial intermediation through micro-finance interventions. In 1991, Self-Help Groups rose to prominence with NABARD promoting SHGs on a large scale and RBI allowing them to open a savings account and have since, seen tremendous expansion.**SHG** is a small group of rural poor, who have voluntarily come forward to form a group for improvement of the social and economic status of the members. It can be formal (registered) or informal. The concept underlines the principle of Thrift, Credit and Self Help. Members of SHG agree to save regularly and contribute to a common fund. The members agree to use this common fund and such other funds (like grants and loans from banks), which they may receive as a group, to give small loans to needy members as per the decision of the group. The SHG members are encouraged to make voluntary savings at regular intervals so that resources so pooled could be used to make small interest bearing loans to their members

on a rotational or needs basis. In India, innovative approach in SHG group movement was made by NABARD by the introduction of pilot project in 1991. NABARD defines it as a group of 20 or less people from a homogenous class who are willing to come together for addressing their common problems. Generally the Self Help Group is a development OF group and informal in nature may consist 10 to 20 persons. In case of areas with scattered and sparse population and difficult areas like desert and hills, this number may be from 5-20. The group shall not consist of more than one member from the family. This paper is an attempt to know the impact of successful SHGs. There are five Successful SHGs has been selected purposively from Bhagalpur district of Bihar for the study. From each SHG ten respondents were randomly selected for the study. Thus there are total fifty respondents. The broad objective is - Empowerment of women in all aspects through involving them in various income generating activities run under SHGs.Regarding economic Empowerment- drastic differences has been found in respect of average monthly income It is Rs.1,470 after joining which was Rs.3,43 before joining and average monthly savings after joining in SHG is Rs.132,which was Rs.75 before joining.

Keywords: SHG, Empowerment, Livelihood, Economic

ISEE Seminar/ABS/439

Krishi Vigyan Kendra (KVKs): An Influential Tool for Transforming Agriculture

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ABSTRACT

An agricultural invention and innovation continuum in all facets of agriculture and allied activities with its effective diffusion is key to sustainable increase the agricultural production and productivity with environment sustainability. With half the workforce engaged in agriculture sector in India, the role of science and technology in Agriculture is pertinent to not only ensure food security of the country, but also to provide farmers a competitive age and to maintain affordability of the food items for the public at large. To realize their true potential, farmers must have access to the state-of-the-art technologies, necessary inputs and related information. In this context, the govt. of India through Indian Council of Agricultural Research has established a large network of over 702 KVKs across the country with an aim to conduct technology assessment and refinement, knowledge dissemination and provide critical input support for the farmers with a multidisciplinary approach. KVKs are playing a proactive role in transferring new technologies at field level with beneficial impacts. They have an age in technology transfer over other service providers by virtue of their having better technical expertise and demonstration units. With the intervention by KVKs, about 80 % of the farmers have modified their agricultural patterns which were related to diversification of crops and changes in cropping pattern, seed planting technique, use of fertilizers and pesticides, changes in machinery used in water used pattern. More than 50 % of the farmers have mechanized their farm operations; however, ownership of the farm machinery and technology adoption increased with the size of holdings and education level of the farmers. The technologies adopted resulted in higher productivity, enhanced incomes and reduction of drudgery. The KVKs reported that a number of technologies were gender sensitive and add helped in reduction drudgery, income enhancement and development of self confidence among women. Enhanced income is spent in construction of house, better education and help for family and better inputs for agriculture.

Keywords: KVK, Agriculture, Technology,

ISEE Seminar/ABS/440

Doubling Farmers Income: An Insight into Concepts, Views and Strategies in India

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ABSTRACT

Previous technologies for improving agriculture sector in India has focused mainly on rising agriculture output and food security but these technologies did not strongly recognized the need to rise farmers income and did not mention any direct strategies to improve farmers welfare. Now realizing the need to pay special focus to the flight of farmers income our Hon'ble Prime Minister Shri Narendra Modi set the goal to double the famers income by 2022. This vision promotes farmers welfare reduces agrarian distress and seek priority between farmers income and those working in non agriculture sector. Enhancing gross income through bringing growth in production by higher productivity, making farmers realize the higher prices and high share in consumer rupee and through diversifying the farm and nonfarm sources, Reducing the cost in agriculture and allied sector by reducing external inputs i.e. purchased inputs and by exploiting the probable complementarities in each sector and The income should be assured and made stabilized through coping mechanisms for various kinds of risk in agriculture, Insurance coverage and increasing the irrigation coverage were the major strategies recommended by government institutions.

Keywords: Farmers, Income, Strategies, Welfare, Productivity

ISEE Seminar/ABS/441

Knowledge Level of Organic and Inorganic Paddy Growers about Cultivation Practices in TBP Command Area

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ABSTRACT

Organic farming is gaining popularity all over the world, as it can diversify agricultural production systems towards attaining improved productivity, farm income and food, as well as environmental safety. Hence, the present study analyzes the knowledge level of organic and inorganic paddy growers towards cultivation in TBP Command Area. The major findings indicated that, cent percent of the organic and inorganic paddy growers had knowledge about recommended varieties (BPT-5204 and Gangavathisona) for their region as followed by ideal month of sowing in DSR, nursery preparation and manual weed management, while spraying jeevamrutha, use of growth regulators (panchagavya and cow urine), spraying neem oil and cow urine as biological practices of pest and disease management by cent per cent of the organic growers. Whereas, large majority of the organic paddy growers had knowledge about depth of planting (94.44 %) followed by maintaining 2-3 seedlings per hill (86.67 %), purpose of summer ploughing as it reduces pest and disease incidence (85.56 %),optimum depth of sowing in DSR (85.56 %),preventing water movement from one field to another (84.44 %), age of seedling (82.22 %)and maintaining 5.0 cm water level after 10 days of transplanting (81.11 %). Large majority (92.22 %) of the inorganic paddy growers had knowledge about depth of planting followed by control measures for brown plant hopper (91.11 %), control measures for stem borer and leaf folder (87.78 %) and control measures for sucking pests (84.44 %).

Keywords: Knowledge, Paddy Growers, Organic, Inorganic and Cultivation Practices

ISEE Seminar/ABS/442

Economic Performance of Different IFS Components under Different Conditions of North Eastern Transition Zone of Karnataka

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ABSTRACT

Traditional farming system used by farmers in India are based on centuries of experience characterized by mixed farming involving crop production with one or more enterprises like dairy, poultry, sericulture, piggery, sheep, goat, fisheries and bee-keeping. The main aims were to achieve stability of production, provide subsistence for the family and guard against weather aberrations and other environmental stresses. In recent years, farming system gave scientific touch to the existing practices and found ways and means to make it sustainable in changing global scenario. To explore the components in farming system the study was undertaken in North Eastern Transition Zone of Karnataka, to know the different economic performance of different components followed by IFS farmers.The list of farmers actually practicing IFS has been selected and categorized into dryland and irrigated conditions based on discussion with field facilitators, Agriculture officers and Horticulture officers. There are around 180 farmers practicing integrated farming system were selected randomly, of which 90 farmers comes under dryland and 90 farmers under irrigated condition. The findings under dryland condition shows that, yield of Jowar was 2.83q/ac and returns/ rupee of investment was 1.86, followed by soya bean 3.19q/ac and 1.84, and Black gram 3.01q/ac and1.78. The findings under irrigation condition show that, the yield of flower crops was 32.75q/ac and returns/ rupee of investment was 2.50 followed by papaya 661.84q/ac and 2.23 and banana 579.57q/ac.

