



College of Agriculture

Newsletter

Issue 8, January 2021

Co-Curricular university teams formed: A step beyond mainstream rote learning

"The Arts are an essential element of education just like reading, writing and arithmetic. Music, dance, theatre are all keys that unlock profound human understanding and accomplishment."

- William Bennet

Contributed by: **Niharika Arora,**
B.Sc Agriculture, IIIrd Year



The Dean Student Welfare of G.B. Pant University of Agriculture and Technology, Pantnagar recently formed three University level teams a Dramatics, Cultural and Literary, for the holistic development of the students and to enhance the representation of the University at various national level programmes and competitions. Moreover, co-curricular activities assist in developing critical skills and abilities to be successful and happy in the 21st century life and workplaces. Past achievements and the drive of student in the concerned art form laid the base of selection criteria. Manisha Chamoli, Niharika

Arora, Rajneesh Pandey, and Tanuja Palariya from College of Agriculture have made it to the final list of University Dramatics Team. The team will be nurtured under the guidance of Staff Counsellor Dr. Aman Kamboj, Assistant Professor, College of Veterinary and Animal Sciences. Geetanjali Joshi, Palak Chaturvedi, Pratiksha Singh, Sarthak Kothiyal, and Volga Pant paved their way to the University Cultural Team. Staff Counsellor Dr. Shefali Massey, Assistant Professor, College of Home Science will be heading the Cultural Team. Mallika Tripathi, Rahul Bohara, Ravi Kumar Jha, Shreya Priyadarshini, Shruti Kashyap, and Tanuja Palariya made it to the University Literary Team. The Literary Team will be led by Staff Counsellor Dr. V.C. Dhyani, Assistant Professor, College of Agriculture. These University level teams will be nurtured on a regular basis.



"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

- Alvin Toffler

Remedial and IELTS Classes: Getting a step ahead for future preparations

Contributed by: **Anureet Kaur Sandhu**
B.Sc Agriculture, IIIrd Year



The College of Agriculture being the support system of the students has always believed to stand with them shoulder to shoulder and have credence that nothing can stop their students from achieving great if their foundation become strong. A commendable initiative by the College to launch the remedial and IELTS and TOEFL classes in collaboration with Institutional Development Plan of National Agricultural Higher Education Project running at the University. This has led our students to not only be the one who could be recognised in their college but also outside of these boundaries which path its way to a competitive world.

The remedial classes conducted by the alumni of college were meant to clear the fundamental concepts of different subjects and excellence in junior research fellowship examination and other competitive exams. From acknowledging the students about the syllabus for each module they chose, to deliver lectures on daily basis on every topic so that no stone may remain unturned from making their students competent. Further, keeping in mind about the students who wish to go abroad for their further studies the IELTS and TOEFL classes were also launched with collaboration of ELAN academy for the students.

The authority always being so forthcoming had come up with this course so the students may avail their free time in this pandemic and may get the facility of preparing their exam from their home itself.

One of the participant of remedial classes from College of Agriculture, IIIrd year reflects, that "The journey of remedial classes had been a wonderful experience for me and a turning point too. Before the onset of the classes, the idea of appearing in the ICAR-JRF exam was just a mere thought. There was no crystal-clear idea of 'what it exactly takes' to prepare for such exam. Sitting at home with no clear guidance made it difficult to start the preparation. But, with the commencement of the incredible session of remedial classes - an unclear thought turned into a fair idea and firm determination".

Ms. Ankita a beneficiary of IELTS/TOEFL coaching said, "It was a wonderful experience for me. We were told the key strategies that need to be employed while solving the questions in an IELTS exam. Special emphasis was laid on the ability of students to mark maximum correct answers. One to one feedback was also provided in all the four listening, reading, writing, and speaking sections. The classes were conducted three days a week, viz Monday, Wednesday, and Friday. Further, a mock test was assigned every Saturday to help the students evaluate their progress throughout the training period. The trainer was very supportive and her remarkable efforts made the learning process enjoyable. The sessions were conducted regularly on the scheduled days at the due time. The IELTS training helped me overcome the fear of speaking fluently, and built in me, the confidence expected for the exam".

