

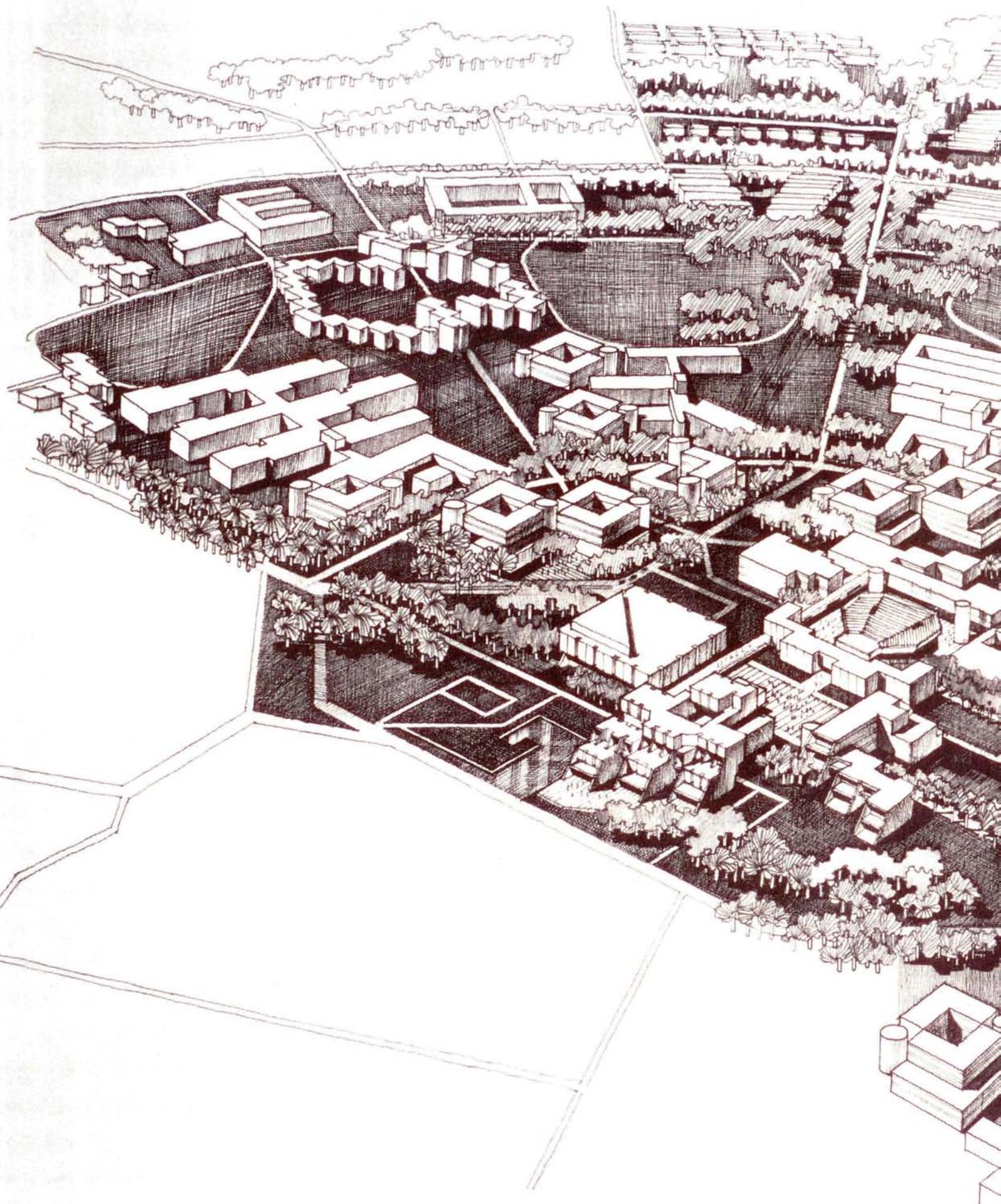
College of Agriculture

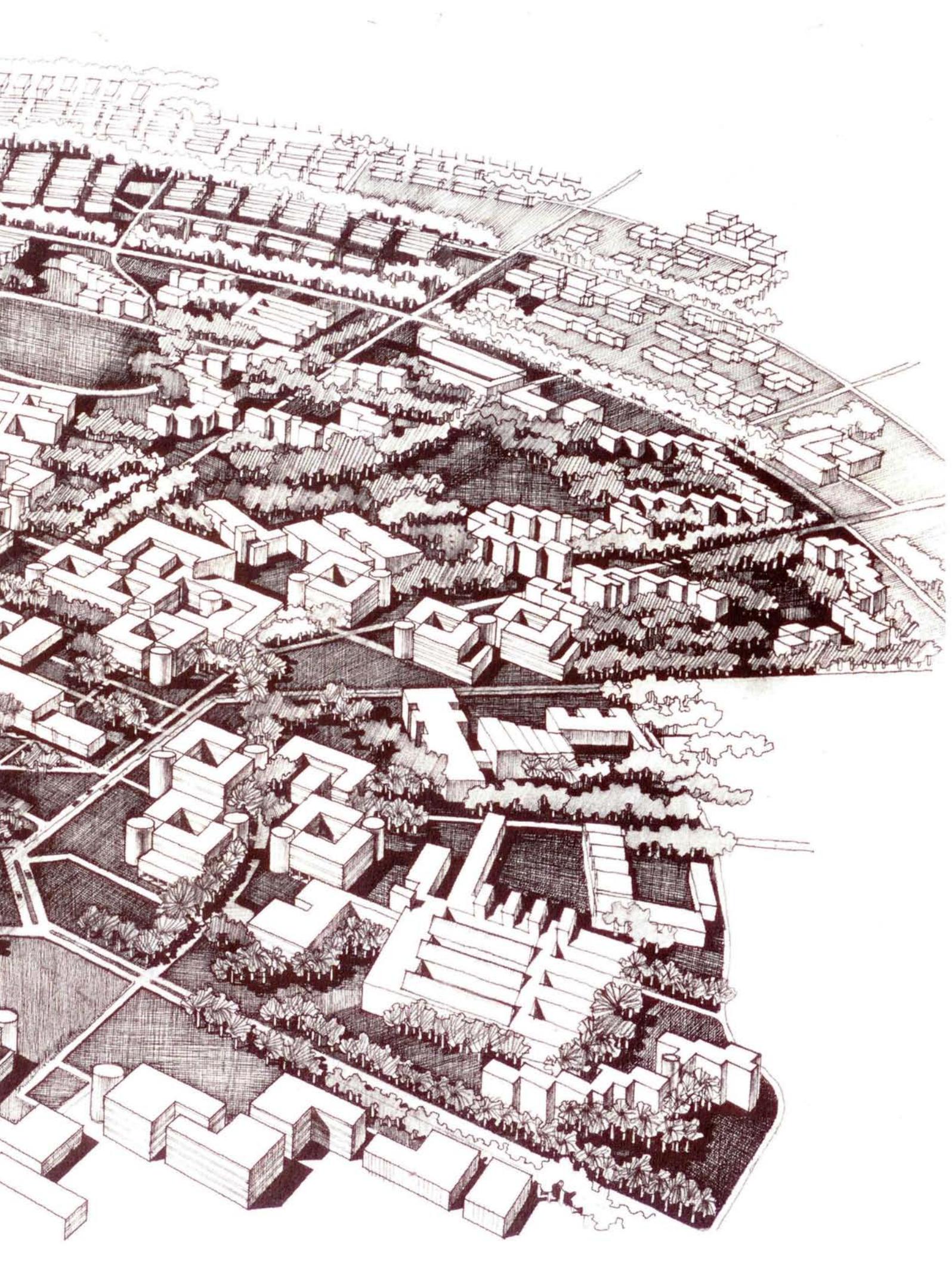
Annual Progress Report 2020

The efforts, outputs and outcomes



**G. B. Pant University of Agriculture & Technology,
Pantnagar, Uttarakhand 263145, India**





College of Agriculture

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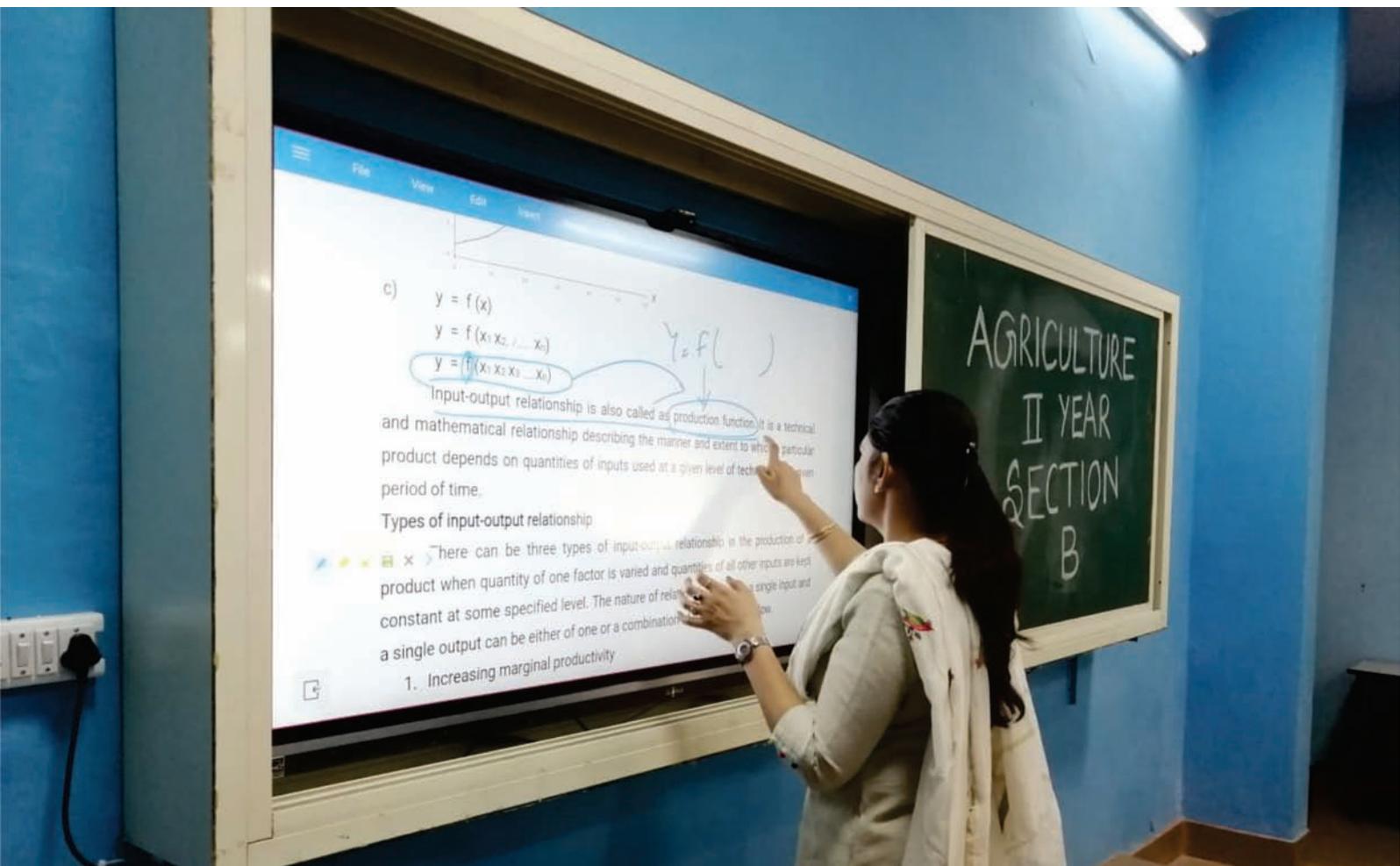
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The Indomitable Agriculture College: Salient Progress in 2020



The College came to existence in 1960 as the first-ever College of Agriculture in any Agricultural University in India. The then Prime Minister Shri Jawahar Lal Nehru stood in the College on 17th November, 1960 to declare the realm of Agricultural Universities to emerge in the Country with the first Agricultural University to be dedicated to the nation as – Uttar Pradesh Agricultural University, later renamed as G. B. Pant University of Agriculture and Technology, Pantnagar.

- The first batch came out from the College in 1963 with President Dr. S. Radhakrishnan as the Chief Guest of the Convocation ceremony. The year 2020 witnessed the 60th year of the establishment of this College.
- Presently, total 678 undergraduate, 245 Masters and 185 Ph.D. students are studying in two UG, 11 Masters and 11 Ph.D. programmes, running in the College.
- The College has established its reputation as a Centre of Excellence, producing illustrious administrators, scientists, industrialists, corporate professionals, bankers, and agripreneurs who are reigning in the agriculture sector across the globe in every kind of agriculture aligned institution.

- The College has given more than twenty Vice-Chancellors to the country till time who shaped and led different agricultural universities across the nation.
- The College scientists have developed 278 crop varieties, which significantly paved the way towards production enhancement leading to ushering and maintaining the food security status of the Country.
- The salient contributions in technological breakthrough have been seminal from the College which helped the farmers across the globe, which begins right from the first decade of the College with the exploration of zinc-deficiency syndrome in paddy crop named as Khaira disease. The strong technological hand-holding from agronomy, soil science, plant pathology and entomology made the task of breeders impactful. The prominent technologies and varieties emerging from horticulture and vegetable sciences led towards diversification of agriculture and income enhancement propositions. The Food Technology department worked intensively for the processing, preservation and value addition. The Agricultural Extension and Agricultural Economics worked as the two pillars to sustain the integrated developmental efforts through social and economic perspectives. The College also added a much-needed new perspective of Agro-meteorology. Thus, the College has a strong multi-disciplinary setup with well-structured coherence to provide a true development support system to agricultural researches.
- The College gracefully harbours 33 All India Coordinated Research Projects (AICRPs) and networking projects, 15 ICAR adhoc projects, 04 State Government projects, 20 Central Government projects, 05 international projects and 150 bio-efficacy projects running across in the 11 departments.

The Glimpses of Year 2020

- Total 101 undergraduate students and more than 125 postgraduate and Ph.D. students completed their degree successfully after completing their semester final examinations and other degree requirements amidst the Corona pandemic.
- The College could sustain strongly during the pandemic with not even a single-day closure of work activities due to pandemic-aligned issues. Maintained a structured and disciplined system of daily sanitization of the departments across the College, hand sanitization, temperature watch, hygiene and

cleanliness, social distancing, mask-checking and maximum use of online platforms for meetings, interactions and conversations. We successfully emerged as a safe and sanitized premise with high morals of faculty members and the staff.