Keywords: Economic, Performance, Dryland, Irrigated. IFS, Yield, Returns/ Rupee of Investment

ISEE Seminar/ABS/443

Focusing Producer Market Linkages for Enhancing Farmers' Income

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ABSTRACT

Agriculture sector accounts for major portion of rural employment in the developing economies. In India this sector plays important role in national food security and generating demand for industrial goods and services. Despite this contribution of agricultural sector to country's economic development, farmers' are experiencing non remunerative farming leading to distressed situations. Though we have come a long way and have become self sufficient in food grains and almost all commodities, our farmers are still getting very less share of consumer prices for their produce. Apart from this farmers' are being exploited by middlemen's and not getting fair price for their produce due to poor access to markets and market information. Past strategies for development of agricultural sector in India by the central and state governments and the extension service activities were oriented towards raising agricultural output and achieving food security. The strategy paid the dividends as the country was able to achieve fivefold increase in grain production over the past 50 years and address severe food shortage that emerged

during mid-1960s. But, the main forces because of whom India has achieved it i.e. farmers' income remained low, which is evident from the incidence of poverty among households. And the youths from the rural families are moving out of villages towards urban areas for employment. Farmers' income remains low in relation to income of those working in the non-farm sector. After 1993-94, relative income of the farmers' worsened and reached on fourth of non-agricultural workers. There was some improvement during 2004-05 to 2011-12. But the past four years (2012-13 to 2015-16) again witnessed deterioration in relative income of farmers' (Ramesh Chand, NITI Ayog). Therefore, there is a need to shift focus on increasing farmers' income and market access. Linking farmers' with the market will help the farmers' to get fair prices for their produce and increase the income. Therefore, production to market linkage is one of the strategies set by the government to double the farmers' income by 2022. On one hand, farmers' biggest problem is in selling their produce than producing it and on the other side, extension workers are trained to give advisory full of agronomic support services. It is dire need of Extension workers to develop their competencies in remaining relevant to a farmer who has produced enough but is unable to earn enough. The focus has to move from production-led extension to market-led extension. There is a need of conducting a research on the area of effective market linkages and their role in enhancing farmers' profits. The paper delineates some researchable issues of significance to be taken up by extension researchers identifying the presently existing various marketing linkages, farmers' markets, effective stakeholder cooperation for higher farm profits and role of networking for benefits of all involved.

Keywords: Agriculture, Producer market linkages, Farmers' income, Extension, Farm profits

ISEE Seminar/ABS/444

Role of ICT in Agricultural Development

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ABSTRACT

India is an agriculture based country, where more than 50% of population is depend on agriculture. This structures the main source of income. It contributes about 17 – 18 per cent to the total GDP. The role of Information and Communication Technologies (ICT) as a tool for development has attracted the sustained attention of the people over recent years. Rural communities can be empowered through ICTs and give them a voice that permits them to contribute to the development process. ICT has a great role as decision support system to the farmers. ICT has the great potential to widen marketing horizon of farmers directly to the customers or other appropriate users for maximum benefit. Deployment of ICTs needs to be stressed more. The availability of timely, reliable and accurate information helps to There is great transformation in Indian agriculture owing to changes in the economic and trade environment. To cope up with these changes timely, relevant and accurate information to the farmers increase productivity and ensure well-being of the farming community. ICT applications can also be used to bring transparency and accountability in various economical and social programs of government.There is a need to assess the needs of the rural people with regard to information technology i.e. linkage between demand and purpose of these services and product. Though ICT people of rural areas can connect with national economy. Policy makers also recognized that digitalization can help the sustainable development of rural economy by impacting production, operation and expansion market and thus reshaping the rural economy.

Keywords: ICT, Agriculture, Development

ISEE Seminar/ABS/445

Status of Entrepreneurial Climate for Agripreneurship Development in Odisha

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ABSTRACT

According to Nteere (2011), individuals who promote change and initiate development activities are important to economic growth in any country. These persons may be called entrepreneurs because they have the ability to identify needs within their environment, gather appropriate resources and implement action to satisfy these needs. According to ILO (1990) over 50% of all new businesses fail during their first three years of existence. In spite of these facts, self-employment continues tjo rank high as a career choice by a good number of people. Economic growth hinges upon entrepreneurship. A vibrant entrepreneurial climate provides new jobs, increases competitiveness, and produces novel goods and services. Therefore, to learn that policymakers and lawmakers attempt to increase entrepreneurial activity in numerous ways. According to Mohammed Bin Rashid (2011),support for Entrepreneurship is important because it is seed pipeline of future enterprises, it creates a risk taking culture, it is a basis for long-term economic development, and it serves as a tool for employment creation. The Importance of entrepreneur for development of a state has been investigated for a long time. According to research findings, support factors and encouraged entrepreneurship helped growth and progress of an entrepreneur. All dimensions of entrepreneurial behavior is very important although climate that perceived by an individual is much more important. Government of Odisha has been proving support and services for entrepreneurship development in the state. Keeping in view an study entitled "Status of entrepreneurial climate for agripreneurship development in Odisha" has been under taken. Different parameters such as financial support, Entrepreneurship Education and Institutions, Government policy, Entrepreneurship Information Bank, Research and Development Links, Entrepreneurship Motivation have been taken into consideration for the above study. Under financial support Subsidy schemes in NHM, Development of Commercial Horticulture in Protected Cover, Different subsidy schemes in National fishery development board are ranked among others. In Entrepreneurship Information Bank total of 48 types of ventures comprising of Food Processing, Agriculture, Horticulture, Animal Husbandry, Fishery and Integrated Farming System are provided by the respective departments. Similarly analysis has been done for other parameters.

ISEE Seminar/ABS/446

Enhanced Milk Production in Indigenous and Cross-Bred Cattle

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ABSTRACT

Cross breeding has been used to increase milk productivity by crossing indigenous pure breeds (*Bos indicus*) and exotic high yielding cattle with genetic grades obtained affecting milk production. Cattle population indigenous to tropical regions such as Sahiwal when crossbred to exotic breeds Holstein Friesian (*Bos taurus*) with proper maintenance under local conditions has improved milk yield even after the crossbred cows cross the age of 11 years. The 5/8 Friesian and 3/8 Sahiwal cross bred cattle showed a steady lactation yield and lowered yield when calving. The lactation yield of miscellaneous indigenous local cattle is comparable to pure Sahiwal cattle even

though the age of the indigenous miscellaneous cattle was of an higher age at 9 years. It is concluded that local miscellaneous cattle by cross breeding with indigenous pure bred cattle/exotic pure breeds and proper milking management systems should result in a higher lactation yield comparable to pure breed indigenous cattle benefiting the local rural economy.

Keywords: ***Sahiwal, Holstein Friesian, Milking Management, Cross Bred Cattle, Genetic Grades***

ISEE Seminar/ABS/447

In Silico Pharmacogenomic Analysis of Alcohol Dehydrogenase Involved in Alcoholism

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ABSTRACT

Alcoholism is a disease characterized by lack of a person to metabolize the alcohol efficiently. Pharmacogenomic analysis deals with study how different individuals behave towards same drug or chemical. The present work examined *Insilco* sequence and structural differences in the isoenzymes of alcohol dehydrogenase involved in alcohol metabolism. **Methods:** Experiment, identified ADH1B, ADH1A, ADH1C and ADH4 as four different alcohol dehydrogenase isoenzymes, their sequences in the FASTA format was retrieved form uniprot knowledgedatabase. Sequence alignment, dendogram generation, motif identification, secondary structure prediction was carried out and examined with the help of different computational programs. Multiple sequence alignment, Phylogenetic tree, amino acid composition, Percentage of different secondary structures reflect high degree of similarity in the results for ADH1B, ADH1A and ADH1C except there are some significant deviations in the results for ADH4. While analyzing the amino acids of active site region it was found that five out of nine amino acids are identical but four amino acid showed some variations. Ser at position 48 is replaced by Thr in ADH1B, ADH1A and ADH4. His at position 51, Ala at position 317 and Cys at position 146, is mutated with Thr in all three cases and all three mutations have occurred only in case of ADH4.*Insilco* analysis suggests that minimum mutations took place in the active site region of ADH1C, followed by ADH4, ADH1B and ADH1A. It can be concluded that individuals may inclined towards alcoholism either due to the absence of normal form of isoenzyme or presence of mutated form of isoenzyme (Pharmacogenomics), which is unable to perform its normal function of metabolism.