Successful installation of internet connectivity across the College



Contributed by: **Pooja Kaira**
B.Sc Agriculture, IIIrd Year



The paradigm shift of classes from offline to online mode due to COVID-19 developed numerous challenges regarding conduct of classes including availability of

round-the-clock internet. To cater to the urgent need of sustained high speed internet connectivity, College of Agriculture has made elaborated arrangements and has successfully installed a BSNL leased line internet connection throughout the college. In addition to the internet facility rendered by University's CCF (Central Computing Facility), this newly installed internet connection will ensure regular, speedy internet connectivity across the college. All undergraduate classrooms of the college which have been recently developed as the digital classrooms (installed with Interactive Digital Panels), the College Conference Hall, the Dean Office along

with all the departments have been given an internet connection. In the time span of last six decades, it is for the first time, an integrated effort has been taken to cover the entire college campus with internet connectivity. This basic yet significant need of the present times, will indeed take all the academic and administrative targets of the college to the next level.

New year and new changes: Revamping the selection process of Agriculture Society

Contributed by: **Niharika Arora,**
B.Sc Agriculture, IIIrd Year



College of Agriculture has been the most primeval part of the University since inception and Agriculture Society has been an integral part of the college since last many years. The Society has always worked very handily for the holistic development of the students. The Dean of the College had a vision of making the Agriculture Society function more profoundly, not just in the University but also at a national level. He wanted each student to inculcate more and more professionalism in his/her personality. According to his thoughts and faith, Agriculture Society is not merely limited to University level events but it should put forth the talent and intellect of students on a larger platform. To make this all come true to reality, the selection criteria of the Agriculture Society was revamped after brainstorming among faculty members of the college.

Earlier there was no weightage given to the CGPA of the student neither there was any criteria considering the co-curricular and extra-curricular achievements. An introduction of such parameters was thus made into the selection process followed by a personal interview round. This change brought a good lot of students to stand in the front line and it is hoped that this change will definitely work for the betterment of all the students, the College and for the University as well. The list of selected executive members of agriculture society is given.

Ist Year (2020-21)

Batch Representative

1. Gaurav (56430)

Co-Batch Representative

1. Mohit Bhatt (55880)

2. Ankit Sarkar (56431)

3. Paras Bhatt

4. Anubhav Singh Bhandari (55913)

1. Pragya Gargya (56415)

1. Monalisa Guru (55732)

2. Priya Sinha (56821)

3. Suchitra Raj (56707)

4. Kanika Sharma (56859)

IInd Year (2019-20)

Batch Representative

1. Paritosh Kumar (54461)

Co-Batch Representative

1. Asad Rehman (54634)

2. Samar Bhatt (54498)

3. Aditya Kumar Singh (54418)

4. Ayush Parihar (54680)

1. Muskan Nargwani (54363)

2. Nidhi Bhagat (54422)

3. Suchitra Raj

4. Kanika Sharma (56859)

IIIrd Year 2019-20

Batch Representative

1. Rohit Ratnakar (53278)

Co-Batch Representative

1. Shreyansh Maurya (53278)

2. Vikas Kumar (53097)

3. Abhishek Kumar (53091)

4. Rishabh Joshi (53278)

1. Lata Panoura (52951)

1. Niharika Arora

2. Shubhangi Tripathi (52983)

3. Sanskriti Joshi (52942)

4. Samridhhi Kohli (53293)

IVth Year (2017-18)

Batch Representative

1. Sarthak Kothiyal (51662)

Co-Batch Representative

1. Bhumit Sah (51484)

2. Priyam Arora (51490)

3. Dipanshu Pandey (51515)

1. Shruti Mishra (51492)

1. Shruti Kashyap

2. Shreya Priyadarshi (51406)

3. Swati Shweta (51439)

Awareness session organized on scholarships for UG students

Contributed by: **Neeraj Tewari**
B.Sc Agriculture, IIIrd Year



Education is the best way to get success and if we are ready to work harder and smarter then there are numerous ways to make our journey simpler and full of enthusiasm, and financial support through different scholarships is one of the ways which help in making our journey simpler. The scholarship is a grant or payment made to support a student's education, awarded based on academic or other achievements. It was observed that some of the students were not aware of different types of scholarships available for them so to aware and motivate the college students, the Agriculture Society successfully conducted an online awareness session on scholarships for undergraduate students on December 25, 2020. Mr. Yogesh Dutt, alumni of batch 2016 led the session who is a recipient of various scholarships such as Uttarakhand Krishi Utpadan Mandi Parishad Scholarship and Dr. Dhyan Pal Singh Memorial Award. He was also awarded the Chancellor's Gold