- A number of multi-disciplinary teams remained fully active to strengthen the academic and research efforts of the College from different dimensions.
- The College infrastructure upliftment is regularly underway to strengthen and preserve the six-decade old heritage of the Country.
- The class rooms of the College have been transformed into digital classroom with interactive panels, sound systems, webcams and other accessories.
- Separate and well-equipped Placement and Counseling Cell as well as Alumni Cell workplaces developed in the premises to strengthen these important interventions.
- Regular online teaching-learning continued throughout the year.
- Nine Certificate Courses launched from seven departments.
- More than fifty webinars and trainings organized in 2020 by all eleven departments including talks from renowned foreign experts.
- Eighteen new varieties released/identified for release in year 2020.
- Total 24 students qualified ICAR-JRF and 23 students qualified ICAR-SRF. Total 12 students got selected for management and other higher studies from reputed institutions.
- Three students got selected for foreign institutions for higher studies.
- New and improvised Lab Manuals for all the UG courses across the departments prepared and reviewed. The manuals are under printing now.
- Remedial Courses in six JRF disciplines under way since October, 2020 with fifteen instructors who are recent illustrious alumni of the College.
- Formed the Advisory Committee of the College with five eminent academicians and stalwarts.
- Published Policy Note from the College- COVID-19 and Agriculture.
- Published regular monthly newsletter of the College to be shared across in the country among thousands of stakeholders and well-wishers.



The College on Path: The Envisioned Future

Dr. Tej Partap, Vice-Chancellor

Keep the legend alive

It is well said that you can easily build a building but institutions are not built in a day. You need an in-depth vision to build an institution, it is an ecosystem, a thought process, a distinct culture which decides the fate and destiny of the institution. You need to look into the past and the future simultaneously to build the present of an institution. You may constitute a committee to decide the curricula but how will you put the core values and core competence across the nerves and veins of the emerging institution? People may efficiently keep the status quo by performing the basic responsibilities sincerely but how will you generate that band of diligent performers who keep making utmost efforts

When I peep into the future of the College, I get a convincing confirmation of an upcoming global institution with prolific alignments, networking, alumni support, revenue generation, skill and entrepreneurship development opportunities and an innovation-based, well-rooted ecosystem to answer the emerging issues of the world. The College is on path but it needs to emerge as a global think-tank for agricultural issues which will require a collective vision from the College with enhanced performance on every front.

to take the science and the innovations and the researches and the technology and the educational standards to the next level? You may recruit some good scholars to take the agenda ahead but how will you inculcate the undying quest of studying, thinking, in-visioning, contributing, excelling, self-induced discipline, sincerity and punctuality, hard work in them so that they emerge as the worthy future leaders of the institution?

When I look towards the past of the College of Agriculture of the University, I get the feeling of a heritage institution which has been nurtured by seamless efforts of true academicians and stalwarts in the last six decades. When I look towards the present of the College, I get a strong conviction of a grand future due to the prevailing pragmatism, strong agenda, commitment for change, hard work, cooperative efforts, a strong vision and the biggest virtue of an absolutely positive and promotional environment. When I peep into the future of the College, I get a convincing confirmation of an upcoming global institution with prolific alignments, networking, alumni support, revenue generation, skill and entrepreneurship development opportunities and an innovation-based, well-rooted ecosystem to answer the emerging issues of the world. The College is on path but it needs to emerge as a global think-tank for agricultural issues which will require a collective vision from the College with enhanced performance on every front. Hard work is the key in agriculture, may it be the teaching, research or extension.



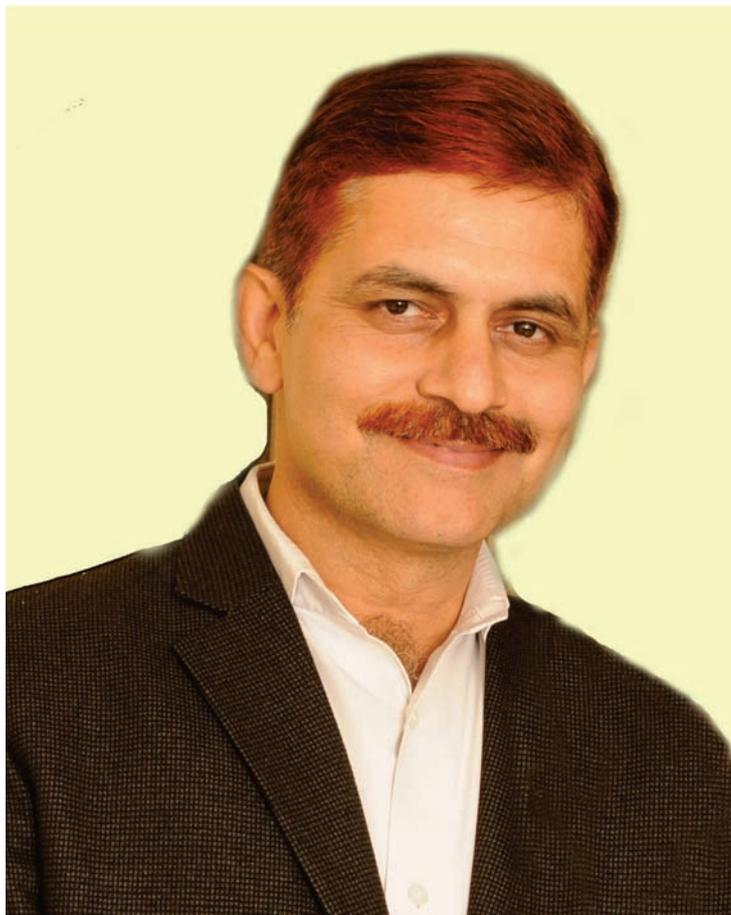
The NEP and College of Agriculture

You have strong multidisciplinary in your College, existing since inception. Agronomy can't sustain without Plant Breeding and both can't perform without Plant Pathology and Entomology and nothing could emerge without Soil Science. You are performing because your departments don't just lie side-by-side but they genuinely and actually connect and synergise with each other for all practical purposes. You have many multi-disciplinary teams, especially under AICRP, where you learn from each other and also, work with each other. This is the basis of your growth and excellence. The spirit of multidisciplinary institutions lie in your College in true sense. It is less about just bringing multiple disciplines under one roof but it is all about the dynamics among the disciplines to emerge as complementary and supplementary constituents of one broader goal. The synergy and the coherence will constitute the institutions of the future. Make a thrust

to go for more multidisciplinary research and projects, and even your students should be nurtured in the same value set where they learn to get the mileage through interdisciplinary research problems. This will let you emerge as leaders in the NEP era.

My wish

The recent good ranking of the University and the ICAR Best University Award talks about the sincere contribution of the faculty members across the University in which you have a major contribution. I wish that you undertake analysis to meet out the gaps to retain your position at the top which Pantnagar deserves. You retain the legend of best researchers in the field of agriculture which your College has given till time. Your more rigorous efforts are needed for the agricultural and the rural development of the nation as the world looks towards you with great aspiration.



College of Agriculture: The Cooperative Venture of Institution Building

Dr. S.K. Kashyap, Dean

Excellence, performance, consistence

College of Agriculture, Pantnagar is the first College of the University and it reserves the pride and privilege of being the epicentre of genesis of agricultural universities across the country. The College has contributed significantly across six decades of existence and has supported the vision and mission of the university through excellent academic achievements, significant research outcomes, brilliant students, exemplary technological outcomes and wide-spread extension activities. The College owns and inherits a culture of excellence which has paved a path towards remarkable contribution in agriculture and rural development of the state in particular

The College deserves to contribute in wider perspective with better integration, networking and linkages with national and global institutions, which will benefit the humanity and the fraternity in a big way because the College has an accumulated insight and experience of six long illustrious decades, which the nation has observed in the form of sustained food and nutritional security in midst of the rampantly growing human population.

and the country in general. It is satisfying to see the brilliant alumni of the College across into the country in government and private sectors, providing capable leadership in different agricultural development sectors ranging from administration to academics and research to services.

The commitment of the College to serve up to the fullest with utmost pragmatism was observed during the year 2020 when the College took leap in multiple segments including international relationship, skill and entrepreneurship development, technological innovations, adoption of advancement in educational and instructional technology, capacity building of faculty members and students in online teaching-learning and infrastructural development and renovation. The College lived an age in one year on multiple fronts through which the students completed their academic session successfully and entered in new academic year with regular

online classes being run by the instructors from respective classrooms with added facilities of interactive panels with internet facilities to support synchronous online learning. The experiences and the outcomes have been remarkable in terms of the outputs and the outcome.

The innovative infrastructural development 2020

The College undertook multiple efforts to renovate the 60 years old infrastructure at the completion of six decades of the inception of the College. The classrooms were equipped with interactive panels and other amenities. The College Gate was renovated in a befitting manner as suitable for



any institution of historical eminence. The College corridor was renovated to generate much-needed uniformity across the College building. A modern and unique structure was designed and developed for College Placement Cell and Alumni Cell. The College also witnessed the development of a Robotics Lab, an Artificial Intelligence and Big Data Analytics lab, and a Climate Smart Agriculture lab under support from the Institutional Development Plan of National Agricultural Higher Education Project (IDP-NAHEP).

The performance and the opportunities

Looking into the ranking proforma and the contribution of the College in ICAR ranking 2019 and 2020 of the university, College of Agriculture has contributed significantly in JRF and SRF seats, ARS selection, NET exam, awards and honours of the faculty members, the research publications, research projects, contributions in H index in the university, release of varietal development, development of prominent technologies, contributions in the functioning of Community Radio as well as Kisan Call Centre and use of ICT in agricultural extension.

However, it was observed that ample opportunities prevail in context of improving the performance in quality research publications, awards and honours, revenue generation, research projects, students' performance at national level and other aligning academic aspects. Undoubtedly, the College has a strong culture of performance and excellence with inherited sincerity. The young generation as well as the senior faculty members across into the disciplines of the College cohesively work in teaching, research and other administrative activities, which brings a culture of knowledge sharing and mutual growth. The parity among the disciplines in the College also provides an immense opportunity of multi-disciplinary projects and accomplishments.

Nevertheless, the College has to create formal structures of better coherence for inter-disciplinary researches leading towards better outcomes for the upcoming challenges of agrarian society. The per person outcomes, especially in context of quality research publications, patents and projects need a micro planning to boost and involve each and every faculty member towards more significant outcomes, which will lead their career towards national and global visibility.

The way towards a brighter future

The College, undoubtedly, is an immense opportunity for the University. The regular activities of quality teaching, outcome-oriented significant researches, prolific extension services, administrative and other service responsibilities is important especially in context of maintaining utmost sincerity and quality, which the faculty members of the College essentially try to maintain. Yet, there is a need for the immense potential of the visionary academicians and researchers of the College to emerge as a national think tank for strategic planning and policy making for the country at micro and macro level. The College deserves to contribute in wider perspective with better integration, networking and linkages with national and global institutions, which will benefit the humanity and the fraternity in a big way because the College has an accumulated insight and experience of six long illustrious decades, which the nation has observed in the form of sustained food and nutritional security in midst of the rampantly growing human population.

Complacency is a curse. Into the ever-changing world, and according to the shifting as well as emerging challenges, the College needs to remain agile and alert to confront the problems of humanity from the front, providing the best solutions in the most efficient manner.

Stories of Perseverance, Adaptability and Robustness

Interaction and collaboration creates great stories

I remember my old teacher teaching in school, a class act of storytelling. For us, it was as if we were watching a film. Seldom he used to touch chalk and blackboard. He was a great exponent of his subject who never needed related paraphernalia for teaching. The power of stories has been recognized for centuries, and even today, in the film industry and beyond, storytelling is a multi-million-rupee business. Eye contact and non-verbal communication are very important traits of great teachers.

However, effectiveness of teaching also depends on the teacher's ability to understand the individual profiles, the strengths and weaknesses of every student in the classroom. Our experience in teaching also shows that every student is different and their ability to perceive a story is different. Sometimes we also feel that something extra is needed for the effectiveness of teaching. The current pandemic situation has made conventional classroom teaching impossible. However, teaching and learning should not stop even under the current situation where students cannot come to class physically. With the advent of smart boards in Agriculture College, virtual classrooms were created and they replicate the physical classroom setting. It also gives students and teachers the

flexibility to teach and learn from anywhere and at any time. Similar to a physical classroom, the students can see and hear the teacher via video/audio streaming. With smart boards, all students understand topics in a friendly and enjoyable environment, their level of concentration is raised which has a strong effect on behaviour thus the efficiency of learning can be increased. Sometimes technical problems and teachers' proficiency hinders teaching-learning but this can be sorted out with time.



Dr. Vipin Dhyani
Associate Professor,
Agronomy

A journey from virtual learning to interactive learning

Pantnagar University re-established its various activities in an online mode in the period of COVID-19 pandemic outbreak. Though, initially it was full of challenges as we were not very well acquainted with tools and software which were there for conducting online classes. However, the university administration especially, Dean Agriculture took the initiative of organizing the training sessions for conducting online classes on Zoom platform and the faculty started taking their classes through Zoom. To further integrate and systematize its teaching-learning activities, the University as well as College of Agriculture has adopted a comprehensive strategy to ensure provision of an uninterrupted and engaging learning experience to students. The Microsoft Teams software application was purchased and the license version of it was provided to individual faculty member and students of the college. I was using both software on my desktop or laptop, but the challenge was that I was teaching only through power point presentation or *pdf* format and was not able to discuss or draw something which comes out during the interaction with the class. So, I used to miss the blackboard teaching because that discussion has to be halted for next class. But as the time progressed, it was felt that COVID-19 situation is going to persist and we won't be able to conduct offline classes in near future. Therefore, our College took initiative to create facility for uninterrupted teaching learning process not only during this pandemic but with a vision to have better classroom facility in years to come by getting interactive panel display installed in all UG/ PG classrooms of the college. The

training was organized for faculty members to get acquainted with this system. I also attended the training and found it very useful. The feature, which I liked most, was to pull up various images directly in class from drive or by using web search, discuss them with students and then annotate on them directly. Similarly, while using word or pdf file, we can edit or draw any structures/ diagrams in between without breaking the continuity. The white board facility of this panel is very simple and easy to use. Writing on this board is similar to writing in green board except that there we have to use chalk but here we use pen or finger. The interaction with students became easy and they are able to understand the topic more comprehensively.



Dr. Shweta Uniyal
Assistant Professor
Horticulture

Opportunity to expand beyond our limits

Online learning and interactive classroom have helped both students and teachers in many ways. Earlier, students used to attend classes in offline mode. Online teaching offers teachers an efficient way to deliver lectures among students. Students easily understand their subject through audio and visual aids. Post lecture session, both audio/video version and concept notes pertaining to the subject are circulated for the benefit of the students. It saves time as earlier teachers used to draw figures and diagrams on blackboard which used to consume a lot of time. It may be possible that while sketching teachers may forget to include one fact or the other, however online platforms allow them to record and save their lecture material for future use.