Keywords: Insilico, Pharmacogenomics, Alcoholism, Alcohol Dehydrogenase

ISEE Seminar/ABS/448

Technological interventions for Empowerment of Rural Women

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ABSTRACT

Science and technology have profoundly influenced the course of human civilization. Science has provided

remarkable insights into the world we live in the scientific revolutions of the 20th century have led to many technologies, which promise to herald new ears of advancement in many fields. As we stand today at the beginning of a new century, we have to ensure fullest use of these developments for well being of the masses. Science and Technology achievements include very significant increase in food production, eradication or control of several diseases, increased life expectancy of our citizens and improved quality of life for the people. While these developments have been highly satisfying, one is also aware of the dramatic changes that have taken place and continue to do so, in the practice of science, in technology developments and their relationship with impact on society. The gap between the rich and the poor, they have and the have nots both within rations and the developed and developing countries is also increasing. A digital divide is getting evident. Particularly striking is the rapidly with which Science and Technology are moving ahead, Science is becoming increasingly inter and multi-disciplinary and calls for multi-institutional and in several cases, multi-country participation. Major experimental facilities even in several areas of basic research, require very large material, human and intellectual resources. Science and Technology have become so closely inter wined, and so reinforce each other that, to be effective any policy needs to view them together. Science and technology have had unprecedented impact on economic growth and social development. Knowledge has become a source of economic light and power. This has led to increased restrictions on sharing of knowledge, to new norms of intellectual property rights, and to global trade and technology control regimes. Scientific and Technological developments today also have deep ethical, legal and social implications. If the country has to move forward with science in the driving seat for economic and industrial revolution in the next century the applications of science and technology has to be designed to benefit people in general and women in particular. Because of all this our science and technology system has to be infused with new vitality if it is to play a decisive and beneficial role in advancing the well being of all sections of our society. The nation continues to be firm in its resolve to support science and technology in all its facets. It recognized its central role in raising the quality of life of the people of the country, particularly of the disadvantaged sections of society.

Keywords: Science and Technology, Quality of Life

ISEE Seminar/ABS/449

Technological Innovations for Reducing Drudgery of Women in Agriculture

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ABSTRACT

Farm women are considered an 'invisible work force' in agriculture even though they participate in most of the agricultural operations. In the changing scenario of agricultural development, dissemination of need based and location specific technologies to farm women assumes greater importance. For consistent growth of agricultural production, stabilization of income in agriculture, it is necessary to involve women in increased adoption of improved farm practices. This could be attained through effective training and extension programmes specially designed and based on technological felt needs of farm women through which their behaviour can be changed in a desired direction, production and productivity can be enhanced. Entrepreneurship is the capacity for innovation and caliber to introduce innovative techniques in business operations. The activity of an individual to decide adopting certain enterprises to make profit is regarded as entrepreneurial behaviour. The future looks bright for innovative entrepreneurs who possess the skills and experience needed for the challenges of enterprise ownership. It is only the innovative entrepreneur who has the power to dream, to transform new situation into thoughts and resolve them into action. Hence, an entrepreneur is an integral part of economic development. Entrepreneurship

is the pursuit of an opportunity irrespective of existing resources. For instance, it is the risk taking ability of the individual broadly coupled with rational decision making to increase production in agriculture, business, industry and other allied fields. Recognize the importance of empowerment of women, the Indian council Agriculture Research started a giant National Agricultural Technology Projects in different modes throughout the country. One of these projects in mission mode was carried out by the department of Home Science Extension Education (Co-Center), CCS Haryana Agriculture University, Hisar (Haryana). The mission of the project was to empower women farmers to reduce their drudgery in the context of Agriculture, animal husbandry and to enhance their entrepreneurial skills for improved quality.

Keywords: Technology, Drudgery

ISEE Seminar/ABS/450

Initiatives for Food and nutritional Security for Rural Communities

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ABSTRACT

Approximately 20 percent of children less than five years in the country are wasted which indicates that, one out of every five children in India is wasted. Prevalence of stunting and underweight was highest in age group 11 to 13 years, whereas prevalence of wasting was highest in age group of 5 to 7 years. The problem is multifaceted, the causes acting singly or in combination with other complex factors like poverty, purchasing power, health care, ignorance on nutrition and health education, female illiteracy, social convention etc. Cereal grains form a major source of dietary nutrients for all people, particularly those in the developing countries. However, the nutritional quality of cereal grains and sensory properties of their products are inferior due to lower protein content, deficiency of certain essential amino acids, lower protein and starch availabilities, presence of certain anti- nutrients, and the coarse nature of the grains. Sorghum is the fifth most important cereal crop in the world after rice, wheat, corn and barley. It is one of the major cereal crops produced and consumed after rice (*Oryza sativa*) and wheat (*Triticum aestivum*). Sorghum grains are used by these people (especially farmers), who often do not have the means to feed themselves with food sources of energy, rich in protein, vitamins, minerals. Sorghum grains are rich in energy and non-energy nutrients (Ramatoulaye *et al.*, 2016). Sorghum commonly is eaten with the hull (the outer layer of the grain), which retains the majority of the nutrients. Sorghum has excellent chemical and physical properties, which make it a grain of good quality for processing different types of products. Eaten in a variety of forms depending on the region, sorghum may be consumed as whole grain, flat bread, (unleavened and prepared from fermented or unfermented dough), deep fried preparations, popped as a snack or boiled into porridge, processed into flour for baking, or fermented to produce beer or other baked goods. Sorghum can be puffed, popped, shredded and flaked to produce ready-to-eat breakfast cereals. As, sorghum is genetically more closely related to maize than it is to wheat, rye or barley, hence value added products prepared from it can be considered a safe food for patients with celiac disease. Dietary diversification involving the use of sorghum in the form of snack food appears to be a very attractive strategy to combat the observed nutritional challenge. However, to get maximum nutrient benefit from this crop, processes like soaking, roasting and popping could be employed. Household level processing methods like soaking, roasting, popping and puffing impart acceptable taste and desirable aroma to the snacks as well as can eliminate the inherent antinutrients that may interfere with the biological availability of nutrients and hence, enhanced acceptability ultimately may result in acceptability and improved nutritional quality of the product.

Keywords: sorghum, nutritional challenge, cereal bars

ISEE Seminar/ABS/451

Impact Assessment of ASCI Trainings on Mushroom Grower's Rural Youth Perception, Performance and Entrepreneurship Development

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ABSTRACT

This abstract investigates the impact of a sponsored training programme during 2018-19 by Agriculture Skill Council of India (ASCI) on "Mushroom Growers" Farmer of Sitapur district Uttar Pradesh state of India. A training programme of 200 hours was conducted at the Krishi Vigyan Kendra-II, Katia Sitapur to develop and enhance knowledge and skill of participants in mushroom production. These trainees of mushroom growers' training were selected for this study to assess the impact of training programme on enhancement of their knowledge, skills, capabilities and entrepreneurship development. The impact assessment was done through knowledge level test of the participants using pre and post training evaluation proforma. The detailed data was collected through semi-structured interview schedule. The results of the present study showed that the training was found to be highly effective with significant increase in their knowledge skills and capabilities. Out of 20 participants of training, 16 rural youth started mushroom farming at different locations and earned profits with B:C ratio of 1: 2.5 during first season. Two participants became master trainers and horizontally spreading the technology among farmers and started providing consultancy services and marketing of produced mushroom. A majority of the respondents agreed that the training programme had been useful and significantly contributed in enhancing their farm income.

Keywords: Farming Practices, Knowledge and Skill Level, Skill Training, Mushroom Growers, Rural Youth Entrepreneurship Development.

ISEE Seminar/ABS/452

Social Media in Agricultural Marketing

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ABSTRACT

Digital marketing for Agricultural produces is the need of the hour for developing country like India. One of the problems facing by the farmers in India is how to market their products beyond their locality. In the present era of globalization, trade liberalization and privatization, information technology (IT) plays a vital role to make a produce competitive in the global market through all its manifestations like e-mail, multimedia, electronic banking, internet, world wide web and so on. Information technology tools have been tested and accepted widely and can be used to solve the problem of marketing of agricultural products produced by the farmers. Social media is considered as the mainstream form of communication around the world, and increase in smart phones and high speed data increases and promotes its growth and popularity with the rise in the number of users. Educating farmers with the social media knowledge can generate innovative ideas and creativity for their productions and marketing of their produces.