Medal for his extraordinary achievements in academics and extra-curricular activities. Reflecting on his journey at Pantnagar, Mr. Yogesh Dutt said "Pantnagar University is the best place to explore but the only thing we need is an enthusiastic mind, if we are ready to work hard then there are ample resources which will help us". He further suggested that "make yourself an allrounder personality but your academics should be at priority".



Yogesh Dutt
College Alumnus, Batch 2016

The webinar was conducted under the guidance of Dean, College of Agriculture Dr. S.K. Kashyap, Dean Student Welfare, Dr. Brijesh Singh, Staff Counselor, Agriculture Society Dr. Omwati Verma, and Co-Staff Counselor, Agriculture Society Dr. S.K. Maurya. There was participation of more than 120 students in the awareness session.

National Agricultural Education Day Celebrated



Indian Union Agriculture Minister and the first President of independent India, Bharat Ratna, Dr. Rajendra Prasad as Agricultural Education Day in India. G.B. Pant University of Agriculture and Technology, Pantnagar celebrated this pious day by organising various events in different colleges of the University and encouraging young minds to develop passion for agriculture and be proud of it. The Agriculture Society of College of Agriculture organised an Inter-University Quiz Contest 'Synergia' on general agriculture and general awareness. Sherya Priyadarshi, Avneesh Kaur, and Shrishti Tiwari from the College of Agriculture emerged as top scorers while Stuti Lavania, Anshika Sharma, Sheela Pundir, Palak Bansal, Ankita Singh, Anjali Gusain and Prajjawal Bagadwal made it to top 10 scorers of the quiz and were awarded a certificate of merit. The event was successfully conducted under the guidance of Dr. S.K. Kashyap (Dean,

Contributed by: **Gautam Harbola**
B.Sc Agriculture, IIIrd Year



College of Agriculture), Dr. Omvati Verma (Staff Counsellor, Agriculture Society), Dr. S.K. Maurya (Co-Staff Counsellor, Agriculture Society) and faculty members of the college. The quiz contest witnessed the enthusiastic participation of University students and enthused them to further explore the critical aspects of agriculture and agricultural technology.

Every year on December 3, the National Agricultural Education Day is observed. The Indian Council of Agricultural Research declared the birthday of the first

ICAR webinars organised in Horticulture department

Contributed by: **Aman Negi**
B.Sc Agriculture, IIIrd Year



Cultivation of Horticultural Crops) and Dr. Ratna Rai (Propagation and Nursery Management of Horticultural Crops). More than 350 participants were a part of this 106 days learning endeavour.

The department of horticulture held webinars on entrepreneurship development starting from September 14 to December 28, 2020. The seminars were organized as 106 days educational program and were held online on Microsoft Teams platform. Initially a three weeks foundation course was organized on *Entrepreneurship Development: Ideas and Concepts* which was followed by several area specific entrepreneurship programmes each of which was organized for two weeks. These programmes were on mushroom cultivation (October 6-19, 2020), commercial floriculture and landscaping (October 20-November 7, 2020), protected cultivation of horticultural crops (November 9-28, 2020), and propagation and nursery management of horticultural crops (December 14-28, 2020). A total of 148 different topics were covered in this webinar by 100 experts (61 internal and 39 external experts). The webinars were centrally coordinated by Dr. Omveer Singh, and co-coordinated by Dr. S.K. Mishra (Mushroom Cultivation Technology), Dr. B.D. Bhuj (Commercial Floriculture and Landscaping), Dr. V.P. Singh (Protected



A step towards improving vegetable production: Training organized on precision farming