Many students who were unable to attend classroom-based lectures due to health problems or any other issues can attend online lectures comfortably without any failure. Fear of missing classes is solved through online mode and there are fewer possibilities of students missing out lectures. Unlike classroom-based teaching, no extra time is needed for taking attendance of students. Hence, in this manner online learning helps save time. Faculty from various reputed organizations can share their vast knowledge and experience through interactive panel based online classrooms, thereby saving a lot of money and time. Enormous papers were consumed in conducting examinations and assignment submission. Unlike earlier, online learning is more environment friendly as

each and every information is disseminated digitally. Students suffering from home sickness can attend lectures in online mode comfortably from their home itself. Online learning also helps teachers to guide students with different learning capabilities. As far as Agrometeorology is concerned, e-learning allows the teachers to explicate various pictures and videos of different weather hazards (cyclone, anticyclone etc.), satellite movements easily. Students easily understand how simulation model is run based on input parameters through online demo classes. Lastly, online learning offers more flexibility in arranging lectures and people are active 24x7, rather than the fixed office hours.



Dr. Rajeev Ranjan
*Assistant Professor,
Agrometeorology*

Journey from Chalkboards to Smartboards

The education system has evolved from direct verbal communication during Vedic era to smarter digital system in present Global era. Traditional Vedic education, built glorious institution like Nalanda and Takshshila, while modern digital education built global institutions like Oxford, Stanford, Cambridge and MIT etc. Present COVID pandemic has changed the world altogether and made social distancing, face mask and sanitization mandatory for survival. Fusion of technology with education also called techno-culture of education has emerged as necessity and helped in restoring teaching without risk and reach-out to masses.

At Pantnagar, digital platforms were also utilized for timely conduct of classes and examination during this pandemic. To further enhance the teaching experience, smart interactive boards were installed in classrooms. Use of this technology has certainly enhanced my teaching skills and students learning experience. Now, we can project better visual elements viz., power-points, videos, online information, flow-charts and diagrams etc. and can accommodate different learning styles for much easier differentiated learning. Visual learners are able to learn by observing the whiteboard, while tactile learners can be made to learn by engaging them on the board. The touchscreen option makes it easy to navigate as it allows us to display programs, write

or even erase with the tap of finger. Students find it more fun to learn than chalkboard as learning come to life. However, usability of smart boards for enhanced learning lies on the capabilities of teachers. Still, I think we are using few features of smart board teaching only because of our ignorance. Our improved understanding on it, in-time to come will make its more efficient. No-doubt the whiteboards are motivational factors in today's teaching, but that the motivation is ctually coming from the teacher. Moreover, easy accessibility, penmanship (writing skills), tactile nature, comfort and nostalgia associated with the use of chalkboards still make it preferential method for teachers.



Dr. Sumit Chaturvedi
*Associate Professor,
Agronomy*

The Vast pool of information seems one click away

I am very thankful to Dean, College of Agriculture and PI, NAHEP, Dr. S. K Kashyap for providing such a huge online teaching facility in the form of interactive panel in all the classrooms of Agriculture College. The COVID-19 has resulted schools and colleges shut all across the world. As a result, education has changed dramatically, with distinctive rise of e-learning, whereby teaching is undertaken on digital platforms. The sudden shift from offline teaching to online teaching was very challenging in the beginning but teaching through interactive panels has changed the way of teaching.

It enables me to reach out to my students more efficiently through video, chats and lectures sharing, especially during this pandemic. My students also find it easy to communicate on through this means. Interactive panel consist of a whiteboard on which I can write or draw anything that I want to share with my students.

We transformed as teachers in the new normal

When we learn some new skills, we feel better. In the COVID-19 period, the sudden switch from black board to 100% online teaching was challenging but the presence of interactive panel in the class rooms has made it easier to conduct the classes in virtual mode. I am thankful to Dean Agriculture and PI, NAHEP Dr. S. K. Kashyap for providing interactive panel facility in the classrooms of College of Agriculture. In the beginning having some ups and downs, now we are well acquainted with this technology. For developing digital module of course content, everyone is revising & upgrading their “old yellow pages”.

Of course, our teaching style has been changed and interactive panel assists us to create lively teaching environment. On white board you can write or explain anything which you want to show to your students. It also offers, flexibility to the teacher to access internet during their virtual class. Moreover, large screen of

Interactive panel seems as a canvas of creativity

This unexpected instant shift or switch to online teaching and learning was challenging in the beginning. But installation of these interactive panels enhanced the online teaching skills, improved student engagement and help to understand the values of different online tools. On white board of these panels, we can explain everything to student by writing, during diagrams or flow charts etc. We can also explain the particular content of the course to students through power point presentation. This automatically leads to the upgrading and development of digital module of the course content. I hope it will be more conducive when student will have their physical presence in the classroom and indeed

I also got an opportunity to turn a boring lecture into more interesting one by connecting the class or team with internet and showing them demonstration videos. I believe that traditional offline learning and e-learning can go hand in hand in coming future.



Dr. Ruchi Rani Gangwar
*Assistant Professor,
Agricultural Economics*

interactive panel put less stress on eyes. I hope it will we be more fruitful and productive in hybrid teaching mode (both online and off line) when we will have physical presence of students in the classroom and undoubtedly our university will touch new heights in the education.



Dr. Gurvinder Singh
*Senior Research Officer,
Agronomy*

our university will attain the new horizons in education.



Dr. Manju Sharma
*Assistant Professor,
Plant Pathology*

Organised chaos is unique to Interactive boards

Teaching on interactive panel through Microsoft Team is comprehensive for both students and teachers. The unique feature of this online method is that we can use already written/typed materials stored in pen drive. It facilitates in illustration of different diagrams. Some diagrams and pictures are difficult to draw on board by chalk but this interactive panel makes it easy by use of pen drive and screen share. Availability of different colour pens on screen helps in better understanding of text materials. Wide screen of panel is highly useful for writing by own fingers or pen cap. During teaching many examples come in mind which can be explained on screen by different colours. Annotations on a single screen might seem chaotic but with different colours, shapes etc. it becomes absolutely balanced and comprehensive for both students and teachers. The good thing is that mathematical formula and derivations can be easily described to students. The presence of students is seen on screen and it helps in identifying

who is present. The students who are absent can be called to attend the class. This facility is unique and ensures presence of all students. The interaction with the students is strong as they are audible and can ask their questions and doubts. Really, this technology is highly beneficial for students and teachers.



Dr. Amit Bhatnagar
*Senior Research Officer,
Agronomy*

A beginning of new era in teaching-learning practices

Classroom teaching is a traditional practice in the Indian Education system. Nowadays teaching techniques have evolved from blackboards to smart interactive classroom learning. Today, both students and teachers have access to smart devices such as laptops, tablets, 4G-5G enabled mobiles and interactive whiteboard panels. These devices, latest technologies, and high-speed internet connectivity have enhanced the teaching-learning experience largely. Nowadays the interactive whiteboard panels are the latest tools to make the teaching-learning experience amazing. This technology replaces the traditional classroom teaching and makes presentations interactive.

The smart interactive panels consist of touch screen displays and pens to write on the board. It consists of many applications like smart whiteboard facility and user can open different files format on one go. We can access portable drive and internet on the panel. One of the important facilities of using this panel is that it can be connected virtually with other software applications using Microsoft Teams, Cisco Webex, G-Suite and Zoom Meeting like facilities. A smartboard allows the teacher and students to collaborate on the same “document” and share it with the entire class in real-time. Additionally, the smartboard can store the combined notes that were previously shared with the class for later use and reference by individual students from the class.

During pandemic, IDP-NAHEP has worked as smart engine. Though, classroom teaching halted during Covid-19 but Management of Pantnagar University decided to start online classes for their UG, PG programmes. Dr. S. K. Kashyap, Project Investigator of the

world bank funded project IDP-NAHEP decided to equip the classrooms across the university with smart interactive boards, webcams, and high-speed internet connectivity. After equipping the classrooms of the University with these cutting-edge technologies, IDP-NAHEP team conducted trainings for the faculty members and students of the University. I am very thankful to Dr. Kashyap who gave me this opportunity to be a part of this transforming process in the university. This helps institutions to promote different learning environments like virtual classrooms and collaborative online learning. The virtual classroom replaces the physical presence in the classroom, but without time and location barriers. Because of tremendous efforts to change the conventional classroom system, now we are in a position to handle the teaching-learning process efficiently in virtual mode.



Dr. Yashu Shanker
*Post-Doctoral Fellow
IDP-NAHEP*

The IDP-NAHEP and the upsurge in College activities: A New Era



The College took utmost mileage of the IDP-NAHEP opportunity in every possible manner.

The online classes

The biggest advantage which the college gained was a robust and extremely useful infrastructure to facilitate the online classes. The UG classes were equipped with interactive panels in Dr Anant Rao lecture complex as well as Dr. Y. L. Nene Lecture complex. The students and the faculty members got equipped and connected with Microsoft team id which supported in teaching, examinations, meetings, webinars, interactions, presentations and all other academic works.

Skill, entrepreneurship and vocational courses for students

Hundreds of students from the College participated regularly in the skill and entrepreneurship development

and the vocational courses of IDP-NAHEP. Courses on higher-order cognitive skills of students as well as courses on cutting-edge technologies emerged very popular among the students of the college. The College students also took utmost benefit of Foreign Language classes and the English Language class.

The unique remedial classes

The unique concept of illustrious alumni-run Remedial Classes emerged extremely useful and successful in which more than 300 students from the College participated regularly for three months to get effective coaching and mentoring from the recent seniors who gained top positions in JRF, SRF, ARS and other such competitions. The classes were run in five segments namely Agricultural Economics and Agricultural extension, Plant Breeding, Agronomy and Soil Science, Pathology and Entomology, and Horticulture. Total 25 illustrious alumni provided best nurturing to the students of the College.

Department of Agricultural Economics



Dr. M. L. Sharma
Head

The College grew from strength to strength and has emerged as a foremost unit in the world of higher learning and research. In the last 57 years of its existence, the department has built up expertise in almost all the major fields of agricultural economics.

Department : Genesis with Vision and Mission

The Department of Agricultural Economics is one of the oldest departments of the College of Agriculture. It started functioning in 1960 as an integral part of the College. In beginning it used to offer only undergraduate courses. The Master's degree programme was started in 1963 and the Ph.D. degree programme in 1970. Looking to the needs of trained manpower for banking sector, another master's programme - *M. Sc. (Ag.) in Rural Banking* was also started in the year 1976 which successfully ran till 1992. The College grew from strength to strength and has emerged as a foremost unit in the world of higher learning and research. In the last 57 years of its existence, the department has built up expertise in almost all the major fields of agricultural economics. The Department has pride of producing a galaxy of alumni who rose to the positions of excellence in various walks of life.

Vision

Agricultural and Rural development with equity and sustainability through excellence in teaching, research, extension and training.

Mission

To offer quality education and research programmes for generating best scientific and technical brains in the field of agricultural economics.

Mandate

The Department engages itself in all the three core activities of teaching, research and extension which constitute the integrated system of education in the university. The major responsibilities of the department include:

- To offer core course(s) to the first degree programmes in Agriculture, Fisheries, Forestry, Horticulture and Home Science.
- To offer Master's and Ph. D degree programmes in Agricultural Economics.
- To conduct independent research in thrust areas of Agricultural Economics.
- To participate in multi-disciplinary research projects.
- To participate in extension activities of the university.
- To provide comments, opinion on policy issues and research and field based information to government and other development departments.

List of Faculty Members

The department is blessed with qualified faculty members with expertise in various areas of agricultural economics. Team spirit of the faculty members of the department is the pivotal factor which is a major strength. Presently department has following faculty:

- Dr. M. L. Sharma, Professor & Head
- Dr. H. N. Singh, Professor

Research Projects Running in the Department

The department has the honour of completing a significant number of externally funded research projects. In 2020,

S.No.	Project Title	Sponsoring Agency	Total Outlay
1.	Stress tolerant rice for poor farmers in South Asia & Africa	International Rice Research Institute, Philippines	US \$ 35,000
2.	Impact assessment of chain-linked farm fencing and farm machinery bank in Uttarakhand	Uttarakhand Gram Vikas Samiti, Govt. of Uttarakhand	Rs. 25 Lakh
3.	Integrated farming system and human resource planning and management for livelihood security and capacity building of tribal community in CD blocks of Kalsi and Chakrata in District Dehradun, Uttarakhand.	Indian Council of Agricultural Research, New Delhi	Rs. 7.94 Crore

- Dr. Anil Kumar, Professor
- Dr. Virendra Singh, Professor
- Dr. S. K. Srivastava, Professor
- Dr. Chandra Dev, Associate Professor
- Dr. Shweta Chaudhary, Assistant Professor
- Dr. Ruchi Rani Gangwar, Assistant Professor
- Dr. Ajay Kumar Tripathi, Assistant Professor

Administrative Duties / Responsibilities

- RAWE Coordinator : **Dr. M. L. Sharma**
- OIC maintenance of Ag. College, deputy Coordinator of Test & Selection of exam (outside): **Dr. Chandra Dev**
- Warden of Golden Jubilee Hostel and Co-staff counselor of University Literary Team, GBPUAT, Pantnagar: **Dr. Ruchi Rani Gangwar**
- Co-staff counselor in University cultural team, Member of language Laboratory component team IDP (NAHEP) and Warden Chittaranjan Bhawan-II, GBPUAT, Pantnagar: **Dr. A.K. Tripathi**
- Member of College Documentation and Showcase Committee(CSDC), and NSS Programme Officer, Agril. Unit. GBPUAT, Pantnagar: **Dr. Shweta Chaudhary**
- Incharge, College Time Table: **Dr. Anil Kumar**
- Member of the Discipline Board, College of Agriculture: **Dr. S.K. Srivastava**

Programmes Running in the Department

There are two Post Graduate Degree programmes being offered by the department viz., M. Sc. Ag. (Agriculture Economics) and Ph. D. (Agriculture Economics).

following research projects are in operation:

Salient Achievements of the Department

- ICAR SRF Selections : 4
- Lab Manuals Developed:
- Farm management and Natural Resource Economics (AEC-332)
- Agricultural Finance and Cooperation (AEC- 342)
- Agricultural Marketing Trade and Prices (AEC-322)
- Guest Lectures delivered : 6
- Radio Talks delivered : 1

- External Examiner of other Universities : 5
- Research Paper Published : 6
- Conference/ workshop/ webinars Attended : 18
- NSS Camps Organised : 2

Other Remarkable Development /Contributions by the Department

Dr. A.K. Tripathi, Assistant Professor received an appreciation certificate from university administration, Pantnagar for working as a corona warrior.