Keywords: Social media, Digital Marketing, Information technology

ISEE Seminar/ABS/453

Instrument to Assess the Farmers' Participation in Effective Canal Irrigation Management in Krishna Command Area

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ABSTRACT

In the present study, an attempt was made to develop an instrument to measure the farmers' participation in effective canal irrigation management. Farmers' participation in effective canal irrigation management is defined as the extent of water users' involvement in different activities *viz.,* equitable distribution of irrigation water, crop selection and management, scheduling of irrigation water, water delivery system and maintenance of field channels *etc.*, for effective management of irrigation water. The method of summated rating scale suggested by Likert (1932) and Edwards (1969) were followed in the develop an instrument through six stages *viz.*, identification of dimension, collection of items/statements, relevancy analysis, item analysis, reliability and validity of the scale. Based on the review of literature and discussion with expertsin the related areas, six dimensions *viz.,* farmers' participation in formulation of guidelines, planning and implementation activities, maintenance activities, responsibility sharing, crop planning activities and integrated crop management were listed and 60 items/statements were enlisted. Based on the relevancy percentage equal and more than 80.00 per cent and mean relevancy score of equal and more than 4.00 were considered for inclusion in the item analysis. After the relevancy analysis and item analysis, out of 60 items/statements, 34 statements were retained. In order to compute the scale values for each of the identified dimensions by adopting normalized ranking method recommended by Guilford (1954) and the total scale value ranges from 9.340 to 2.537, with farmers' participation in integrated crop management got highest rank and formulation of guidelines got lowest rank. The developed instrument was found to be reliable (0.96) and valid (0.98), hence it can be used to measure the farmers' participation in effective canal irrigation management.

Keywords: Famers' Participation, Canal Irrigation Management, Relevancypercentage, Reliability, Validity

ISEE Seminar/ABS/454

Factors Affecting Adoption of Integrated Disease Management Practices by Cotton Growers

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ABSTRACT

Cotton is the most important fiber crop grown worldwide. In India, the pest attack is one of the most important limiting factors in the successful cultivation of cotton crop. The cotton is attacked by a large number of insect-pests, diseases, nematodes and weeds. Adoption of IDM practices is required to control the damages in cotton crop to sustain the productivity of cotton. Rate of adoption of farm technology is different from individual depending on their characteristics, familiarity with the technical component and availability of the resources. Farmers although may know and try to use the recommended IDM practices, but they are not adapted to the desired level. Therefore, keeping the importance of IDM, the study on adoption of Integrated Disease Management (IDM) practices by

cotton growers was undertaken in Haryana. Two hundred farmers were selected as respondents for this study. The data were collected with the help of well structured pre tested interview schedule on adoption of integrated disease management practices. Nearly half (46.66 %) of the respondents had medium level of adoption in case of cultural practices of disease control followed by low level (31.11%) and 22.22 per cent high level of adoption. The study also revealed that education (0.569), land holding (0.481), social participation (0.251), socio-economic status (0.659), information sources (0.758), risk orientation (0.681), economic motivation (0.549), change proneness (0.648) and management orientation (0.661) were found to have positive and highly significant relationship with adoption of integrated disease management in cotton, but negative and non- significant correlation was observed with age (-0.112) of the cotton growers. In additional, social participation, information sources, education, risk orientation and age were found important variables which have significantly contribution towards adoption of integrated disease management in cotton crop. The multiple determinant coefficient (R^2) value revealed that all the ten independent variables jointly explained 65.69 per cent variation towards adoption of IDM practices by cotton growers. Hence these variables played an important role in adoption of integrated disease management practices.

ISEE Seminar/ABS/455

Effectof different method of Nitrogen Application and Boron level on Growth, Yieldand Economics of Broccoli (*Brassica oleraces* L. var. Italica Plenck)

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ABSTRACT

The present investigation was carried out to examine the effect of different method of nitrogen application and boron level on growth, yield and economics of broccoli in Bundelkhand region of Uttar Pradesh, during rabi2018-19.The experiment was formulated in Randomized Block design (RBD) with three replications. Results revealed that the maximum plant height (51.25cm), number of leaf/plant (12.50), length of leaf (35.55 cm), width of leaf (15.75 cm)was recorded in T_{12}(N_3B_3-50% as basal + 25%+25% top dress at 25 and 45 DAT + 2.0 kg/ha). Whereas minimum days taken to first curd initiation (45.20)days to 50% curd initiation (52.00) days to 50% curd maturity (65.50) days, curd maturity duration (12.55) days was observed in T_1(N_1 B_0-100% RDF as basal + No boron).Significant effect for yield parameter the highest curd length (15.50 cm), curd diameter (14.15 cm), curd circumference (42.25 cm), gross plant weight (1115.50 g), marketable curd weight (850.45 g) curd yield (238.55 q/ha) was exhibited in T_{12} (N_3B_3-50% as basal + 25%+25% top dress at 25 and 45 DAT + 2.0 kg/ha) and minimum was found in T_1(N_1 B_0-100% RDF as basal + No boron). The maximum net return of Rs. 205875.00 was calculated in treatment T_{12} as compared to other treatments tried in this experiment during 2018-19.

ISEE Seminar/ABS/456

Peasants' Confusion in the Process of Technology Socialization: The Agro-Economic and Socio-cultural Diagnosis

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ABSTRACT

Interaction between peasants and researchers are very important because both are responsible for the technological

development in an agrarian dominating country like India. In the postmodern era when farmers have become more responsive instead of mere passive recipient of technology, utmost care must be taken to observe their cognitive behavior viz conflict, confusion, discontinuance, dissonance, reinvention and disagreement. Farmers need to enhance their investment for using fertilizer, irrigation, improved seeds and burgeoning crop protection measures in the hope of doubling or tripling production, which is difficult and often declining despite subsidies or negligible interest loan. Commitment of Peasants for using all their resources or debts has often become devastating due to loss in farming enterprises because of natural adversities and uncertainties underlying there with the new agricultural practices. The present empirical research has focused on peasants confusion while participating in the process of technology socialization in the locale of study, Ghoragachha, a village where they have become accustomed with taking risk with innovation. It has been found that predictors viz. occupation (x_8), fuel consumption (x_{15}), innovation proneness (x_{20}), risk orientation (x_{21}) and information seeking behavior (x_{29}) are positively and significantly correlated with the predicted variable confusion index (y_7) at 0.05 level of significance. In a stepwise regression analysis, occupation (x_8) and information seeking behavior (x_{28}) have been retained at the last step of regression of predicted confusion index (y_7). It has also found that information seeking behavior (x_{29}) produced highest total direct effect and utilization of cosmopolite source of information (x_{28}) produced highest total indirect effect in path analysis of predicted variable confusion (y_7) with 32 predictors. Henceforth, this post facto research design for observing their cognitive behavior while taking part in technology socialization by the multifaceted and highly informed peasant is necessary for appropriate policy measures for small and marginal peasants, who are on the brink of quitting farming occupation.