Contributed by: *Samiksha Yadav*
B.Sc Agriculture, IIIrd Year



The Department of Vegetable Science of College of Agriculture, Pantnagar organized a three days online training programme on the topic 'Role of Precision Farming in Quality Vegetable Production.' The training was held from December 18-20, 2020, and was organized exclusively for the University students, to aid their understanding of precision farming. The programme was sponsored by Indian Council of Agricultural Research SC sub-component plan. The training programme saw a panel of proficient external and internal experts. The team of external experts included Dr. Ankur Agarwal, Scientist 'E' DIBER, DRDO, Haldwani, Uttarakhand and Dr. Pradeep Kumar, Senior Scientist, ICAR-CAZRI, Jodhpur, Rajasthan, while the internal experts included Dr. P.K. Singh, Professor, Department of Irrigation and Drainage Engineering, Dr. Dharendra Singh, Professor, Department of Vegetable Science, and Dr. Lalit Bhatt, Assistant Professor, Department of Vegetable Science.

The three-days training programme covered topics dealing with the different aspects of precision farming. However, the

focus areas of training included vegetable grafting for protected cultivation, innovative soilless cultivation technology, fertilizer recipe for quality vegetable production, low cost protected cultivation technologies, precision farming in tomato and capsicum production, and precision farming in cucurbits production.

Recently, the United Nations General Assembly designated 2021 as the International Year of Fruits and Vegetables, focusing on raising awareness and attaining sustainable development goals. The training thus contributed in this UN mission by educating the students in advances in vegetable production technology. The department looks forward to hosting more such holistic and interactive sessions in the future.



3 days training held on advances in crop production and soil management

Contributed by: *Geetika Joshi*
B.Sc Agriculture, IIIrd Year



Management in agriculture is an essential step particularly in the present context when the resources are no more superfluously available and we have to maintain sustainability and achieve food security. The practices of crop and soil management are critical to achieve the same. To make students aware about the advancements in these important aspects, a 3 days online training program i.e. from December 10-12, 2020, was organised by Department of Agronomy, College of Agriculture, Pantnagar. The training was conducted under the ICAR SC sub-component plan. The focus areas of the training were improving water use efficiency in agriculture, Biochar - a climate smart solution, soil health as impacted by poor quality water, burning free agriculture for northwest India, abiotic stress management for higher crop productivity, and tillage and crop diversification for improving soil quality. The different keynote speakers for the training were Dr. Anchal Das, Principal Scientist, Agronomy, IARI New Delhi, Dr. O.P. Chaudhary, Professor and Head, Agronomy, PAU Ludhiana, and Dr. Mukesh Kumar, Associate Professor, Agronomy, RPCAU, Pusa, Bihar. The scientists from the college

who led the training included Dr. Subhash Chandra, Chief Scientist, Agronomy, Dr. Sumit Chaturvedi, Associate Professor, Agronomy, and Dr. V.C. Dhyani, Associate Professor, Agronomy. The training programme was indeed informative with respect to practical applications of crop and soil management and was appreciated by all the participants.



Exploring prospects of entrepreneurship in horticulture

Contributed by: **Vikas Kumar**
B.Sc Agriculture, IIIrd Year



With the current pandemic situation, colleges across the world have been putting efforts to create a balanced environment for the students. The College of Agriculture, Pantnagar, has been doing the same for its students. Among the different webinars and sessions, another training programme on Precision Horticulture for Entrepreneurship Development was organized by the College of Agriculture, Pantnagar for its students. It was one of the training programme sponsored by Indian Council of Agricultural Research, New Delhi under the SC sub-component plan. The three days training programme was held from December 21-23, 2020 on the platform of Microsoft Teams. A team of training experts including Shri Sudhir Chaddha, Director Indo-Dutch Horticulture Technologies, Dr. Bal Krishna, Senior Vice-President, R&D, JISL Jalgaon, Dr. P.K. Singh, Professor, Department of Irrigation and Drainage Engineering, Pantnagar, Dr. Ghanshyam Sahu, Assistant Professor, IGKV Raipur, and Mr Himanshu Malik, Executive, G4 Agri Foundation Karnal, led and guided the three days learning agenda.