Department of Agrometeorology



Dr. R.K. Singh
Head

The main moto of the department is to encourage the weather-based responsive farming in Uttarakhand state to maximize the production and to protect the environment from different hazards through Agromet advisory services under Gramin Krishi Mausam Sewa (GKMS).

Department : Genesis with Vision and Mission

Keeping in view the importance of weather and climate in agriculture, Department of Agrometeorology came in to existence in the year 2000 after the bifurcation of Department of Soil Science. Until the inception of department, teaching research and extension activities in Agrometeorology were carried out within the Department of Soil Science. The M.Sc. Programme in Agrometeorology was initiated in 1995, while Ph.D. programme was started in 2000. Research thrust in Agrometeorology includes Climatic characterization of hill and plane zone of Uttarakhand, crop-weather relationships, application of weather driven dynamic crop growth and yield simulation models for various crops, weather-crop-insects/disease interactions, climate changes and its effects on crop productivity, evapotranspiration, suitability analysis using Remote Sensing and GIS etc.

Department is imparting education to UG, PG and Ph.D. students related to application of meteorology in Agriculture. Department is continuously taking up research projects related to Agrometeorology, Weather forecasting, Remote Sensing and GIS for devising the methodologies/techniques for sustainable Agriculture production

and precision crop management. The main motto of the department is to encourage the weather based responsive farming in Uttarakhand state to maximize the production and to protect the environment from different Hazards through Agromet advisory services under Gramin Krishi Mausam Sewa (GKMS).

Vision

- To develop department of Agrometeorology as a Center of Excellence for imparting quality education and conducting cutting edge research in the field of Crop-weather Interaction, Pests/diseases Weather Interaction, Climate Smart Agriculture, Robotics in Agriculture, Agri-informatics, Climate Change and its Impact on Agriculture and Mitigation Measures, Geospatial technologies, their uses in agriculture and sustainable natural resources management.
- To provide the Agromet advisory services based on medium range weather forecast to the farmers of all districts of Uttarakhand through the District Agromet Unit (DAMU) at KVKs.

Mission

- To run Postgraduate programme (M.Sc. Agrometeorology and Ph.D. Agrometeorology) in the field of Agrometeorology.
- To actively contribute in graduate programme B.Sc. Ag (Hons.) of college.
- To conduct high quality research in crop-weather relationship, crop simulation modelling, climate change, weather based agromet advisory services, remote sensing and GIS applications in agriculture for enhancing farm productivity and precision farming.
- Weather observation, database creation and data disseminations to researchers, farmers and extension workers.
- To participate in extension activities of the University for the benefit of farmers.
- To advise farmers through Agromet Advisory Services on farm operations tailored to the present and future weather conditions and to prepare contingent plans for agriculture considering extreme weather events.
- To actively involved in university activities and to work for the upliftment of university and society.

List of Faculty Members

1. Dr. R K Singh, Professor & Head
2. Dr. A S Nain, Professor & Director Research
3. Dr. Ravi Kiran, Associate Professor

4. Dr. Rajeev Ranjan, Assistant Professor

Research Projects Running in the Department

1. GraminKrishi Mausam Sewa
2. FASAL
3. NABARD

Programmes Running in the Department

- M.Sc. Agrometeorology
- Ph.D. Agrometeorology

Salient Achievement of the Department

- Dr. A. S. Nain received Dr BB Singh Award for Outstanding Research 2014. Prize carries Rs 1 lakh, citation and plaque.
- Department of Agrometeorology received Best Department Award-2014, instituted by BOFA, GBPUA&T, Pantnagar.
- Dr. A. S. Nain received Young Scientist Award conferred by Society for Plant Research (SPR) has been received for the year 2012.
- Dr. A. S. Nain received Faculty Excellence Award has been received on 1st January 2013, instituted by BOFA, GBPUA&T, Pantnagar
- Dr. A. S. Nain received Young Scientist Award by Association of Agrometeorologists has been received on 21st January 2013.
- Number of students from the departments joined SAUs, IMD and ICAR-ARS services as Assistant Professor, SMSs and Scientists respectively.
- Online certificate course of 3 month duration on "Indian Monsoon, Weather Forecasting and Agromet Advisory Services" conducted during Oct-Dec. 2020.
- Numbers of PG and Ph D students from the department have been awarded best MSc & Ph D thesis, young scientist award and best research paper award from various national institutes of repute.
- Development of first web based Soil Information System for Uttarakhand (USIS).
- Created geoinformatics (www.geoinformatics.in) with state of art features. Website is listed among top 10 websites related to geoinformatics by google search engine.

■ Evolving innovative approach for yellow-rust monitoring in wheat by integrating Remote Sensing, GIS and Crop Simulation Model (www.cropdiseasemonitor.in/).

■ Development of an innovative Diseases and Pests Management System (DiPMS)

Webinars/activities organized in 2020

S. No.	Name of Training/ Webinar	Date	Expert Name	Coordinating Team	No. of participants
1	Applications of Artificial Intelligence Tools in Agriculture	22-06-20 to 24-06-20	Mr. Umesh Kushwah, CEO & Founder of Rannlab Technologies, Noida.	Dr. S.K.Kashyap Dr.A.S.Nain Dr.Rajeev Ranjan	325
2	Critical Robotic Services for Handling Corona Pandemic	19-06-20 to 20-06-20	Mrs. Neelima Mishra, Director, First Club Automation, Jaipur	Dr. S.K.Kashyap Dr.A.S.Nain Dr.Rajeev Ranjan Dr.R.S.Rajput	77
3	Guest Lecture Series on "Precision Farming"	29-06-20 to 03-02-20	Dr. Dinesh Goyal, Director, Poornima Institute of Engineering & Technology, Rajasthan	Dr. S.K. Kashyap Dr.A.S.Nain Dr.Rajeev Ranjan	100
4	Modern Tools & Techniques in Agriculture	17-10-20 to 18-10-20	Dr.Sudhanshu Tyagi, assistant Professor, Thapar Institute of Engineering & Technology, Punjab Dr. Sachin, assistant Professor, Amity School of Technology, Lucknow	Dr. S.K.Kashyap Dr.A.S.Nain Dr.Rajeev Ranjan	142
5.	Big Data & Analytics in Agriculture World	27-11-20 to 28-11-20	Dr.Sanjay Naithani, Chief Agronomist Israel Chemicals Limited, Gurugram Ms. Neeti Pandey, Solution Delivery Specialist, Mckinsey& Company, Gurugram	Dr. S.K. Kashyap Dr. A.S. Nain Dr.S.K.Guru Dr. Rajeev Ranjan	80
6.	Drones and its applications in Agriculture	05-11-20 to 07-11-20	Mr. Biswajit Dey, aeronautical engineer, RCHOBBYTECH Solutions, Pvt. Ltd., Kolkatta, West Bengal, Mr. Faizanakhtar, aircraft engineer, RCHOBBYTECH Solutions, Pvt. Ltd., Kolkatta, West Bengal	Dr.S.K.Kashyap Dr.A.S.Nain Dr.Rajeev Ranjan	25
7.	Recent Advances in Weather Forecasting and Agromet Advisories	09-11-2020	Dr. K.K. Singh, Head Agromet Advisory Services Division & Scientist G, IMD, New Delhi	Dr. S. K. Kashyap Dr. S.K. Guru Dr. R.K. Singh	52
8.	Climate Smart Agriculture: Preparing Future Farms	10-11-20 to 12-11-20	Dr. M.Prabhakar, PI, National Innovation in climate Resilient Agriculture, ICAR-CRIDA, Hyderabad; Dr. Himanshu Pathak, Director, ICAR-National Institute of Abiotic Stress Management, Malegaon, Baramati	Dr. S.K. Kashyap Dr. A.S. Nain Dr.Sumit Chaturvedi Dr.Rajeev Ranjan	54

9.	Automation in agriculture for Informed Decisions	18-12-20 to 19-12-20	Mr. Arvind Dixit, Director & CEO, Advance Tech, India Pvt. Ltd., Chandigarh	Dr. S.K. Kashyap Dr. A.S. Nain Dr. Rajeev Ranjan	80
10.	Farmers awareness programme on weather and climate	23-12-20	Dr. K.S. Sekhar Dr. Jitendra Kwatra Dr. V.S. Singh Dr. Ajay Prabhakar	Dr. R.K. Singh	80

Infrastructure Development in 2020

Robotics and Artificial intelligence lab developed in CAL under IDP-NAHEP project.

Other Remarkable Development /Contributions by the Department

- Developed lab manual for the course Introductory Agrometeorology and climate change
- e-content developed for the course Introductory Agrometeorology and climate change
- Online certificate course of 3 month duration on “Indian Monsoon, Weather Forecasting and Agromet Advisory Services”.
- Agromet Advisory Bulletin (AAB) based on medium range weather forecast is issued in English & Hindi twice a week for Nainital & U S Nagar districts under GKMS project. Same bulletins are being sent to local news papers, NGO & progressive farmers of the region. SMS are being sent to more than 82,000 farmers of US Nagar and Nainital district of Uttarakhand biweekly registered on mKisan portal of Ministry of Agriculture, Govt. of India.

Department of Agronomy



Dr. Virendra P. Singh
Head

It is one of the oldest departments of the college and it shares more than 25% of course load of the undergraduate teaching. It is also a Center of Advance Faculty Training owing to the competence and advanced facilities available in the department.

Department : Genesis with Vision and Mission

Department of agronomy is one of the oldest departments of the college of agriculture. Initially there were two departments namely plant sciences and crop sciences. The department shares more than 25% of course load of the undergraduate teaching. Considering the competence and advance facilities available in the department ICAR sanctioned Center of Advance Studies in agronomy 1994 which was further upgraded to the Center of Advance Faculty Training in 2010.

Vision

Bringing positive changes in the lives of people through scientific intervention of Agronomy.

Mission

Thriving for safe and quality production of farm produce with innovative agronomic management practices.

List of Faculty Members

S. No.	Name of faculty	Designation	Sl. No.	Name of faculty	Designation
1.	Dr. Virendra P. Singh	Professor & Head	16.	Dr. Tej Pratap	SRO
2.	Dr. B.S. Mahapatra	Professor (on deputation)	17.	Dr. Omvati Verma	SRO
3.	Dr. K.S. Shekhar	Professor	18.	Dr. S.P. Singh	SRO
4.	Dr. M.S. Pal	Professor	19.	Dr. Rajeew Kumar	SRO
5.	Dr. Subhash Chandra	Professor	20.	Dr. Amit Bhatnagar	SRO
6.	Dr. Rohitashav Singh	Chief Scientist	21.	Dr. Gurvinder Singh	SRO
7.	Dr. Vijay Pal Singh	Professor	22.	Dr. Dinesh K. Singh	SRO
8.	Dr. Anil Shukla	Professor	23.	Dr. V.C. Dhyan	Associate Professor
9.	Dr. Sunita T. Pandey	Professor	24.	Dr. Sumit Chaturvedi	Associate Professor
10.	Dr. V.K. Singh	Professor	25.	Dr. Kranti Kumar	Assistant Professor
11.	Dr. D.K. Singh	Professor	26.	Dr. D.K. Shukla	JRO
12.	Dr. S.K. Lavania	Professor	27.	Dr. Ajay Kumar	Assistant Professor
13.	Dr. Chandra Bhushan	Professor (on deputation)	28.	Dr. S. K. Yadav	Assistant Professor
14.	Dr. M.S. Negi	Professor	29.	Dr. Amit Kesarwani	Assistant Professor
15.	Dr. Naresh Malik	Professor	30.	Dr. Vineeta Rathore	Assistant Professor

Research Projects Running in the Department

S. No.	Project Name
Dr. Virendra Pratap Singh	
1.	AICRP on Weed Management
2.	Evaluation of bio - efficacy of Council Prime 200 SC in Direct Seeded rice
3.	Evaluation of Aclonifen 450 + Pyroxasulfone 50 + Diflufenican 75 SC in wheat and its effect on succeeding crop
4.	Efficacy of TVE29 40 SC against grasses in transplanted rice as a pre-emergence Efficacy of TVE 2940 SC against grasses in transplanted rice as a post-emergence
5.	Evaluation of herbicide VPP 72 60 % WG against <i>P. minor</i> and broad leaf weeds in wheat and effect on fallow up crop
6.	Bioefficacy and Phyto-toxicity of UPH 1518' against weed flora of Transplanted and its effect on succeeding crop
Dr. Subhash Chandra	
1.	Bioefficacy and phyto-toxicity of "GPH 1020" against complex weed flora of Maize and its effect on succeeding crop.
Dr. Rohitashav Singh	
1.	Bio-efficacy and phyto-toxicity of herbicides of UPH-814 (S) against weed flora of transplanted rice and its effect on succeeding crop.
2.	Bio-efficacy and phyto-toxicity of herbicides of UPH-814 (S) against weed flora of direct seeded rice and its effect on succeeding crop.
3.	Bio-efficacy & phytotoxicity of UPH -1518 against weed flora of direct seeded rice (DSR) & its effect on succeeding crop.

Dr. D. K. Singh	
1.	Studies to Assess the performance of Rice Varieties under organic Cultivation.
2.	To evaluate the bio-efficacy and phyto-toxicity Topramezone 33.6% SC against complex weed flora of Maize and its effect on succeeding crop.
Dr. Tej Pratap	
1.	Evaluation of bio-efficacy of "Council Prime 200 SC in Transplanted Rice.
2.	Evaluation of bio-efficacy of Aclonifen 600 SC in Wheat crop.
3.	Evaluation of the product PIX 10042 76.75% WG against weeds of Sugarcane.
4.	Bio-efficacy evaluation herbicide "Pyroxasulfone 85% WG against weed flora of Soybean and its effect on succeeding crop".
Dr. Rajeew Kumar	
1.	"Bio-efficacy evaluation of Prosulfocarb 80EC against weeds of wheat".
2.	"Evaluation the bio-efficacy improvement of Clodinofofop-Propargyle 15% WP by addition of Silwet 408 and comparison with Agrospred Prime as tank mix application on wheat crop for control of Phalaris Minor".
Dr. S.P. Singh	
1.	Efficacy of F9600 4% GR against weeds in Transplanted Rice
2.	Evaluation of Pinoxaden 5.1% EC against weeds of Wheat and its effect on succeeding crop
3.	Evaluation of Bio-efficacy and Phyto-toxicity of herbicide of UPH 616 against weed flora of Direct Seeded Rice and its effect on succeeding crop
4.	Evaluation of Shriram Super wheat varieties for suitability under North West plain zone
Dr. Ajay Kumar	
1.	AICRP- Soybean Agronomy
2.	Evaluation of pearl millet, finger millet and barnyard millet at different locations in Uttarakhand and establishment of hill technology park at pantnagar.
Dr. V.C. Dhyani	
	Projects Running in the department: Designing controlled released fertilizer utilizing agriwaste biochar (NICRA, ICAR)

Programmes Running in the Department

- Master's and Ph.D. Agronomy programme

Salient Achievements of The Department

- Fund for Improvement of S&T infrastructure in universities & higher educational institutions (FIST) Programme, DST. PI: Head Agronomy, Co-PIs Dr. V C Dhyani and Dr. Sumit Chaturvedi
- Dr. B.S. Mahapatra, Professor, Agronomy selected as Hon'ble Vice- Chancellor of Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, West Bengal.
- Dr. Chandra Bhushan, Professor, Agronomy selected as professor in Department of Agronomy, Banaras Hindu University, Varanasi (BHU).