Keywords: Technology socialization, Post modernization, Adoption, Entropy, Uncertainties

ISEE Seminar/ABS/457

Extension System of CCSHAU for Capacity Building of Stakeholders

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ABSTRACT

CCS HAU, Hisar conceived and implemented a unique system of extension education for the transfer of technology to end users. This set up was highly acclaimed by the ICAR Review Committee (1978) headed by late Dr. M.S. Randhawa and the same was appreciated at the National level. The Directorate of Extension Education acts as a bridge between the research scientists and the farmers and the other end user beneficiaries to provide the feedback. Therefore, the role of this Directorate is significant in two ways i.e. transfer of technologies from scientists to the farming communities through KVKs and to find out the problems of the field to passed on to various research departments for working on a solution to the problems. The Directorate of Extension Education is headed by a Director who is assisted by Associate Director (Farm Advisory Service), Joint Director (Farm Information and Communication Service) and Associate Director (Publication), Associate Director (Trainings), Manager (ATIC), Associate Directors (Agronomy, Horticulture, Plant pathology, Soil Science, Entomology, Vegetable science, Farm Machinery and Power Engineering, Home Sciences and Extension Education. Policy decisions regarding the functioning of the Directorate of Extension Education are taken by the Extension Education Advisory Committee. Therefore, the role of the Directorate of Extension Education is significant in two ways i.e., (i) Transfer of technologies from scientists to the ultimate farming communities through KVKs (ii) Extension Specialist to formulate research project accordingly. Haryana State has nineteen KVKs working under the supervision of Directorate of Extension Education, CCS Haryana Agricultural University, Hisar. KVKs played an important role for capacity building of farming community to increase the production and productivity of agricultural and allied fields including agri-enterprises. Capacity building of stakeholders were empowered at different extension units of the University under the supervision of Directorate of Extension Education through various extension ativities viz.; Trainings (vocational/ skill/ farmers/ farmwomen, extension personnel training etc.), Exposure visits, OFTs/FLDs/

method demonstrations, Krishi melas/kisan melas/kisan goshthies/field days etc., Group discussions, Awareness campaigns, Mobile based extension services//ICTs to the beneficiaries of 965485, 22084, 9596, 875290,7586, 9550, and 515250 respectively from the year 2006-07 to 2017-18.

ISEE Seminar/ABS/458

The Impact of Digital Technologies on Transforming Agricultural Sectors in India

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ABSTRACT

Historically, agriculture has undergone a series of revolutions that have driven efficiency, yield and profitability to previously unattainable levels. Market forecasts for the next decade suggest a digital agricultural revolution will be the newest shift which could help ensure agriculture meets the needs of the global population into the future. Digitalization will change every part of the agrifood chain. Value chains will become traceable and coordinated at the most detailed level whilst different fields, crops and animals can be accurately managed to their own optimal prescriptions. Digital agriculture will create systems that are highly productive, anticipatory and adaptable to changes such as those caused by climate change. This, in turn, could lead to greater food security, profitability and sustainability. In the era of digitalization, Information and Communication Technologies (ICT) such as mobile phones and computers have revolutionized how people access knowledge and information, do business and use services. We are transforming the extension system so that our manpower-based system is augmented by information and communication technology (ICT). We had a robust extension system in the 1980s to 1990s, but it has gone weak now—manpower extension needs to be strengthened. With smart use of ICTs, we can drop the cost of the extension system and make it more efficient and effective. The National Agriculture Market (eNAM) is an online trading portal designed to enable trade in more than 100 commodities across India. The platform networks existing Agricultural Produce Market Committee (APMC) local markets and works toward a more integrated national market for agricultural commodities. By using this electronic-trading facility, farmers gain from improved price discovery and transparency, as well as online clearance of payment. Uptake of technologies at market prices in a sector that has traditionally been heavily subsidized remains challenging, but farmers are prompt to identify what works in their interest and are ready to pay for it. A developed agriculture system is based on three key pillars: knowledge, infrastructure, and a robust delivery mechanism. Supporting the research and development ecosystem in agriculture directly contributes to creating knowledge and preparing for the future. These system components also facilitate efficient mechanisms for delivery and the monitoring of relevant government schemes and extension services that will accelerate the pace of development. The public policy regime in India has been supporting technology-led agricultural growth and has been increasingly developing new institutions to ease access and affordability of technology adoption among farmers

Keywords: Digitalization, ICT, eNAM and revolution.

ISEE Seminar/ABS/459

Strategies for Entrepreneurship Development in Agriculture through Start-ups for Livelihoods-Status and Challenges

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ABSTRACT

India is second among all nations in total entrepreneurship activity as per the Global Entrepreneurship Monitor Report 2016-17. Developing countries like India are striving to be outward looking global economies rather than inward looking local economies. This will be possible if starts ups for livelihood are encouraged for entrepreneurship development. Entrepreneurship can be cultivated among the present youth and it can be developed systematically with the help of support system. The emerging entrepreneurs can reap the benefits of these opportunities by catering to various demands of this segment through their starts ups for livelihoods. Policies pursued by the government over the years have resulted in the growth of startups to a considerable extent. To accelerate the pace of agripreneurship in the country and also to support economic development, Government at central as well as at state level has made good efforts by way of implementing various schemes for startups. Government have set up number of agencies and institutions to assist and support emerging and established entrepreneurs to set up and develop their startups. Starting startups requires various resources and facilities. Finance has been an important resource to start and run an enterprise because it facilitates the entrepreneur to procure land, labour, material, machines to run an enterprise. Hence finance is the most important requirement of the business. Considering this, the government has come forward to help small entrepreneurs through the financial institutions and nationalized banks. But the finance alone is not sufficient to startups. A minimum level of prior built-up of infrastructural facilities is also needed. This is one of the reasons for lack of industrial development in backward areas. Creation of infrastructure involves huge funds. So, startups is a strategies for agripreneurship development.

ISEE Seminar/ABS/460

Impact of Microfinance Institutions in Sustainable Livelihood Promotions and Agripreneurship Development

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ABSTRACT

Micro-finance in collaboration with agri-based enterprise is a sustainable way to assist the poorest economically active people to improve their lives, provide jobs and livelihood for employees and their families and make a positive impact in their community as a whole. Our micro-finance loans and investments allow clients to increase the size of their businesses through free enterprise and as a result create more income. With this income, they are able to provide better schooling for their children, better housing for their family, more consistent food for their family, better healthcare for their family, etc. This sustainable positive change is generated by Free Enterprise. Micro finance has been recognized as a development tool for sustainablerural development by alleviating poverty and facilitating empowerment of the poorwith the focus on rural women. In all developing countries, it is now recognizedthat sustainable livelihood development is possible only through the active participation of localpeople and community-based organizations, which again is possible only throughmicro finance. Facilitating the formation of informal groups, simplification ofprocedures and systems, democratic functioning and addressing the social andeconomic needs of women are the major achievements of the SHG movement and it isthe best-suited model for India (Sa-Dhan 2008).

Keywords: Impact Assessment, Microfinance, Sustainable Livelihood and Agripreneurship Development

ISEE Seminar/ABS/461

Knowledge Extent on IPM Practices of Farmers about Potato Production Technology

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ABSTRACT

This study examined the in Milkipur block of Faizabad district of Uttar Pradesh to know the training gap of potato growing farmers during the agricultural year 2014-15. A sample of one hundred farmers was selected randomly from the list of 5 purposively selected villages for collection of primary data. A well-structured and pretested interview schedule was use for data collection through personal interview method. Any trainingprogramme to be very effective must have optimum size of trainees. This provides equal opportunities to the participant to experience their learning. The findings indicate that the most preferred IPM practices expressed by the maximum respondents (74%) were 23-26. The data exposed that most of the respondents did not possess required knowledge concerning to the potato production technology, especially in case of plant protection measures, application and use of manures and fertilizers, field preparation etc. So, there is an urgent need to enhance the good communication and extension system and input service system to make the farmers aware about latest Knowledge.

Key words: Potato, IPM practices, Production, Knowledge

ISEE Seminar/ABS/462

Role of Finance in Agriculture Development

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ABSTRACT

Finance is equally important as technology for agricultural development. Sufficient money is must to purchase the technical input. Resource poor farmers suffer from poor financial state and bound to borrow. Till 1935 professional money lenders were the only source of credit who exploits the borrower. With the passing of RBI Act 1934, District central Bank and Land Development Bank come as alternative agency. These banks advanced the short term, medium term and long term loan to the borrower. Although Co-operatives Bank started financing with their establishment in 1930's. The agriculture credit acquired multiagency dimension in bringing "Green Revolution", "White Revolution" and even "Yellow Revolution" finance has played a crucial role. The importance of Agricultural finance in, Agricultural production in this country depends upon millions of small farmers. Institutional funding of the farm sector is mainly done by commercial banks, regional rural banks and cooperative banks. But the institutional sources of credit meet only 51 per cent of the credit requirements of farm sector.RBI set up a one man Committee of Shri R. V. Gupta in December 1997. The Committee submitted its report in April 1998. It was against this background that RBI directed all Public Sector Banks (PSBs), RRBs and cooperative banks to introduce "Kisan Credit Card Scheme (KCCS)" on the lines of the model scheme formulated by NABARD and in due course of time the KCCS was adopted by all the directed agencies. The facts discussed above shows that the role of finance in agriculture as KCC was accepted by huge number of farmers and demand of sizeable amount of money for managing the inputs required in agriculture and its ancillary sectors in order to adopt the improved scientific technologies for receiving continuous maximum net profit which was the ultimate aim of the agricultural development.