The three days online training programme discussed the aspects of precision horticulture for entrepreneurship development. The training was focused on two aspects, technical skills and entrepreneurship skills. The technical topics of the training were precision horticulture technologies, precision

irrigation management in horticulture crops, precision nursery management, and precision cultivation of horticulture crops. With respect to entrepreneurship skills, the experience sharing by successful entrepreneurs and interaction of the participants with the entrepreneurs led towards unveiling of several entrepreneurship skills especially in context of agri-entrepreneurship ventures. The training provided the right blend of guidance to the students, with technical knowledge from academic experts and entrepreneurial knowledge straight from entrepreneurs.



Series of insightful webinars by overseas experts on 'Advances in Plant Genetics and Breeding'

Contributed by: **Prachi Nagarkoti**
B.Sc Agriculture, IIIrd Year



A lecture series comprising three webinars to update students about the ever evolving science of Plant Breeding was organized by the Department of Genetics and Plant Breeding of the College of Agriculture, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar. The topic of the series was, *Advances in Plant Genetics and Breeding*, and was scheduled from December 21-22 on Microsoft Teams. The inauguration of the series was held in the presence of Dean, College of Agriculture, Dr. S.K. Kashyap who called it a matter of great pride to connect with eminent plant breeders who have been serving in different parts of the world. The webinar was coordinated by Dr. Salil K. Tewari, Professor and Head, Department of Genetics and Plant Breeding along with Dr. J.P. Jaiswal and Dr. A.S. Jeena, both working as Professors in the Department of Genetics and Plant Breeding.

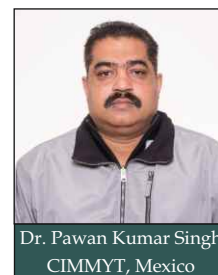
Starting from December 21, the first session of the lecture series was led by Dr. Jata Shankar Nanda, a prominent rice breeder who discussed the topic, Rice Breeding, Past Present and



Dr. Jata Shankar Nanda
IRRI, Philippines



Dr. Shiv Kumar Agarwal
ICARDA, Morocco



Dr. Pawan Kumar Singh
CIMMYT, Mexico

Future Outlook. In the lecture, he briefed the multiple popular genetic engineering technologies, including CRISPR/CAS9, CRISPR base editors, TALENs, zinc finger nucleases, RNA interference, virus-induced gene silencing and gene overexpression that can play essential roles in modern agriculture for crop optimization. He addressed students on various components of rice breeding with his vast experience and knowledge. His lecture was followed by the second lecture in series on the topic Global Status of Wheat Blast by Dr. Pawan Kumar Singh. He is a Senior Scientist and Head of Wheat Pathology, Global Wheat Program at CIMMYT, Mexico. During the session, he elaborated the various approaches adopted to tackle the problems of Wheat blast, which is a devastating fungal

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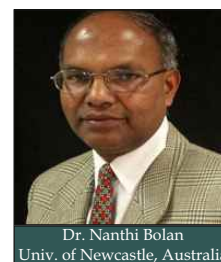
Webinar held on nutrient management in farming

Contributed by: *Saurabh Kumar Tamta*
B.Sc Agriculture, IIIrd Year



Ever since the lockdown started, College of Agriculture, Pantnagar has been making great efforts to expand the knowledge horizons of the students. Conducting and attending various online webinars, events, competition, workshops, training, etc. along with structured online classes has now become the new normal for the students. In this sequence, an online webinar was organized on the topic *Closing the nutrient loop: Phosphorous management in protein farming*. The webinar was held on December 19, 2020 and the deliberation was made by Dr. Nanthi Bolan, Professor of Environmental Chemistry, Global Centre for Environmental Remediation, University of Newcastle,

Callaghan, Australia. Dr. Bolan is also the associate editor of *Journal of Environmental Quality and Critical Reviews in Environmental Science and Technology*. Dr. P.C. Srivastava, Professor, Department of Soil Science, commenced the session by introducing the guest speaker.