National Award, Fellowship earned by the Faculty Members in 2020

- Dr. D. K. Shukla, JRO, Agronomy and Dr. Kranti Kumar, Assistant Professor, have been awarded certificate of appreciation as GBPUA&T, Pantnagar has been recognised as Best Performing AICRP of Sorghum Centre at National level during the period of 2017-2020 by IIMR-ICAR.
- Dr. Amit Kesarwani, Assistant Professor, Agronomy, received Teacher of the Year Award-2020 at 3rd Felicitation Ceremony on Teacher's Day organized by DivyaHimgiri Society, and jointly supported by CSTT (MHRD, Govt. Of India), UCoST, Uttarakhand Technical University, SridevSuman University, Samagra Shiksha (Dept. of Education), and Uttarakhand Board of Technical Education, on 5th Sept'2020.

- Dr. Amit Kesarwani received Bioved Young Scientist Award-2020 by Bioved Research Institute of Agriculture & Technology (aka Bioved Research Society, an International Research Organisation, registered by Govt. of India, Ministry of Home Affairs and under Society Registration Act, 1860.) Allahabad, (U.P.), in association with Rama University in National Conference held at Rama University, Kanpur on 02-04 March 2020.

Infrastructure Development in 2020

- Computer lab in the department funded by FIST is developing soon.
- Department library complete renovation, new lighting facility and sitting arrangement has been done.
- Lab. of Integrated Farming System and Seed Technology constructional and further maintenance completed.

Faculty Retired in 2020

- Dr. V.K. Sah, Professor, Agronomy
- Dr. K.S. Shekhar, Ex. Professor & Head Agronomy

Webinars/Activities Organized in 2020

- AICRP Webinar–Weed management on Wednesday December 9, 2020; 15:00-18:20 hrs through Zoom platform.
- SCSP Farmer’s training Programme at Chakarpur, Bazpur&Jagdishpur-Kalinagar, Gadarpur(U.S. Nagar) on weed management, 15 & 18 December 2020.
- Organized 3 days Online Training programme on the Topic “Advances in crop production and soil management” from 10-12 December 2020”.
- Dr Sunita T Pandey made online deliberation “National Consultation Meeting on BharatiyaPrakritik

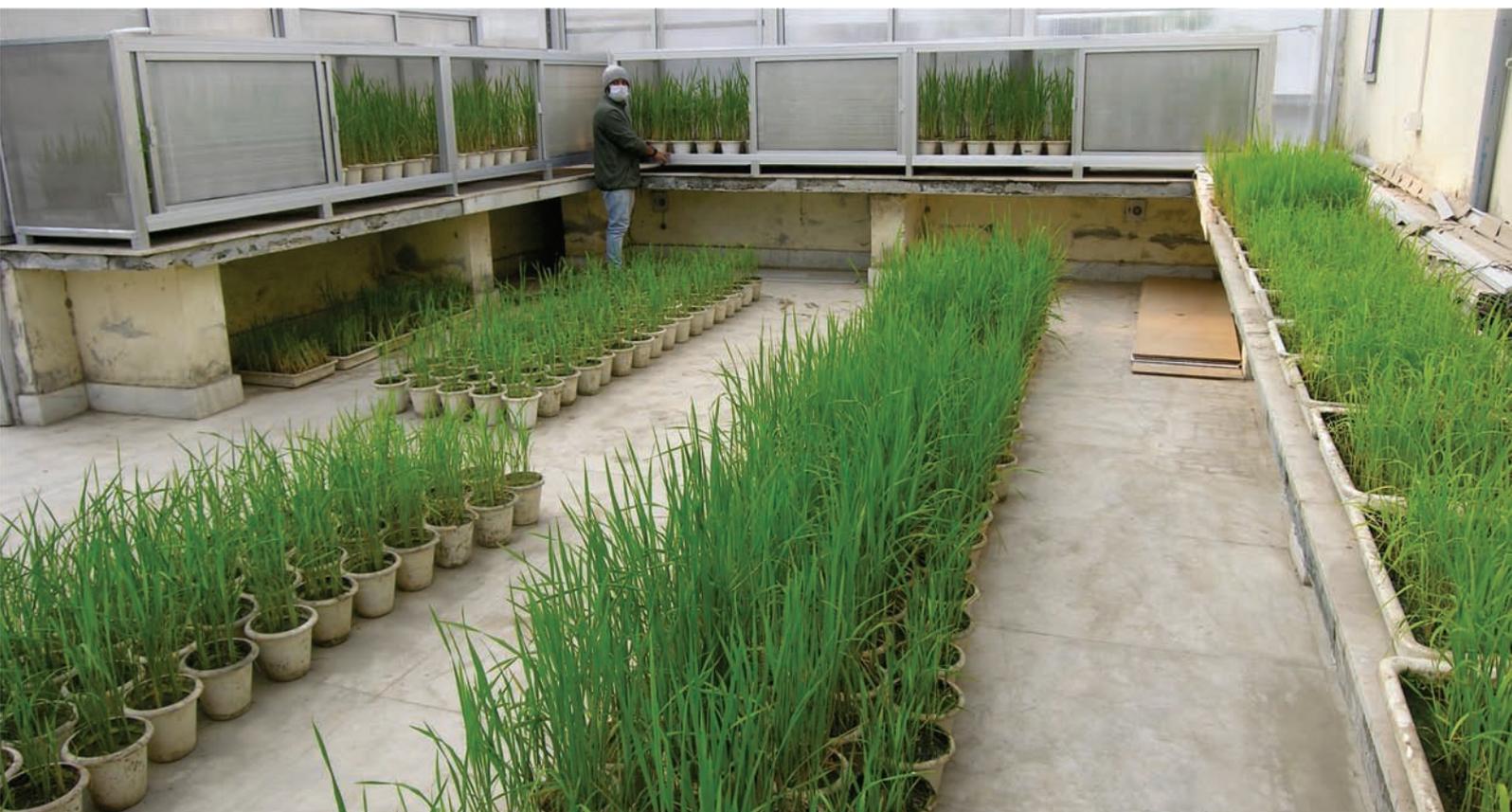
Krishi Paddhati (BPKP)” organized by NITI AAYOG, on 29.09.2020.

- DrSunitaTPandeymadeonlinedeliberationtoNational Collation on Natural Farming on “Vrikshayurveda (The Science of Plant Life): Completely Natural &Jaivik method of sustainable Agriculture & original source of all concepts, of all kinds of Prakritik and organic methods of cultivation” on 10.12.2020.
- Dr Sunita T Pandey deliberated online invited lecture onKrishi Shastra to Vedic ShilpSodhPratisthan, Nasik on 14.12.2020 .

Other Remarkable Development/Contributions by the Department

- A collaborative project on “Exploring Livelihood Potential of Wild Growing Stinging Nettle (*Urtica dioica*) in Uttarakhand”, funded by Ministry of Environment, Forest & Climate Change, Government of India, New Delhi under National Mission on Himalayan Studies (NMHS), has been implemented at GBPUA&T to studyentitled “Exploring the possibilities of Introduction and integration of nettle-based liquid fermented organic Vrikshayurveda concoction on various selected crops of district Almora” Project cost Rs. 97 lakh
- Dr. M.S. Pal, Professor, Agronomy, Golden Jubilee Forage garden (2020) was developed at Forage Block, IDF, Nagla. In forage garden, 50 forage crops & trees annual forage crops, perennial grasses and fodder trees have been planted.
- Dr. V C Dhyani is appointed as Staff Counsellor of the Literary Team of Pantnagar University.
- Dr. Amit Bhatnagar, Dr. Gurvinder Singh, Dr. D.K. Shukla, Dr. Amit Kesarwani and Dr. Santosh Kr. Yadav, developed and submitted lab manual for course APA-318 Rainfed Agriculture and Watershed Management for publication to Dean Agriculture.

Department of Entomology



Dr. S. N. Tiwari
Head

The department has developed and disseminated advanced crop protection technology for all the major crops of Northern India. Our mission is to achieve a global recognition in the field of teaching, research and extension of Agricultural Entomology.

Department : Genesis with Vision and Mission

Department of Entomology was established in 1964 to impart teaching to under graduate students of B.Sc.(Ag.) in addition to research on various crops and extension of crop protection technology to farmers. It started M.Sc.(Ag.) Entomology and Ph.D. program in 1970 and 1979, respectively, to expand its activity in post graduate teaching and advanced research in various field of Entomology. Presently Department of Entomology is admitting 16 M.Sc. (Ag.) and 8 Ph.D. students and offering more than 37 courses for under graduate and post graduate students. It has developed advanced crop protection technology for all the major crops of Northern India and disseminated it to farmers of this region which have resulted in successful integrated management of insect pests of various crop. The students and faculty of department are doing research in almost all fields of Agricultural Entomology and we are moving towards establishment of Centre of Advanced Studies in Entomology in near future for which we have upgraded all the class rooms, undergraduate, post graduate and research laboratories by replacing old infrastructure. Our mission is to achieve a global recognition in the field of teaching, research and extension of Agricultural Entomology.

Faculty of Department

Presently 6 Professors, 4 Associate Professors and 2 Assistants Professors are faculty of Department of Entomology.

S. No.	Name	Designation
1.	Dr. S.N. Tiwari	Professor and Head
2.	Dr. R.P. Srivastava	Professor
3.	Dr. Pramod Mall	Professor
4.	Dr. M.S. Khan	Professor

5.	Dr. A.K. Pandey	Professor
6.	Dr. R.M. Srivastava	Professor
7.	Dr. Poonam Srivastava	Associate Professor
8.	Dr. Ruchira Tewari	Associate Professor
9.	Dr. Neeta Gaur	Associate Professor
10.	Dr. Meena Agnihotri	Associate Professor
11.	Dr. J.P. Purwar	Associate Professor
12.	Dr. R.P. Maurya	Assistant Professor
13.	Dr. Renu Pandey	Assistant Professor

Research Projects Running in the Department

At present 09 All India Coordinated Research Projects, 01 International Project, 03 National Project and 18 Bio-efficacy Projects funded by Private Agencies are running

in the department. Thus, the department is operating research projects worth Rs.486.17 Lacs.

S. No.	Name of the project	Name of PI/Co PI	Funding agency	Budget in lakh (Rs)
All India Coordinated Research Projects				
01	All India Coordinated Rice Improvement Project	Dr. S.N. Tiwari, PI Dr. A.K. Pandey, Co-PI	ICAR	-
02	All India Coordinated Research Project on Chickpea	Dr. Meena Agnihotri, PI	ICAR	-
03	All India Coordinated Research Project on Pigeonpea	Dr. Ruchira Tiwari, PI	ICAR	-
04	All India Coordinated Research Project on MULLARP	Dr. J. P. Purwar, PI	ICAR	-
05	All India Coordinated Research Project on Mustard & Rapeseed	Dr. M.S.Khan, PI	ICAR	-
06	All India Coordinated Research Project on Soybean	Dr. Neeta Gaur, PI	ICAR	-
07	All India Coordinated Research Project on Honeybees & Pollinators	Dr. Pramod Mall, PI	ICAR	-
08	All India Coordinated Research Project on Fruits	Dr. Poonam Srivastava, PI	ICAR	-
09	All India Coordinated Research Project on Soil Arthropods	Dr. A.K.Pandey Co-PI	ICAR	-
International Projects				
10	SUPER Farm India- Sustainable farming through effective pollination and pest regulation in India	Dr. Pramod Mall, PI Dr. RenuPandey, CoPI	University of Reading	146.79
National Projects				
11	Integrated Bee Development Centre	Dr. Pramod Mall, PI Dr. J.P. Purwar, Co-PI Dr. Renu Pandey, Co-PI	National Bee board	151.00
12	Impact of neonicotinoids on honey bees and pollinators	Dr. Pramod Mall, PI Dr. RenuPandey, CoPI	ICAR	41.62

13	Development and standardization of mass production techniques	Dr. R.P. Maurya, PI	UCB, Uttarakhand	10.69
Projects Funded by Private Agencies during 2020				
14	Bioefficacy Projects (18)	Dr. S.N. Tiwari, PI Dr. A.K.Pandey, PI Dr. R.M. Srivastava, PI Dr. Poonam Srivastava, PI Dr. Neeta Gaur, PI Dr. Meena Agnihotri, PI Dr. R.P. Maurya, PI Dr. Renu Pandey, PI	FMC Dupont Bayer UPL Syngenta ISK	136.07
	Total (Excluding AICRP)			486.17

Programme Running in the Department

S. No.	Programme	No. Students Admitted
1.	M. Sc.(Ag.) Entomology	16
2.	Ph. D.	08
3.	Certificate Courses on Mass Production of Important Bio-control Agents	40
4.	Certificate Courses on Apiculture	45
5.	Certificate Courses on Sericulture	21

Salient Achievements

- Sixteen students were admitted in M.Sc.(Ag.) Entomology while eight students got admission in Ph.D. program of department during 2020.
- The faculty of Entomology taught 14 undergraduate and 23 post graduate courses during 2020.
- Eight M.Sc. (Ag.) and three Ph.D. students completed their degree during 2020.
- The department developed Bee Hive for Stingless Bee the patent application for which has been filed.
- The department studied the phylogeny of two important biotypes of white flies of Uttarakhand which will help in their management.
- The department documented Insect Pollinators of Mango in a CD-ROM on Monograph of Mango Cultivation which was released by DDG Horticulture, ICAR on 18 Jan, 2020 at PAU, Ludhiana.
- The department identified several Rice Accessions having resistant gene against Brown Plant Hopper which may be used for breeding of resistant varieties.

- The department explored and documented butterfly diversity of Tarai region which will help in their conservation.
- For the first time the department identified an Entomopathogenic Fungi, *Clonostachys rosea* from Mango Hopper which may be used for the management of hemipteran pests.
- Department developed a rapid technique for testing the compatibility of *Bacillus thuringiensis* with insecticides by using spectrophotometer.
- The department identified new preferred hosts of predatory bug, *E. fuscicornis* which may be used for mass production under laboratory condition.
- The department developed IPM modules for the management of insect pests of rice at farmer's level.