Keywords: Agriculture, Farmers, Resources, Finance, Credit Institution

ISEE Seminar/ABS/463

Implications of Pradhan Mantri Fasal Bima Yojna towards Farmers' Welfare

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ABSTRACT

The Pradhan Mantri FasalBimaYojna is new crop insurance scheme launched by the central government which is aimed to take forward the crop insurance that was present. It will make it easierfor the farmers to avail crop insurance and coverage. It has been approved by Union cabinet in January 2016 and first of all set to be from jun,2016Pradhan Mantri FasalBima Yojana (PMFBY) aims for supporting sustainable production in agriculture sector by way of a) to provide compensation to farmers suffering crop loss/damage arising out of unforeseen events b) to stabilize the income of farmers to ensure their continuance in farming c) to encourage farmers to adopt innovative and modern agricultural practices d) to ensure flow of credit to the agriculture sector; which will attribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.The scheme covers Kharif, Rabi crop as well as annul commercial and horticultural crop. For Kharif crops, the premium charged would be up to 2% of the sum insured. For Rabi crops, premium would be 5%. The remaining share of premium will be born equally by the central and respective state government. The information source play a key role in dissemination of technology and information ensuring food security and sustainable agriculture. State department of agriculture, TV, radio, Newspaper, Krishi Vigyan Kendra etc are creating information support to PMFBY.

ISEE Seminar/ABS/464

Synergising the Institutional Partnership for out scaling of IARI Technologies through Collaborative Extension Programme

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ABSTRACT

Extension Education has been the validated tool for transforming agricultureand rural prosperity. Several strategies and mechanisms of extension have been deployed for large scale dissemination of knowledge and information to the community. Innovative initiatives by IARI have contributed immensely to the development of national extension systems as technology assessment and transfer for sustainable agricultural production systems and rural development is as a comprehensive and model approach to examine the potential impact of technology application. Keeping this in view, innovative partnership based alternate extension model were conceptualized on the principle of 'sharing of strength' for technology dissemination through 'partnership' involving the public institutions (ICAR institutes and SAUs), Voluntary Organizations (VOs) and Progressive farmers through Innovative Farmer led Extension (IFLED). In the agriculture system, there are basket of technologies available (IARI, 2019) which address farmer's income, nutritional security, climate change and sustainable agriculture. These technologies have to tested on farmers' field at different location for their assessment and refinement under National Agricultural Research and education System. The quantifiable feedback which is a consequence of performance is helpful to the research system to ponder on the various issues raised by the farmer. After assessment, the appropriate refinement and modifications could be done by the researcher which in turn will lead to higher adoption and faster diffusion

of the technologies. Thus the effective feedback mechanism enhances the functional linkage between the clientele, technologies and the development agencies. In other words it can be said that technology consumer (farmers) as active stakeholders can be involved in technology development and refinement process. Models of Integrated technology development was assessed through synergising the institutional partnership and convergence approach which lead to strengthen and diversify the technological outscaling right from assessing crop/varietal technologies to testing technologies in the domain of natural resource management, bio-fertilizers, waste management, resource conservation technology, value addition, nutritional and income security, drudgery reduction etc.

Keywords: Institutional Partnership, Out Scaling, Convergence and Assessment

ISEE Seminar/ABS/465

Addressing Drudgery and Malnutrition in Agriculture through Gender Mainstreaming

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ABSTRACT

Gender inequalities in agriculture have been carefully scrutinized in recent years but still recognition is needed in agricultural paradox. Gender Inequality means disparity between men and women in different social, economical & political, cultural and legal aspects. Indeed, the struggle for equality has been one of the major concerns of the women's movement all over the production system. Drudgery in farming operations and Malnutrition are an important gender issues and efforts are being made for drudgery reduction and combating malnutrition through technological interventions. To mainstream gender, Data on drudgery in agricultural activities were collected with physiological and psychological ergonomics parameters with farmwomen among normal health, without any major illness, each falling between the age group of 25 to 45 years. It was found as perceived by farmers that the moderate to extremely heavy discomfort level and drudgery in various agricultural operations viz. sowing, transplantation, fertilizer application, weeding, harvesting, fodder/fuel cutting, collection and transportation; and post harvest operations. Data pertaining to nutritional assessment using a questionnaire, measurement of food/ nutrient intake, anthropometry, and observations of clinical signs of deficiencies revealed that most of the women were malnourished due to prevalence of Chronic Energy Deficiency. Suitable technological interventions were demonstrated and farmers-scientist Interaction and capacity development programs were organized with the help of Self Help Groups (SHGs).

Keywords: Gender Mainstreaming, Drudgery reduction, Malnutrition and Agricultural operations

ISEE Seminar/ABS/466

Success Story of Seed Production and their Ranking of IARI Wheat Varieties in Project Village of Alwar District, Rajasthan

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ABSTRACT

The wheat varieties were assessed for their performance in the locality of Beenjpur and their associated villages in Alwar district Rajasthan. The Wheat varieties viz., HD-2967, HD-3086 and locally prevalent wheat variety WH-711 were compared by asking key informants through the method of Matrix ranking. The result revealed that HD-

3086 ranked high in parameters like eating quality, shorter duration compare to HD 2967 and local check WH-711. Farmers' preferred HD-2967 as farmers main interest is in grain yield and straw yield. Hence commercially farmer would like to grow wheat variety HD-2967 as it is fetching an average grain yield of 55q/ha and straw yield of 70q/ha. For household purpose, farmers would like to retain the variety of HD-3086 and wheat variety WH-711 as these variety is tasty and suitable for chappathi making. The farmers preferred the wheat variety HD- 2967 and HD-3086 compare to the locally grown variety. In order to increase the area under HD- 2967 and HD-3086, seed production of Pusa wheat varieties was encouraged as farmers had interest and experience in seed production of vegetable, mustard and other crops. The farmer named Thawar Singh was earlier producing wheat seed of varieties of WH47 and WH 43 in an area of 10 ha since 2015-16 to 17. Since 2017-18 he started producing IARI seed of HD-2967 in an area of 2 ha and in 2018-19 HD-2967 was grown in 7 ha whereas HD 3086 grown in 0.4 ha. The seed is sold at the rate of Rs. 2000/ q. The seed demand is in their village and neighbouring village. The farmers liked the IARI wheat variety and performing well in the locality of Beenjpur and associated villages in Alwar district, Rajasthan. Hence, state government has to take suitable step to popularize the variety of HD-2967 and HD-3086 in the far flung areas.

Keywords: Assessment, Farmers Preference, Seed Production

ISEE Seminar/ABS/467

Innovation Brokers for Dairy Innovation Development

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ABSTRACT

It is said that change is always plausible and without Innovation it is not possible, even it has became central for achieving development. Since many players are involved in innovation development and linkage among them is important. Innovation brokers are individuals or organizations that, from a relatively impartial third-party position, purposefully catalyze innovation through bringing together actors and facilitating their interaction. The article presents the concept of innovation brokers, their functions, benefits, difficulties and issues to be addressed in policy in context of dairy development.