Talking about various concepts of vital soil inputs, fertilizer and poultry industry in India, Dr. Bolan talked about the phosphorous management to close the nutrient loop. He elaborated on manure management, feed management, soil management and crop management practices in the management of phosphorous cycle. He stated that fertilizer is the fuel for green revolution and without it the food security cannot be achieved.

Animal and poultry manure are a good source of carbon and nutrient including phosphorous and efficient utilization of these will help in reducing the demand on imported fertilizers. He further highlighted the opportunities in developing the Best Management Practices (BMP) for safe and beneficial utilization of animal and poultry manure to achieve food security.

Towards the end of the session, the students also got a chance to quench their curiosity related to the topic and other related aspects. Dr. Navneet Pareek, Professor, Department of Soil Science delivered the vote of thanks. A total of 93 participants were present in the session.



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disease and is prevalent in the parts of South America and South Asia. The second day of the lecture series began with the session on the topic *Accelerating the Genetic Gains in Legumes* and was led by eminent scientist Dr. Shiv Kumar Agrawal. He is currently serving as a scientist in ICARDA, Morocco and has worked significantly in the field of developing short duration climate smart varieties of lentil and grass pea with high iron and zinc content. Dr. Agrawal emphasized that conventional Plant Breeding is getting fully integrated with technology, innovations, and the changes are expected to be very rapid and positive. The lecture was augmented by a Q&A session, where students clarified their doubts. The session witnessed the presence of several proficient and senior plant breeders like Dr. D.L. Singhanian, Dr. Hari Har Ram, Dr. H.S. Chawla, Dr. Pushpendra Rathi, Dr. S.K. Verma, Dr. M.P. Pandey and others. They had an

interesting and thought-provoking discussion with experts on various breeding techniques in practice. Talking of the lecture series, Dr. Salil Tewari expressed that it was a lifelong experience to interact with renowned alumni of Department of Genetics and Plant Breeding. He called it a rare occasion, and a great opportunity for students to interact with distinguished scientists like Dr. J.S. Nanda, who has devoted his whole life working for rice genetic improvement and Dr. Pawan and Dr. Shiv Agrawal who with their hard work have excellently contributed in their fields of research. He also extended his gratitude to Dean College of Agriculture for providing the opportunity to interact with renowned scientists with support of IDP-NAHEP. The presence of so many distinguished geneticists at the same platform made it a more enriching series with lots of important learnings and takeaways.

Pantnagar students nurtured on becoming globally competitive agriculture professionals



Contributed by: **Vijay Kumar**
B.Sc Agriculture, IIIrd Year



Aspirating to be a global professional requires one to possess certain skill sets and knowledge that provides strong foundation to become competitively sound. Focusing on the skills and knowledge required by young agriculture graduates, College of Agriculture organized an online session with Dr. Rameshwar S. Kanwar, Professor, Agriculture and Biosystems Engineering, IOWA State University, USA as the expert on December 12, 2020. Dr. Kanwar started his deliberation by giving a brief overview of the challenges that are emerging in the agricultural sciences and he highlighted the important role of

agricultural graduates in emerging as problem solvers, solution creators and leaders of tomorrow. Dr. Kanwar stated that entering into a foreign university for pursuing any academic degree requires every student to get aware of what is the curricular requirements being met by the native students of the University and where are we lacking. He added that even prior that we need to think of exactly where we want to land up to after completing certain degree in any of the disciplines of agricultural sciences. Dr. Kanwar stated that we must have a clarity of whether we want to have a job, a good academic degree from a prestigious institution or start our own business to decide the gaps in our skills and knowledge. He also gave a detailed overview of the curriculum in Bachelor's degree being followed at IOWA State University.

Dr. S.K. Kashyap, Dean, College of Agriculture stated that session served to enlighten young minds in pursuing varied career opportunities. Dr. R.M. Srivastava, Professor, Department of Entomology coordinated the event. A total of 106 participants attended the session and got their queries related to degree requirements clarified with the expert by the end of the session.