Infrastructure Development

- A new High-tech Polycarbonate House has been developed for screening of rice against Brown Plant Hopper under controlled condition.
- A new Glasshouse has been developed at Norman E. Borlaug Crop Research Centre for studies on White Grubs and other soil arthropods.
- Two laboratories for Quality Control of Bee Products and Open Window for Diagnosis of Honeybee and Pollinators are under development in the Department of Entomology

Webinars/Activities Organized

- Six days Online Coaching-cum-Training Programme was organized from 01-07 Dec, 2020 under ICAR SC Plan for the skill development of UG and PG students to compete JRF/SRF/ARS and other competitive examinations.
- Three days Online Training Programme on Insect Pests and Their Management sponsored by ICAR was organized from 7-11 December, 2020.

- Dr. R.M.Srivastava was invited as Main Speaker in Online Program on Safe Use of Pesticides in Vegetable Crops organized by Hissar Sterling University.

Other Remarkable Development/Contributions by the Department

- The faculty published 23 research papers, 01 book chapter and 03 laboratory manuals.
- Ms. Devyani Chaudhary M.Sc. Ag., student of Dr R. P. Maurya, received Young Scientist Award in 14th Uttarakhand State Science and Technology Congress

2019-20 organized by State Council for Science and Technology, Dehradun, w.e.f. 27-29 February, 2020.

- Dr. Poonam Srivastava, Dr. Meena Agnihotri and Dr. J.P.Purwar participated in “Mera Gaon and Mera Gaurav” program organized by Department of Agriculture, Uttarakhand
- Faculty delivered two radio talks on Doordarshan and DD Kisan.
- Faculty delivered lectures in various virtual/ online trainings organized by SAMETI/ Directorate of Extension, Pantnagar.

Department of Food Science & Technology



Dr. S. K. Sharma
Head

The department aims to become a leading destination for students pursuing education and research in Food Science and Technology. Currently, Food Processing Centre of the department has been registered with FSSAI and is being used to prepare several products by the students.

Department : Genesis with Vision and Mission

Department of Food Science and Technology is one of the oldest department in the country. It was carved out of Animal Science Department in 1971 as Department of Dairy Technology and was later named as Department of Food Science and Technology in 1973. Then Fruit Processing Plant located at Haldi was remodeled as Food Research Lab with various equipments. Currently, Food Processing Centre of the department has been registered with FSSAI and is being used to prepare several products by the students.

It started M.Sc., Ph.D. and B.Sc. (Food Technology) programmes in the year 1975, 1983 and 2006, respectively. This department is well known for its pioneer work in the field of soybean processing and utilization. So far, 46 Ph. D., 278 M. Sc and 67 B. Sc. (Food Technology) students have completed their degree from this department. Ex- students of this department are occupying very senior positions in academics as well as in food industries.

Vision

Sustenance and prosperity through food science and technology.

Mission

To generate best scientific and technical brains in food science and technology for Academia, Industry and Government.

Webinars / Events / Activities Organized

The Department successfully organized two Webinars, One National Workshop during 2020 as per following details:

Event	Topic	Dates	No. of Participants	Organizers
Webinar	PM Formalization of Micro Food Processing Enterprises Scheme	16, Oct, 2020	101	<p><i>Experts</i></p> <p>Dr. S.K. Sharma, Professor; Dr. Anil Kumar, JRO; Dr. Sweta Rai, Asst Professor</p> <p><i>Coordinating Team:</i></p> <p>Dr. S.K. Sharma, (Chairman); Dr. C.S. Chopra, (Co- Chairman)</p> <p>Coordinators :Dr. Anil Kumar; Dr. Sweta Rai; Dr. S.K. Arora; Dr.Sabbu Sangeeta</p>
Training	2- Days online Training Programme on “Current Needs of Food Safety Awareness and Skills in Food Industry	06-07, Nov, 2020	138	<p><i>Experts</i></p> <p>Dr. S.K. Sharma, Professor, Dr. Anil Kumar, JRO; Dr. Sweta Rai, Asst Professor; Dr. S.K. Arora, Assistant Professor; Dr.Sabbu Sangeeta, Assistant Prof</p> <p><i>Coordinating Team</i></p> <p>Dr. S.K. Sharma, (Coordinator); Dr. Sweta Rai, (Co- Coordinator)</p>
National Workshop	2 nd National Workshop of Students and Food Professionals on “Emerging Issues in Food Processing and Food Science Education- Post Covid” on the occasion of “World Food Day”	16-17 October, 2020	101	<p><i>Experts</i></p> <p>Mr. Narendra Kumar Sharma, BSI; Mr. Birmaninder Saggo, Zonal Head, VKL Seasoning, Pvt.Ltd.; Mr. Shubham Sati, Assistant Key Accountant, VKL Seasoning, Pvt.Ltd.</p> <p><i>Coordinating Team:</i> Dr. S.K. Sharma, (Chairman); Dr. C.S. Chopra, (Co- Chairman)</p> <p><i>Coordinators:</i> Dr. Anil Kumar, JRO; Dr. Sweta Rai, Asst Prof; Dr. S.K. Arora, Asst Prof; Dr.Sabbu Sangeeta, Assistant Prof</p>

Salient Achievements of the Department

■ Technologies Developed

- Technology for utilization of sand pear by manufacture of smoothie
- Ready to cook Rajma

■ Technologies Transferred / Commercialized

The detail of technology transferred and commercialized is as follows:

Technology	Stage of commercialization	Transferred to
Enhancing hygiene and safety in water milled flours	Meetings and Negotiations completed. MOU shall be signed on 1 st Jan 2021.	Ms KB Systems Pvt., Ltd. Haldwani
Low-cost solar drying for foods	In process	Ms KB Systems Pvt., Ltd. Haldwani

■ Patent Published

“Development of antioxidant enriched whey-based chalta (Dillenia indica L.) beverage and process thereof”
Application No.: 201811006747; Dated: 22-02-2018.
Inventors: **Anil Kumar**, Ms. Deepika Kathuria, Ms. Garima Gandhi, Dr. Satish Kumar Sharma, Dr. C.S. Chopra, Dr. V.K. Sah and Dr. Salil Tewari.

■ Patent Granted

“Paneer Coated with Protein-Based Edible Coating and A Process For Preparing the Same”, Patent application No. 667/DEL/2012, dated: 07/03/2012. (**Patent No. 317802**) Inventors: Reeta, **Anil Kumar**, Gurmukh Singh, Kumbhar, B.K.

National Awards / Fellowships of Professional Societies

- Dr Satish K Sharma, was nominated as Member, Codex Committee on Processed Fruits & Vegetables (CCPFV-29), Codex Alimentarius Commission of the FAO/WHO in United Nations
- Dr Satish K Sharma, was selected for the term (1st Jan 2020 to 31st Dec 2022) as member of FSSAI Scientific Panel on Fruits, Vegetables and Their Products, in Food safety and Standards Authority of India.
- Dr Anil Kumar, was selected for the term (1st Jan 2020 to 31st Dec 2022) as member of FSSAI Scientific Panel on Labelling and Claims / Advertisements, in Food safety and Standards Authority of India.
- Dr Satish Kumar Sharma was Selected as “Member of Fruits, Vegetables, and Allied Products Section Committee (FAD 10)” in the Bureau of Indian Standards on 27th Aug 2020. He is already member in FAD 16 and FAD 28 of the BIS.
- Dr Anil Kumar was also selected as “Alternate Member Test Methods of FoodProductsSectionalCommittee FAD 28 of the Bureau of Indian Standards.
- Dr Sweta Rai was also selected as “Alternate Member Test Methods of FoodProductsSectionalCommittee FAD 16 of the Bureau of Indian Standards.

Infrastructure Development

Four offices and faculty chambers were renovated during 2020. Lab. Equipment more than ₹ 20 Lakh were also added into the Food Testing Lab, Food Microbiology and Safety Lab, Bakery and Function Foods Lab.

New Initiatives

In order to inculcate the interest in science and new researches, the Department has started a weekly event named JUST SCIENCE. This is a platform / forum for initiating scientific discussions. Every week on Friday 5:00 to 6:00 pm, all students and faculty of the Department sits in the committee room to discuss on any of the new issues related to science. Programme is planned, organized and executed by PG and PG students of the Department. This forum is open for all students and faculty of the university. Initial three weeks have been very encouraging and we expect more members to join in coming months. Monthly and Annual Compilations shall be published. A quarterly e-newsletter has also been planned to be published by the Department.

Awards / Fellowships Won by Students in 2020

- Ms. Aditi Sharma, B.Sc. Food Technology final year student, Id No. 51701, have awarded for Italian Services Food Safety Medal for 2020 to be awarded through All India Food Processors Association (AIFPA).
- Ms Vaishali Shree of B.Sc. Food Tech. received Best Non-Verbal Communication Award at National Inter University Debate Competition, held on Feb 22-23, 2020, at GBPUAT Pantnagar.
- Deepa Saini and Riya Barthwal won the Best Article Award from Agriculture and Food e-Newsletter for their article entitled “Bioactive Peptides: A New Trend and Opportunity for Future Foods”.
- Ms. Manisha Bhandari, Ms. Neha Chaubey and Ms. Rashika Rautela qualified ICAR Junior Research Fellowship Examination 2020 in Food Technology.
- Madhuri Popak Dukare, Sweta Rai, Sabbu Sangeeta, won the Best Article Award from Agriculture and Food e-Newsletter for their article entitled “Radio Frequency Identification Technology in Food Processing Sector”.

Department of Genetics & Plant Breeding



Dr. Salil K. Tewari
Head

One of the most outstanding impacts of the breeding programme of the department has been the massive seed production of various crops and “Pantnagar Seeds” is the most popular brand among the farmers of the country.

Department : Genesis with Vision and Mission

Inception of Department of Plant Breeding was held in 1960 with the aim to impart teaching, research and extension in plant breeding (name transformed to Department of Genetics and Plant Breeding in 1976). The department has played a pivotal role in ushering the Green Revolution in India by developing landmark varieties of wheat, rice, maize, pulses, oilseeds, forage, sugarcane and other crops. Till the year 2020, 255 varieties have been developed and commercially released in various crops. Thirteen crop varieties have been ranked as “Land-Mark Varieties” at the country level. Department facilitated registration of 3 farmers Varieties with the PPV&FRA. One of the most outstanding impacts of the breeding programme has been the massive seed production of various crops and “**Pantnagar Seeds**” is the most popular brand among the farmers of the country.

The Department has well-knit under graduate (U.G.) and post graduate (P.G.) programmes with updated and modern course curricula as per the ICAR guidelines. A broad range of carefully designed courses complimented by lectures in other departments appropriately address the academic needs of the students. The Department has excellent facilities for teaching various courses in Genetics & Plant

Breeding, Biotechnology and Seed Technology as required for undergraduate and post-graduate degree programmes. Department has been graced by distinguished faculty, four faculty members have been honored with NAAS Fellowship. Excellent facilities for the thesis and research to students are available in the major crops. There are 12 well-equipped laboratories in the department for teaching and research work. Currently in addition to 13 All India Coordinated Research Projects (ACRIP) on different crops funded by ICAR and 9 *ad-hoc* projects funded by different funding agencies *viz.*, DBT, DST, ICAR, NBPGR, DAC/PPV&FRA, CGIAR, NOVOD etc. are under implementation.

Vision

To impart quality education in field of Genetics & Plant Breeding to UG and PG students and to develop high yielding biotic, abiotic stress resistance, climate resilient and high quality possessing varieties of different crop plants with the integration of classical and molecular breeding and preservation and protection of germplasm.

Mandate

Teaching

- To run postgraduate programme (M. Sc. Ag. and Ph.D.) in the field of Genetics & Plant Breeding.

Faculty Members in the Department

S.No.	Name and Designation	Specialization
1.	Dr. S.K. Tewari Professor	Tree Genetics & Improvement / Agroforestry
2.	Dr. A.K. Singh Professor	Forestry
3.	Dr. Virendra Singh Professor	Forestry
4.	Dr. Ravindra K. Panwar Professor	Pulses Breeding & Genetics
5.	Dr. B.B. Bandyopadhyay Professor	Millet Breeding
6.	Dr. J.P. Jaiswal Professor	Wheat & Barley Breeding, Plant Biotechnology
7.	Dr. Indra Deo Professor	Forage & Rice Breeding, Plant Biotechnology
8.	Dr. S.K. Verma Professor	Pigeon- Pea Breeding
9.	Dr. A.S. Jeena Professor	Sugarcane Breeding
10.	Dr. M.K. Nautiyal Professor	Seed Technology & Rice / cowpea Breeding

- To contribute actively in the under-graduate programme (B. Sc. Ag) of the College.

Research

- To develop high yielding biotic (disease and pest) and abiotic (heat and drought) stress resistance/ tolerance, and high product value having varieties of cereals, oilseeds, pulses, millets, forage and sugarcane crops with the integration of classical and molecular breeding approaches.
- To evaluate, catalogue, preserve and protect the germplasm of different crop plants.
- To conduct high quality research with the integration of cutting edge technologies like genomics and bioinformatics.

Extension

- To demonstrate the impact of Improved Varieties and Technologies over Farmer's Practices through organizing "Front Line Demonstrations" in all the crops to popularize the new and improved crop varieties.
- To organize the Awareness-cum-Training Programmes for farmers in the field of Seed Production, Plant Variety Protection and Intellectual Property Rights.