Keywords: Dairy, Innovation, Innovation Brokers

ISEE Seminar/ABS/468

Participation of Rural Women in Decision Making Regarding Household Activities in Punjab

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ABSTRACT

Women being an integral part of society, play an important role in management of household activities and development of society and nation. The present study was conducted in five administrative bocks (Mansa, Jhunir, Bhudlada, Sardulgarh and Bhikhi) of Mansa district in south-western Punjab. In this study, 125 farm women were

selected randomly from the study region. The respondents were interviewed using a semi-structured questionnaire and data were collected and analyzed to assess their decision making for the management of household activities. Majority of farm women were in middle age (25-40 yr) group, and were matriculate (~35%). The results of the present study data showed a little participation (2-5%) of rural women in decision making related to financial and investment matters. About 53% farm women reported that their family members agreed to their decisions regarding domestic activities related to purchase of food items, domestic goods, home decoration, construction of new house and children education. About 31.5% respondent women observed that their advice related to buying of clothes and taking debt for domestic needs is addressed by their family members. The compliance to women suggestions in their household activities was observed in families with high living standard and education level.

Keywords: *Rural Women; Household Activities; Extent Of Participation; Decision Making*

ISEE Seminar/ABS/469

Integration of Social Media for Effective Communication

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ABSTRACT

Global agriculture has witnessed a paradigm shift in the past few decades and extension mechanism need to stay ahead and equip the farmers by developing their management and decision making skills. Though, television and radio have been used for disseminating agricultural information for a long time. The recent developments in the mobile, computing and networking technologies provide new ways of technology transfer. Increase in mobile subscriptions in the last decade have also increased the use of web based services and applications like web portals and mobile apps. These developments have opened up new avenues for improving reach of extension services for the needy farmers and other stakeholders. Social media are web based tools of electronic communication that allow users to personally interact with others individually or in groups for the purposes of exchanging information, sharing thoughts and opinions, influencing and facilitating decision-making by creating, storing, retrieving and exchanging information in any form by anyone in the virtual world such as Facebook, YouTube, WhatsApp, Instagram, Linked In, Blog. etc. The special features of participation, openness, conversation, community and connectedness makes social media a unique user experience. There is need of integration of social media in extension for effective utilization of social media by different ways such as use of location specific information in local language, A thorough planning is needed before engaging online through social media, specifically about objectives, target audience, channels and approaches, Interacting in real time to keep the interest of the involved clients alive, Sharing only relevant posts or information, Focusing on specific platforms based on clients' preferences and engage them continuously rather than engaging in a number of platforms but failing to engage properly, Tagging individual clients to whom the information might be specifically useful and share for all so that the intended audience receives it personally while others can also be benefited.

Keywords: Integration, Social media, Effective Communication

ISEE Seminar/ABS/470

Organic Farming in Gujarat: New Trends

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ABSTRACT

In the last few decades, awareness about health, social and environmental issues has increased. Growing awareness of health and environmental issues associated with the intensive use of chemical inputs has led to an interest in alternate forms of agriculture in the world. Organic farming is one among the broad spectrum of production methods that are supportive of the environment. With the exceptional growth in the area under organic management and increasing demand for wild harvest products, India has achieved the status of the single largest nation in terms of the total area under certified organic in the world. Leading as Second in 'Green Revolution' – Gujarat has achieved Agricultural Growth at 9.6% and has carved a niche in the field of Agricultural Development in India. As of 2009, Gujarat's agriculture growth rate has been three times more than the national growth rate. The department is confident to change the lives of farmers with its Agriculture Policies and the unique Initiative of the 'Krushi Mahotsav' in the State. Gujarat government has taken several initiative towards promotion of organic farming such as, Organic farming policy in 2015, Gujarat Organic Products Certification Agency (GOPCA), The Dangs district declared Gujarat's 100% organic farming district,, Sardar Patel research awards for organic farming for farmers, Export promotion, E Krishi Kiran, I-Khedut portals and mobile applications, State Agricultural University are doing education research and extension on organic farming, Production and Selling or organic inputs Viz, SAWAJ brand by Junagadh Agricultural University, ANUBHAV liquid biofertilizer by Anand Agricultural University, MOU between GSFC and AAU for commercialization of ANUBHAV liquid biofertilizers. First organic farming university of the country to be setup in Gujarat. Gujarat Bio-Organics Pvt. The ltd.like private sector also working, SRISTI, Agakhan foundation, Center for environmental education, and Jatan like NGOs are also working for the promotion of organic farming in the state.

Keywords: Organic Farming, Gujarat, New Initiatives

ISEE Seminar/ABS/471

Challenges and Opportunities of ICT Initiatives for Agricultural Marketing in India

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ABSTRACT

Agriculture is the fundamental sector of Indian economy. Agricultural production has increased significantly. We are claiming of record food grains production of 273 million tonnes. Still farmers are not getting remunerative price for their produce. About 90% our efforts are production oriented and only 10% are market oriented. With the globalization of market, farmers need to transform themselves from mere producers-sellers in the domestic markets to producer cum seller in a wider market. They need to develop business sense to realize the returns for their investments, risks and efforts. Use of ICT in agriculture is utmost important link between the buyers and sellers to provide the information regarding the stock, purchasing and selling of commodities. Effective linkages of production systems with marketing, agro-processing and other value added activities would play an increasingly

important role in the diversification of agriculture.ICT initiatives for agricultural marketing are AGMARKNET, e-NAM, Gyandoot, e-Choupal, EID Parry- Indiagriline, Indiancommodities.com, Mahindra Kisan Mitra, IFFCO Agri-Porta, Agrowatch Portal, iKissan, Reuters Market Light (RML). Despite the rapid spread and potential of ICTs to facilitate farmer's access to information, many initiatives face common challenges. like: Sustainability, Scalability, Affordability, Accessibility, and Availability of relevant and localized content in an appropriate language, Ease of use, lack of awareness towards IT applications on agriculture, lack of IT skills and inability to use, lack of IT support services, lack of reliable connectivity in rural areas, lack of purchasing power in the rural, Poor literacy level, need to have high usage of graphics and voice-overs (less confidence with computers, low literacy levels) in content.The paper at length discusses about the challenges and the opportunities for ICT mediated services for agricultural marketing.

Keywords: Agricultural Marketing, ICT, ICT in Agricultural Marketing, Challenges for ICT in Agricultural Marketing

ISEE Seminar/ABS/472

Networked Business Linkages in Agri-Enterprises

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Agriculture and allied sectors are considered to be the mainstay of the Indian economy. They are the important source of raw material and demand for many industrial products, particularly fertilizers, pesticides, agricultural implements and a variety of consumer goods. 'Agriculture and allied' industry is further divided into several segments, namely:- horticulture and its allied sectors (including fruits and vegetables, flowers, plantation crops, spices, aromatic and medicinal plants); fisheries sector; animal husbandry and livestock; and sericulture. Contribution of Agriculture sector in Indian economy is much higher than world's average (6.4%). Agriculture and allied sector shares 15.87% of total India's GVA of 169.61 lakh crore Indian rupees in 2018-19.(Ministry of Statistics and Programme Implementation, 2018-2019). The comparative advantages derived from abundant natural resources need to be complemented with advantages arising from a stronger entrepreneurial role and links with the stages of processing. Linkages are one of the essential feature of an enterprise. New approaches to farming should be promoted, including all kinds of linkages in the chains from production to consumption. Linkages can be Forward, Backward and sideways. Intersectoral linkages exist among agriculture and industry sectors. The Ministry of Agriculture has been implementing various schemes and policies for developing the linkages in 'Agriculture and allied' sector through its divisions like 'Department of Agriculture and Cooperation' and 'Department of Animal Husbandry, Dairying and Fisheries'. Further, the Ministry of Food Processing Industries is actively engaged in promotion of entrepreneurial activities in the segments of fish processing as well as fruits and vegetables processing. Besides, commodity boards, like tea board, coffee board, rubber board, medicinal plants board, etc. have been set up to boost the growth of the sectors like tea, coffee, rubber, medicinal plants, respectively. Hence, there exists innumerable business opportunities in the agriculture and allied sectors. Investors from all over the world are making more and more investments into the sector for unleashing its existing potentialities as well as for exploring the untapped areas. More networked the agribusinesses are higher is their success and monetary returns. It is needed that the network analyses of small agribusinesses in rural areas are studied in depth to unravel the role of efficient networking on success.