Dr. Rameshwar S. Kanwar
Iowa State University, USA

Food quality monitoring: A global perspective

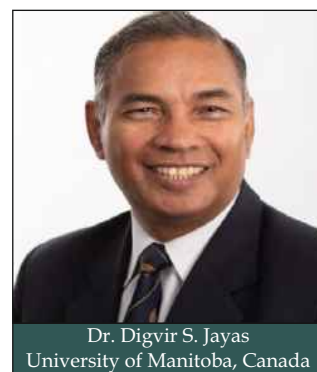


Contributed by: **Vanshika Gupta**
B.Sc Agriculture, IIIrd Year



Quality has long been a factor in the success of food trade transactions. However recent food safety issues have propelled quality control to the forefront of international trade concerns. Now with increasing globalisation of trade, food quality has also become a matter of great concern. So, to further enhance the knowledge in the field of food monitoring, College of Agriculture Pantnagar, organized a webinar on *Understanding the Global Perspective and Scope in Food*

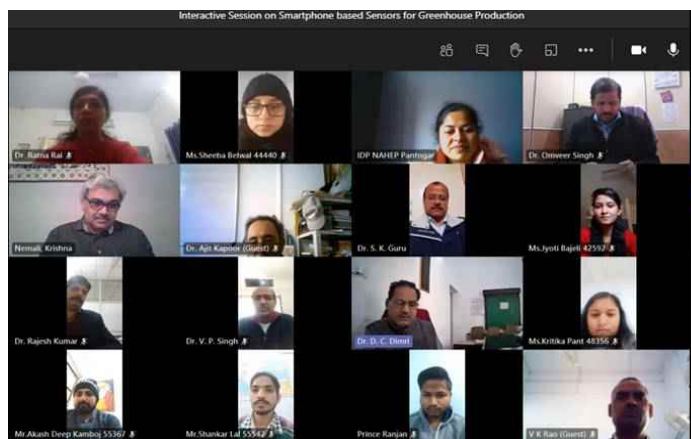
Quality Monitoring under the expertise of Dr. Digvir S. Jayas, Professor, University of Manitoba, Canada, on December 15, 2020. Dr. Jayas is an eminent researcher with major works in the area of drying handling, storing of grains and oilseed, digital image processing for grading and processing operation in the food industry.



Dr. Digvir S. Jayas
University of Manitoba, Canada

During the webinar Dr. Jayas highlighted the concepts of storage of grains by minimising their spoilage, interaction of biotic and abiotic factors and other engineering solution to manipulate the environment for storage. He further talked about his research works and adding upon he also told that what could be done to improve the status of food monitoring to ensure high-quality preserve grains for feeding the growing population. He even talked about the recent advances and digital marketing initiatives being taken up by food industries for quality management in the developing world. The entire webinar was extremely interactive and informative and a total of 105 participants were present in the webinar. In nutshell the webinar proved to be really helpful and was successful in developing interest of students in emerging field of food monitoring.

Smart sensing in agriculture : Need of the hour



Contributed by: **Anubhav Singh Raj**
B.Sc Agriculture, IIIrd Year

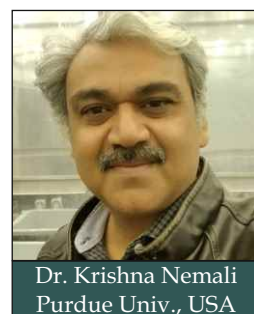


Among the various technologies invented in the past few decades, smartphones have become a useful tool in agriculture because their mobility matches the nature of farming, the cost is highly accessible, and their computing power allows a variety of practical applications to be created. On December 29, 2020 an online lecture was organized wherein Dr. Krishna Nemali, Extension Specialist Horticulture and Landscape Architecture, Purdue University, United States discussed on the same concept. Dr. Ranjan Srivastava, Professor, Department of Horticulture, College of Agriculture, initiated the session by sharing a brief profile of the eminent speaker with the audience.