11.	Dr. N.K. Singh Professor	Maize Breeding, Plant Biotechnology
12.	Dr. P.S. Shukla Professor	Soybean Breeding / Seed Technology
13.	Dr. Birendra Prasad Professor	Forage Breeding / Seed Technology
14.	Dr. D.C. Baskheti Professor	Rice Breeding
15.	Dr. P.K. Pandey Professor	Minor Millets & Sorghum Breeding
16.	Dr. M.K. Karanwal Sr. Res. Officer	Soybean Breeding & Seed Tech./ IPR
17.	Dr. Anju Arora Sr. Res. Officer	Chickpea Breeding, Plant Biotechnology
18.	Dr. Swati Sr. Res. Officer	Wheat & Barley Breeding
19.	Dr. Anil Kumar Sr. Res. Officer	Wheat & Barley Breeding
20.	Dr. Usha Pant Jr. Res. Officer	Rapeseed & Mustard Breeding

Research Project

Ongoing co-ordinated research projects

S.No.	Title	Funding Agency	P.I. / Co-PI
1.	All India Coordinated Project on Wheat & Barley Improvement	ICAR	Dr. J.P. Jaiswal / Dr. Swati / Dr. Anil Kumar
2.	All India Coordinated Project on Rice Improvement	ICAR	Dr. I.D. Pandey Dr. M.K. Nautyal Dr. D.C. Baskheti
3.	All India Coordinated Project on Maize Improvement	ICAR	Dr. N.K. Singh
4.	All India Coordinated Project on Rapeseed-Mustard Improvement	ICAR	Dr. Usha Pant
5.	All India Coordinated Project on Soybean Improvement	ICAR	Dr. Kamendra Singh / Dr. P.S. Shukla / Dr. M.K. Karnwal
6.	All India Coordinated Project on Sorghum Improvement	ICAR	Dr. P.K. Pandey
7.	All India Coordinated Project on Forage Crops Improvement	ICAR	Dr. Birendra Prasad
8.	All India Coordinated Project on Pigeonpea Improvement	ICAR	Dr. R.K. Panwar / Dr. S.K. Verma
9.	All India Coordinated Project on Chickpea Improvement	ICAR	Dr. R.K. Panwar / Dr. Anju Arora
10.	All India Coordinated Project on MULLaRP Improvement	ICAR	Dr. R.K. Panwar / Dr. S.K. Verma
11.	All India Coordinated Project on Sugarcane Improvement	ICAR	Dr. A.S. Jeena
12.	All India Coordinated Project on Agroforestry Improvement	ICAR	Dr. Salil K. Tiwari
13.	All India Coordinated Project on Seed Technology Improvement	ICAR	Dr. M.K. Karnwal

Ongoing Ad-hoc research projects

S. No.	Name of the project	Period	Funding agency	Amount (Rs. in lakhs)
1.	Pyramiding of Rust Resistance Genes into High Grain Quality Wheat Lines Developed Through Marker-assisted Selection; PI- Dr. J.P. Jaiswal	2018-21	DBT, Ministry of Science & Technology, GoI	27.29
2.	Genetic Dissection of Heat Tolerance in Wheat Using Multiple Bi-parental RIL Mapping Populations-P.I. & Coordinator; PI- Dr. J.P. Jaiswal	2017-22	USAID/BIRAC/DBT	105.3
3.	Marker assisted pyramiding of APR and seedling resistance genes for durable rust resistance in wheat (<i>Triticum aestivum L.</i>). PI- Dr. J.P. Jaiswal	2016-21	DBT, Ministry of Science & Technology, GoI	70.37
4.	Introduction of improved 60 days Cowpea varieties in India. PI : Dr. M. K. Nautiyal	2008-2022	CIAT, Calli Colombia.	\$50,000
5.	Two line hybrid rice to improve the economy of hill agriculture. PI: Dr. M. K. Nautiyal	2018-2022	UCB, Uttarakhand.	29 lacs
6.	Characterization of chickpea germplasm resource to accelerate genomics-assisted crop improvement Dr. R.K. Pawar / Dr. Anju Arora	2020-2024	DBT	71.45 L
7.	Global Rice Array Project Dr. I.D. Pandey	2017-2021	IRRI	\$15,000
8.	To evaluate for testing of spring corn hybrid (P-1899): PI: Dr. N.K. Singh	2020-21	PHI Seeds Private Limited	2.12 L
9	Metabolic engineering of plants for development of stress tolerance phenotype of <i>D. radiodurans</i> PI: Dr. N. K. Singh	2018-2021	BRNS, DAE,	34.32 L
10..	Bio-Efficacy Bayer Project : Testing of Rice Hybrid	2020-21	Bayer Ltd.	

Programmes Running in the Department

S. No.	Degree	No. of seats		Total
		Uttarakhand domicile	ICAR	
1.	M.Sc. Ag (Genetics & Plant Breeding)	12	4	16
2.	Ph.D. (Genetics & Plant Breeding)	6	2	8

Salient Achievements

Identified / Released 23 Varieties of different crops:

S. No.	Crop	Variety (Identified / Released in 2020)	Breeders contributed
1	Oat (1)	Oat-4 (UPO 10-2) (SVRC)	Dr. Birendra Prasad / Dr. I.D. Pandey
2.	Pulses (6)	Released – Pant Arhar 6 (CVRC), Pant Pea 347 (CVRC), Pant Gram 7 (SVRC), Pant Gram 8 (SVRC), Pant Gram 9 (SVRC), Pant Arhar 7 (SVRC) Identified - Pant Pea 399 (SVRC), Pant Lentil 12 (SVRC), Pant Arhar 8 (SVRC)	Dr. R.K. Panwar / Dr. S.K.Verma / Dr. Anju Arora
3.	Wheat (3)	UP 2903, (SVRC) UP 2938, UP 2944.	Dr. JP Jaiswal (PI)/ Dr. Swati (Co-PI)/ Dr. Anil Kumar
4.	Maize (2)	Pant Sankar Makka-5 Pant Sankar Makka-6	Dr. N. K. Singh / Dr. DCBashkheti
5.	Sorghum (5)	SVRC: Single cut Varieties: Pant Chari 12, Pant Chari 13 Multicut Varieties: Pant Chari 14, Pant Chari 15 CVRC: Multicut hybrid: CSH 43 MF	Dr. P. K. Pandey
6.	Soybean (2)	Pant Soybean 25 (PS 1556) Pant Soybean 26 (PS 1572)	Dr. Kamendra Singh / Dr. P.S. Shukla
7.	Oilseeds (4)	Toria (2): PT-2015-4 and PT-2016-11 from SVRC Yellow sarson (1): PYS-2016-8 Indian mustard (1): PRL-2013-17	Usha Pant

National Awards, Fellowships earned by the Faculty

- Recognition of Pantnagar as the Best Performing AICRP Centre for overall performance during the period 2017-2020
- Sorghum AICRP IIMR Hyderabad has been Awarded for best contribution and Awarded with “Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award 2019” where in the best centre Pantnagar ACRIP considered as part of award.

Infrastructure Development in 2020

- Flooring and renovation of big seminar hall to be developed as Interactive Seminar Hall cum Library.
- Installation of wi-fi extension line for accessibility of net service in the whole department.

Faculty Retired in 2020

- Dr. H.S. Chawla, Professor & Head retired on March 31, 2020
- Dr. Kamendra Singh retired on November 30, 2020

Webinar Activities Organized in 2020

7 Webinars were organized:

List of Webinar

S. No.	Title	Speakers
1.	Faculty Lectures from Genetics and Plant Breeding- I 1-9-2020	
	Challenges in Agriculture with special references to Plant breeding	Dr. Salil K. Tewari, Head, GPB
	Teosinte: an amazing crop for improving climate resiliency of maize	Dr. N. K. Singh, Professor, GPB
	Plant Breeding: Understanding variation and its exploitation	Dr. A S Jeena, Professor, GPB
	Seed for food security	Dr. P. S. Shukla, Professor, GPB
	Pulse Breeding: challenges and opportunity	Dr. S K Verma, Professor, GPB
2.	Faculty Lectures from Genetics and Plant Breeding- II 2-9-2020	
	Major breeding objectives of selected crops and use of transgenic for genotypic improvement of cultivars	Dr. B. B Bandyopadhyay, Professor, GPB
	Status of hybrid development in Rapeseed-mustard	Dr. Usha Pant, JRO, GPB
	Status of Sorghum Breeding at Pantnagar	Dr. P. K Pandey, Professor, GPB
	Seed multiplication system and certification	Dr. M K Karnwal, SRO, GPB
	Soybean Breeding at Pantnagar	Dr. Kamendra Singh, Rtd. Professor, GPB
3.	Faculty Lectures from Genetics and Plant Breeding- III 3-9-2020	

	Wheat quality: Present status and future prospects	Dr. Anil Kumar, SRO, GPB
	Transgenics in crop improvement in India	Dr. Anju Arora, SRO, GPB
	Wheat: The golden grain	Dr. J. P Jaiswal, Professor, GPB
	Basmati: A pearl of grain	Dr. I. D Pandey, Professor, GPB
	Protection of Plant Varieties and Farmers Right Act	Dr. D. C Baskheti, Professor, GPB
4.	Remembering Stalwarts of Genetics and Plant Breeding September 21-25, 2020	
	Vavilov, Rosalind Franklin and Johannsen	Rohit Shriya Adhikari Shreya Maurya
	HG Khurana, Darwin and BP Pal	Anu Singh Arvind Chauhan Babita Bhatt
	A Sturtevant, NE Borlaug, Kary Mullis and B McClintock	Divya Chaudhary Himanshu Chaudhary Harikant Yadav Harsdeep
	Erwin Chargaff, August Weismann, T S Venkataraman and G Mendel	Meghashri S. Patil NimitaKandwal Pooja Bali Sivendra Joshi
	James Watson, TH Morgan, Hugo de Vries and Walter Sutton	Simran Sisodiya Varalakshmi, S. VineetaJyala Charu Bisht
	G H Shull, M S Swaminathan and V L Chopra	PreetiLohani Smurtishree Sahoo Prabhat Singh
	Francis Crick, K. Ramiah, Frederick Sanger and Jennifer Anne Doudna	Harshita Negi Ssbyasacchi Sahoo Sanjana Pathak Vartika Budhlakoti
	Sanjay Raja Ram, William Bateson, Seymour Benzer and R A Fisher	Ashish Gautam Nidhi Bhatt Anjali Joshi Amit Gaur
5.	Self-sufficiency in food grains: Understanding role of Plant Breeding for Agricultural development: November 10-12, 2020	
	Feeding Humankind: Varietal improvement in self pollinated crops	Dr. J. P Jaiswal, Professor, GPB

	Utilizing heterosis: Varietal improvement in cross pollinated crops	Dr. N. K. Singh, Professor, GPB
	PPVFRA and its impact on agriculture	Dr. H.S. Chawla, Retd. Professor GPB
	Outline of seed production, processing and marketing	Dr. Deepak Pandey, CSPO, UAS&TDC
	Varietal development vis-e-vis Agricultural development	Dr Salil K Tewari Head, GPB
	Evolution of Genetic concepts and Plant Breeding	Dr. A.S. Jeena, Professor, GPB
6.	Crop improvement for climate resilience and food security November 26-28, 2020	
	Crop improvement for climate resilience and food security	Dr. H.S. Gupta, Ex-DG, Borlaug Institute for South Asia
	Breeding Crop varieties for climate resilience	Dr. R.K. Sharma, Principal Scientist, IARI, New Delhi
	Breeding for climate smart agriculture	Dr. S.K. Tewari, Professor & Head, GPB

	Use of wild relatives in improvement climate resiliency of maize	Dr. J.P. Jaiswal Professor
	Breeding for climate resilient rice	Dr. I.D. Pandey Professor
	Innovative Approaches for Breeding Wheat and Barley for climate resilience	Dr. N.K. Singh, Professor
7.	Advances in Plant Genetics & Improvement: December 21-22, 2020	
	Rice Breeding: Past, Present and Future Outlook	Dr. J.S. Nanda, Retd. Scientist, USA
	Global Status of Wheat Blast	Dr. Pawan K. Singh CIMMYT, Mexico
	Accelerating the Genetic Gains in Legume	Dr. Shiv K. Agrawal ICARDA, Morocco

Any other remarkable developments / Contributions

- Online Certificate course “Seed Production & Technology” launched in October, 2020.
- Monetary collection of Rs.3.0 lakh was made to support the family of deceased daily paid worker Mr.Dinesh Karki.

Department of Horticulture



Dr. D. C. Dimri
Head

Department of Horticulture is committed for bringing up agrarian transformation, sustainable horticulture development, nutritional security, employment opportunity and environmental concerns through its teaching, training and research initiatives.

Department : Genesis with Vision and Mission

Department of Horticulture came into existence in 1961 and M. Sc. Ag. in Horticulture programme was initiated in 1963. The Department is instrumental in imparting teaching, research and extension services since 1963-64 in different aspects of horticulture. Ph.D. programme in Horticulture was initiated in the year 1976, while P. G. programme in Floriculture and Landscaping have been started from the academic year 2000-01.

Vision

To provide foundation for knowledge led, technology driven, intellectually satisfying and economically rewarding horticulture enterprise, for ensuring livelihood security and improved quality of human life.

Mission

Strong Human resource development through updated teaching and training, agrarian transformation, sustainable horticulture development, nutritional security, employment opportunity and environmental concerns.

List of Faculty Members

S. No.	Name of Faculty	Designation	S.No.	Name of Faculty	Designation
1.	Dr. D.C. Dimri	Prof.& Head	11.	Dr.Ajit Kumar	Prof.(Hort.)
2.	Dr. N.K. Mishra	Prof.(Hort.)	12.	Dr. Shailesh Tripathi	Assoc. Prof.(Hort.)
3.	Dr. V.K. Rao	Prof.(Hort.)	13.	Dr. Satish Chand	Sr. Res. Officer
4.	Dr. P.N. Rai	Prof.(Hort.)	14.	Dr. Rajesh Kumar	Assoc. Prof.(Hort.)
5.	Dr. B.D. Bhuj	Prof.(Hort.)	15.	Dr.Navin Singh	Sr. Res. Officer
6.	Dr. Ranjan Srivastava	Prof.(Hort.)	16.	Dr. Pratibha	AssttProf.(Hort.)
7.	Dr. A.K. Singh	Prof.(Hort.)	17.	Dr. Shweta Uniyal	AssttProf.(Hort.)
8.	Dr.Omveer Singh	Prof.(Hort.)	18.	Dr. Anju Pal	AssttProf.(Hort.)
9.	Dr. V.P. Singh	Prof.(Hort.)	19.	Dr. Rashmi Panwar	AssttProf.(Hort.)
10.	Dr.Ratna Rai	Prof.(Hort.)			

Research Projects Running in the Department

Name of the Project	Funding agency	Project leaders
All India Coordinated Research Project on Fruits (Mango, Litchi and Guava)	ICAR, New Delhi	Dr. A. K. Singh
All India Coordinated Research Project on Floriculture	ICAR, New Delhi	Dr.Ajit Kumar
Evaluation of Quantis in Apple for reduction in flower drop, yield increase and better fruit quality	M/s Syngenta India Ltd.	Dr. D. C. Dimri
Bio-efficacy project code-2072 & title "Evaluation of plant growth regulatory potential of Mepiquat chloride 5% AS in Mango	<i>Gharda Chemicals Limited, Thane - 421 203, Maharashtra</i>	Dr. A. K. Singh
Bio-efficacy project -2122 & title "Evaluation of Forchlorfenuron 0.1% LIQ (CPPU) for fruit set, retention and postharvest quality of mango."	Omega Fine Chemicals, Thane, Maharashtra, India	Dr. A. K. Singh

Programs Running in the Department

Sl. No.	Name of Degree	Current intake of students
1.	M.Sc. Ag. Horticulture (Fruit)	08
2.	M.Sc. Ag. Horticulture (Floriculture & Landscaping)	04
3.	Ph.D. Horticulture (Fruit)	05
4.	Ph.D. Horticulture (Floriculture & Landscaping)	02

Salient Achievements of the Department

Fruit

- On the basis of five year pooled data (2015- 2019) the treatment RDF + foliar spray of 0.2% Zinc sulphate + 0.1% Copper sulphate + 0.1% Boric acid (2 sprays just before flowering and marble stage) has been recommended in the year 2020 to increase the productivity with good fruit quality in mango.
- On the basis of five years pooled data (2015 to 2019), the mango cultivar Dashehari-51 has been recommended in year 2020 for cultivation due to its higher yield with good fruit quality.
- The litchi bunch bagged with pink colour polypropylene, 30 days after fruit set proved better for

improving the colour, fruit quality & B: C ratio with reduced fruit cracking, sun burn & borer infestation.