ISEE Seminar/ABS/473

Entrepreneurship Training Programme for Self-employment and Income Generation in Rural Development and Self Employment Training Institutes (RUDSETI)

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ABSTRACT

This issue of unemployment is becoming a serious concern in India and the world at large.In 2009, global youth unemployment was a crisis reaching 76.7 Million. RUDSETI (Rural Development and Self-employment Training Institute) is one of such institutes which has emerged in the past and is working successfully towards training and developing young entrepreneurs through various entrepreneurship development programmes. A desk review was carried out to elicit information about how RUDSETI organizes training programmes for skills development, self-employment and income generation. Training modules, post-training reports and annual reports have been reviewed for this purpose. Results show that RUDSETI followed fixed procedures in conducting training programmes. It was observed that for each training programme, the number of applicants exceeded the required amount. Out of the total number of applicants, only 68.8 percent were selected and 31.2 percent were rejected. It is a clear indication that there is ahigh demand for the training as youth are enthusiastic in gaining skills that could make them employable. Majority (75.3%) of the sessions were covered by guest trainers who shared their experiences making the training an enriching one. Sixty-five percent of the total training time was allocated to practical session, whereas, 35 percent was allocated to theoretical session. Post-training reports revealed that the settlement rate of entrepreneurs is 71 percent which can be increased if continued handholding activities, credit support and mentorship are provided for young entrepreneurs. The income of farmers can only increase if their entrepreneurial skills are built and encouraged to see their farms as enterprises. It is therefore recommended that Government, NGO's and other stakeholders continue to support the RUDSETI model of entrepreneurship training and it's replication in many parts of the country. This has the potential to increase self-employment rate and reduce unemployment.

ISEE Seminar/ABS/474

Assessment of Priority for Agricultural Extension Services and Preference for Vocational Trainings among Farmers

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ABSTRACT

Assessment of priority for agricultural extension services and preference for vocational trainings among farmers is important to identify individual's interests in view of existing farming conditions. A new approach involving farmers' footfall at Krishi Vigyan Kendra (KVK) was applied for assessing the demand for agricultural extension services and training interests of the farmer's in south-western Punjab. Long-term (2014-2018) average revealed that farmers' footfall was highest for utility services (35.6%), followed by for scientific advisory (31.8%), training needs (30.2%) and lowest for other extension services (2.4%). For training needs, farmers' footfall was highest

for goat farming, followed by poultry farming, dairy farming, pig farming, bee-keeping and lowest for mushroom production. Farmers' footfall for utility services was mainly related to availability of quality seed and was highest in the month of May for rice seed (54.3% of total annual footfall), followed by in November for wheat seed (51.0% of total annual footfall). Farmers' footfall for scientific advisory was related mainly to insect-pest, disease and nutrient management and physiological disorders.

Keywords: Farmers' Footfall, Utility Services, Input Needs, Scientific Advisory

ISEE Seminar/ABS/475

Whatsapp Group - An Effective Extension and Monitoring Tool

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ABSTRACT

All round efforts are being my made to spread awareness about the ill-effects of crop residue burning and technologies to effectively manage the crop residues. Different government agencies have come forward for creating awareness among all the stakeholders about the issue. Monitoring and unifying the direction of diverse efforts has been a challenge for organizations. ICAR-ATARI, Ludhiana, being the Nodal Agency for implementing the Central Sector Scheme on *in-situ* crop residue management, started a Whatsapp group on "Crop Residue Management" during 2018 for monitoring of activities under the scheme. Top level officials of Ministry of Agriculture and Farmers' Welfare, Ministry of Environment, Forests and Climate Change, Indian Council of Agricultural Research, State Agriculture Departments of Punjab, Haryana and Uttar Pradesh, Consultative Group on International Agricultural Research, State Agricultural Universities, Krishi Vigyan Kendras, Media etc. are the participant members of the group. Awareness programs, capacity development programs, demonstrations or any other relevant activities conducted by the concerned agencies are immediately share on this group in the form of photographs, videos, messages etc. It gives other implementing agencies ideas and motivation and also provides a common virtual platform to discuss the direction of progress and plan the future course of action. Along with achievements, problems faced while executing different tasks and possible solution are also discussed. The necessary directions of top officials help in executing different relevant activities. Wherever possible, different agencies are coming forward to help each other in performing their duties; thus, a synergy is being nurtured for widening the base of the drive. Moreover, sharing field photographs with geographical coordinates enabled validation of satellite captured data.

Keywords: Residue Management, Whatsapp, Monitoring

ISEE Seminar/ABS/476

Cost Effective Weed Management Strategies for Chickpea Production in Rice Based Rainfed Environment

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ABSTRACT

Weed infestation causes 30-40 % losses in *dry season* crops. In pulses, crop losses due to weeds ranging from

60-70 percent at farmer's field are common and weeds also deteriorate the quality of the produce coupled with poor resource use efficiency. Weed problem gets more intensified due to increasing problem of immense labour shortage during peak periods. Chickpea is short stature crop and has slow growth at initial stage which favours heavy weed infestation. Under given circumstances, farmers need alternate production system using chemical weed management that is more efficient, less labor-intensive and shows quick response enabling farmers produce more at less costs. Thus, chemical weed control is a major pre-requisite for improved Chickpea productivity and production using new molecules of herbicides. Therefore, an experiment were conducted at BAU Sabour for three years (2014-15 to 2015-16) and 05 on farm trials conducted on farmer fields of Bhagalpur and Banka districts to find out most suitable and economically viable herbicide(s) under different methods of stand establishments for chickpea. The finding can be justified with the fact that, pendimethalin was an excellent herbicide for control of weeds propagated by seeds and mechanical hoeing that created favorable environment for microorganisms through weed incorporation and decomposition in the soil besides uprooting the weeds. Weedy check resulted in yield reduction of 54.7%, the yield reduction was possibly due to the high intensity of weeds that robbed off the nutrient supply, sunlight and water besides limited space for comfortable crop growth and development. Pendimethalin alone / with imazethpyr followed by one hand weeding were prove an effective weed control methods with reduced weed flora and biomass could be attributed to the better performance in avoiding yield loss. Application of pendimethalin @750g. ai/ha with imazethpyr @ 20 g. ai./ha as pre emergence followed by one hand weeding at 45 DAS was the best option as it fetched a fair net return and high B: C ratio. It involved comparatively low cost on labour, early control of weed flora by combined application of pendimethalin and imazethpyr with more weeding coverage area in a short time particularly under rainfed condition may be reasons for profitability of the treatment. Adoption rate of this technology increased very fast in both the districts due to timely and cost effective weed management and drudgery reduction.

Keywords- Chickpea, Herbicide, Weed Control Efficiency, Technology Dissemination

ISEE Seminar/ABS/477

Feature and Problem of Urbanization in India

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ABSTRACT

Rural urbanization is a process of the transfer of the rural population to the cities and towns and the change of rural economy and urban economy. Urbanization is closely linked to modernization, industrialization, and the sociological process of rationalization. Urbanization is not merely a modern phenomenon, but a rapid and historic transformation of human social roots on a global scale, whereby predominantly rural culture is being rapidly replaced by predominantly urban culture. Urbanization is a major issue for the social and economic development in the new era. Urbanization occurs as individual, commercial, and governmental efforts reduce time and expense in commuting and improve opportunities for jobs, education, housing, and transportation. Many rural inhabitants come to the city for reasons of seeking fortunes and social mobility. But the picture of urbanization is not so much glorious as it apparently seems. Modern cities have grown in a haphazard and unplanned manner due to fast industrialization. Cities in developing countries become over-populated and over-crowded partly as a result of the increase in population over the decades and partly as a result of migration. Current situation and development models of rural urbanization in India, focus on analyzing the problem in the constructions of rural urbanizations and the reasons for the slow development of rural urbanization.

Keywords: Urbanization, Population, Industrialization

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