While talking about his journey in agriculture science from India to United States, Dr. Nemali gave an overview regarding Purdue university location, colleges, alumni, student population as well as the status of horticulture and landscape architecture in their university. Thereafter he notified about the floriculture business in United states as well as declining floriculture industry status in current scenario. He also discussed about the way these



floriculture crops are grown and sold in United States markets. Further he emphasized on plant monitoring in greenhouse and discussed regarding remote sensing in precision agriculture. He also explained about the evolution of monitoring techniques as well as intense cultivation practices making monitoring difficult. Elaborating further, he explained about smart sensing and their uses in calculating germination percentage, flower number, growth differences, nitrogen stress index, flower quality, height and weight. He also demonstrated the same smart sensing technique during the session through his smartphone. According to him these smart sensing technologies through smartphones are of low cost, easy to use, easily adaptable, attractive as well as universally available for agriculture usage. At last he apprised regarding protection of intellectual property.



Dr. Krishna Nemali
Purdue Univ., USA

An interesting round of question answer session was held between Dr. Krishna Nemali and the audience. The session ended with a vote of thanks by Dr. D.C. Dimri, Head of Department, Department of Horticulture, College of Agriculture.

Enhanced Mineral Weathering for Climate Change Mitigation and Food Security

Contributed by: **Simran Pundir**
B.Sc Agriculture, IIIrd Year



Climate change in the present context has engrossed the entire world in one from or the other. In context of agriculture and allied disciplines, it is emerging as a grave concern and intellectuals around the world are striving to explore solutions for it. To aware Pantnagar students on varied aspects of this concern, a guest lecture was organized. This guest lecture was held in continuation to the series of interactive guest lectures by internationally renowned faculty. Dr. Binoy Sarkar, Lecturer, Lancaster Environment Centre, Lancaster University, United Kingdom was invited to deliver a lecture on the topic *Enhanced Mineral Weathering for Climate Change Mitigation and Food Security* on December 23, 2020. Dr. Sarkar is a learned academician

and has published more than 125 peer-reviewed research papers including in the highly prestigious Nature journal.

Giving a brief introduction about his research areas, Dr. Sarkar initiated the lecture elaborating on climate change and negative emission technologies. Talking about climate smart agriculture, he focused on enhanced weathering technologies to improve crop yield and crop productivity which would ultimately help in achieving sustainable development goals. He also focused on achievement of these goals through indigenous technologies like moving towards organic farming. The event was held under the guidance of faculty members of Department of Soil Science namely Dr. P.C. Srivastava, Dr. Navneet Pareek, and Dr. Jai Paul. A total of 71 participants were present in the session.



Dr. Binoy Sarkar
Lancaster University, UK

Modern problem requires modern solutions: Challenges of contaminated land

Contributed by: **Sumit Tewari**
B.Sc Agriculture, IIIrd Year



Soil pollution in the burning issue nowadays in many developing countries. Soil pollution is mainly caused by the presence of chemicals or other alteration in the natural soil environment typically caused due to industrial activities, agriculture chemicals or improper disposal of waste and hence the land gets contaminated. Nowadays, government of many countries are facing this major challenge of contaminated land and its remediation. To acquaint the students with the various challenges of contaminated land, an online guest lecture was organized on the same issue and had almost 120 attendees. The date scheduled for this lecture was December 21, 2020 and was delivered by Dr. Prashant Srivastava. He is a Senior Research Scientist in Commonwealth Scientific and Industrial Research Organization (CSIRO), University of Adelaide's White Campus, Australia.

Starting from the concept of pollutants and contaminants, Dr. Srivastava explained about sources and types of contaminants

including legacy and emerging contaminants and their effect on agriculture sector. He precisely explained the harmful effect of pesticides, heavy metals particularly lead, chromium, arsenic, zinc, copper, mercury, nickel and hydrocarbons on the human health as well as on the environment. He also elaborated on the PFAS (Per- and Poly-Fluoroalkyl Substance) compounds, micro plastics and nanoplastics which are serious threat to human health and environment and are major issues of research now-a-days. Further he focused on the remediation techniques (including in situ and ex situ immobilisation, stabilization, phytoremediation, phytoextraction and phytofiltration) for contaminated soil which would be ultimately helpful in protecting human health and environment.



Dr. Prashant Srivastava
Univ. of Adelaide, Australia

The guest lecture was well appreciated by the audience. Dr. P.C. Srivastava, Professor, Department of Soil Science, coordinated the event and Dr. Navneet Pareek, Professor, Department of Soil Science delivered the vote of thanks.



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