- On the basis of five years pooled data (2015 to 2019), the guava cultivar Arka Kiran has been recommended for cultivation due to its higher yield, good quality and red fleshed pulp.
- Pollination studies were carried in sub-tropical plum. Among the different pollination methods, cross pollination with Kala Amritsari proved to be most effective in terms of initial fruit set, fruit yield/tree, fruit length and fruit width in plum cultivar Satluj Purple. In contrast, the Kala Amritsari estimated the highest fruit set and yield under self-pollination, while cross pollination was most effective in improving its physical attributes. Among the two plum cultivars i.e., Satluj Purple and Kala Amritsari, the pollen viability and germination was estimated higher in Cv. Satluj Purple.
- The microscopic studies demonstrated the presence of gametophytic self-incompatibility in Satluj Purple, where the growth of pollen tube in self-pollination was arrested in the lower half of the style; however, pollen tube under cross pollination successfully entered the ovary region. The present study therefore, indicates the provision of suitable pollen donors (pollinizer i.e., Kala Amritsari) to improve fruiting in plum cv. Satluj Purple.
- In plum cv. Satluj Purple the foliar application of NAA @15 ppm + Urea @ 2% is highly effective in retaining maximum fruits, highest fruit yield/tree and in improving physical and chemical attributes of fruits.
- An experiment was conducted to find out the best mulch material in regards to yield and quality improvement of guava fruits. The results indicated that silver-black colour mulch proved to be best in both plastic film as well as biodegradable materials. Taking the environmental concern into consideration, silver-black biodegradable fil as mulch can be advocated to guava orchardist.
- To propagate superior quality peach plants cv. Shan-e-Punjab through stenting method of propagation, the cuttings of Kabuli Green Gage plum can be used as a rootstock with the treatment of IBA @ 3000 ppm for better success and growth of plant.

Floriculture

- **Rose:** Hybrid tea rose cultivars like Oklahoma, Olympiad, Montezuma, Nehru Centenary and Christian Dior can be grown as cut flower in open. These cultivars produce long stems during winter under open cultivation. The varieties, Pusa Gaurav,

Arunima, Prema, Arka Savi, Krishna and Confetti were found to be highly suitable for loose flower production and varieties viz., Pusa Baramasi, Iceberg and Sadabahar were found suitable for borders and garden display.

- **Chrysanthemum:** For Cut flowers purpose; Suneel, Pusa Centenary, Thai Chin Queen, UHFS Chry 81 and Sova. For Loose flower; Prof. Harris, Ajay, Purnima, Baggi and Gauri and For pot mum Sadbhavana, Mother Teresa and Suhag Singar were found to be suitable.
- **Tuberose:** Varieties Shringar, Prajwal, Arka Nirantara (Single), Suvasini and Vaibhav (Double) are promising for flower production on *Tarai* region of Uttarakhand.
- **Gladiolus:** Forta Rosa and Swarnima were identified as early cultivars, Pusa Kiran, Nathan Red, Shagun, Arka Ayush, Nova Lux, Arka Amar, Pacifica, American Beauty and Arka Kesar as medium cultivars and cvs. White Prosperity, Praha, Tiger Flame, Bindia, Pusa Manmohak, Suchitra, Vicky Liar, Black Star, High Style, Chirag, Pusa Srijana, Agni and Dhanvantari were identified as late cultivars.
- Under testing of new cultivars under Pantnagar conditions, gladiolus variety Pusa Sindhuri, chrysanthemum varieties like Pusa Sweth, Pusa Sona, DFRC-2 and DFRC-3 and tuberose cvs. RCGH 22 and RCGH 12 performed comparatively better under open conditions.
- Under studies on phenophase based nutrient scheduling on flower yield and quality in chrysanthemum, present fertilizer recommendation of 100:150:100 kg NPK/ha/year as soil application (control), full dose of P and K as basal, N three equal splits-first as basal, second dose at pinching and third dose one month after pinching was found to be promising. In gladiolus, application of 33.3:33.3:33.3% NPK (vegetative phase), 33.3:33.3:33.3 % NPK (Heading phase) 33.3:33.3:33.3 % NPK (Flowering phase @ 225:150:150 kg NPK/ha/year (75% RDF) were found promising for cut flower production.

National Award, Fellowship Earned by the Faculty Members in 2020

- Dr. Ranjan Srivastava, Professor Horticulture received Second Best Poster Presentation Award for his paper "Ornamental Horticulture: Naturopathy for Stress Management During Covid-19" in National WEBCON on Agricultural production & support system managing Covid-19 pandemic: Experience sharing and Strategies during May 6-8, 2020 organized at Chandra Shekhar Azad University of Agri. & Technology, Kanpur, India.

Infrastructure Development 2020

Infrastructure Developed at Horticulture Research Centre, Patharchatta :

- Hot plate: Size 450 x 300 mm with digital timer and heating up to 300°C.
- Mini Rotary Shaker with universal platform of size 12” X 12”, digital indicator and speed at least 350-400 rpm
- Refrigerator with double door & capacity 253 litre

- Rotary evaporator/flash evaporator with vacuum pump
- LED TV 43 inch

Faculty Retired in 2020

- Dr. P. N. Singh as Prof. (Hort.)
- Dr. Santosh Kumar as Prof. (Hort.)

Webinars/activities Organized in 2020

ICAR SC Sub-plan sponsored Webinar Organised in the Department

S. No.	Title	Duration	Number of topics covered	Experts	Coordinating Team	Number of participants
1.	Foundation Course on “Entrepreneurship Development: Ideas & Concept”	14 th September to 5 th October, 2020 (3 weeks)	60	Mr Bishan Kumar C/o B.K. Capital Advisors	Dr Omveer Singh- Coordinator	120
2.	Entrepreneurship Development Program on “Mushroom Cultivation Technology”	06 th October to 19 th October, 2020 (2 weeks)	24	10 External & 14 Internal	Dr Omveer Singh- Coordinator and Dr S.K. Mishra, Co-coordinator	70
3.	Entrepreneurship Development Program on “Commercial Floriculture and Landscaping”	20 th October to 7 th November, 2020 (2 weeks)	26	7 External & 19 Internal	Dr Omveer Singh- Coordinator and Dr B.D. Bhuj, Co-coordinator	55
4.	Entrepreneurship Development Program on “Protected Cultivation of Horticultural Crops”	9 th November, 2020 to 28 th N o v e m b e r (2 weeks)	25	11 External & 14 Internal	Dr Omveer Singh- Coordinatorand Dr V.P. Singh, Co-coordinator	48
5.	Entrepreneurship Development Program on “Propagation and Nursery Management of Horticultural Crops”	14 th December to 28 th December, 2020 (2 weeks)	23	10 External &13 Internal	Dr Omveer Singh- Coordinatorand Dr Ratna Rai, Co-coordinator	60
		Total	148	39 Ext. + 61 Int.		353 Nos

Other Remarkable Development/Contributions by the Department

- Organized two online certificate courses of 3 months duration on “Protected Cultivation of Horticultural Crops” and “Nursery Production and Management of

Horticulture Crops” wherein,34 and 25 participants, respectively registered.

- Two Ph. D. students namely; Mr. Rajat Sharma, Id. No. 50952 and Mr. Pushpendra Rajput, Id. No.53971, got selected as DHOs in Haryana Government Services.

Department of Plant Pathology



Dr. Pradeep Kumar
Head

Department of Plant Pathology stupendously progressed under the able guidance of Dr. Y.L. Nene, first Head of the Department, and Dr. R.S. Singh. Department was further expanded by many dedicated faculty members who made the department emerge as a research leader in the country.

Department : Genesis with Vision and Mission

The Department of Plant Pathology was created & accredited by the ICAR in 1961. The postgraduate degree programme leading to M.Sc. (Ag.) Plant Pathology and Ph.D. Plant Pathology were started in 1963 and 1965, respectively. Department stupendously progressed under the able guidance of Dr. Y.L. Nene, first Head of the Department and Dr. R.S. Singh. Department was further expanded by many dedicated faculty members who lead the department as recognized leader in the country.

In view of the outstanding contribution made in the area of teaching, research and extension by the department, ICAR upgraded the department in the year 1995 to the status of Centre of Advanced Studies in Plant Pathology and subsequently as Centre of Advanced Faculty Training (CAFT) in the year 2009-10. Major mandate of the CAFT is to train scientific faculty from all over the country in important and innovative areas of Plant Pathology.

Vision

Attain excellence in teaching and research in Plant Pathology and the services rendered to the farming community.

Mission

- Impart quality education and training in the field of Plant Pathology for teachers and faculty from other universities and institutions; farmers and clients from govt. and non govt. organizations
- Understand intricacies of plant, pathogen and environment interactions to open up newer possibilities for disease management
- Generate eco-friendly and cost-effective technologies and strategies for sustainable management of plant diseases
- Offer assistance in the dissemination of technology to the end users.
- Offer consultancy support to promote entrepreneurship

List of Faculty Members

S. No.	Name of Faculty Members	Designation
1	Dr. Pradeep Kumar	Professor & Head
2	Dr. J. Kumar	Professor & Registrar
3	Dr. K.P. Singh	Professor
4	Dr. Yogendra Singh	Professor
5	Dr. R.P. Singh	Professor
6	Dr. K.P.S. Kushwaha	Professor
7	Dr. A.K. Tewari	Professor
8	Dr. Satya Kumar	Professor
9	Dr. L.B. Yadav	Associate Professor
10	Dr. Roopali Sharma	Senior Research Officer
11	Dr. Bijendra Kumar	Senior Research Officer
12	Dr. S.K. Mishra	Senior Research Officer
13	Dr. Shailbala Sharma	Senior Research Officer
14	Dr. Deepshikha	Junior Research Officer
15	Dr. Geeta Sharma	Junior Research Officer
16	Dr. Rashmi Tewari	Assistant Professor
17	Dr. Shilpi Rawat	Assistant Professor
18	Dr. Manju Sharma	Assistant Professor

Research Projects Running in the Department

- All India Coordinated Research Project on Biological Control (ICAR)
- All India Coordinated Rice Improvement Project (ICAR)
- All India Coordinated Research Project on Seed Technology Research (NSP) (ICAR)
- All India Coordinated Soybean Improvement Project (ICAR)

- All India Coordinated Maize Improvement Project (ICAR)
- All India Coordinated Sugarcane Improvement Project (ICAR)
- All India Coordinated Sorghum Improvement Project (ICAR)
- All India Coordinated Potato Improvement Project (ICAR)
- All India Coordinator Research Project on Rapeseed & Mustard (ICAR)
- All India Coordinated Chickpea Improvement Project (ICAR)
- All India Coordinated Pigeonpea Improvement Project (ICAR)
- All India Coordinated MullaRP Improvement Project (ICAR)
- All India Coordinated Mushroom Improvement Project (ICAR)
- All India Coordinated Wheat and Barley Improvement Project (ICAR)
- All India Coordinated Research Project on Nematodes (ICAR)
- Integrated Farming System and Human Resource Planning and Management for Livelihood Security and Capacity Building of Tribal Community in Uttarakhand TSP Project- Mushroom (ICAR)
- Promotion of mushroom cultivation as an economical viable income generation activity for the people of tribal villages, Bankatia and Debari of Khatima (US Nagar) Uttarakhand (DBT)
- Development of Natural Products from Plant Origin as Potent Bio-pesticide for Plant Disease Management (Uttarakhand Council for Biotechnology)

Programmes Running in the Department

- Department organises every year two 21 days training programme under Centre of Advanced Faculty Training for Assistant Professor, Associate Professor or equivalent rank of All over India. So far 40 trainings, with 827 participants from 26 states, have been conducted.
- Department regularly organises farmers training programme on Mushroom & Spawn Production Technology for Development skills of the farmers.

Salient Achievements of the Department

- Collection, identification and conservation of wild edible and medicinal mushrooms
- Characterized and acquired NCBI GenBank accession no. of ITS gene sequence of 33 *Albugo candida*
- Identified 21 pathotypes of *Albugo candida* of Indian origin and published new nomenclature of *A. candida* isolates
- Identified a set of host differentials for the identification of *A. candida* pathotypes and races.
- Maintaining 44 *A. candida* isolates collected from 17 different states of India and 9 different *Brassica* spp.
- Total 24 specimens of wild edible and medicinal mushrooms were collected from Khatima, Pantnagar, Bhimatal, Padampuri of Uttarakhand. Out of which 21 specimens have been deposited to DMR Solan. The 15 specimens were identified and allotted with their accession numbers by DMR, Solan.

National Award, Fellowship earned by the Faculty Members in 2020

- Dr. K.P. Singh was awarded by M.J. Narasimhan Medal for the Best Research Paper in 7th International Conference organized by Indian Phytopathological Society at ICAR-IARI, New Delhi on dated January 19, 2020.
- Received best performing AICRP Centre on Sorghum award for overall performance during the period 2017-2020 in virtual AGM of AICRP on Sorghum and Small Millets held on May 28-29, 2020 under the Coordination of Dr. Yogendra Singh, Professor, Plant Pathology.
- Dr. K.P. Singh received certificate of Honour on dated August 04, 2020 in International Year of Plant Health 2020.

Infrastructure Development in 2020

- Renovated Epidemiology & Disease Forecasting Lab
- Renovated Mushroom Research Lab

Webinars/Activities Organized

- Organized online trainings/webinars on “Mushroom

cultivation” from September 09-11, 2020, September 14-16, 2020, September 22-24, 2020 and September 27-29, 2020 under the Coordination of Dr. K.P.S. Kushwaha.

- Organized online certificate course on “Mushroom Cultivation Technology” w.e.f. October 25 to December 24, 2020 under the Coordination of Dr. K.P.S. Kushwaha.
- Organized online certificate course on “Mass Production of Important Bio-control Agents” w.e.f. September 24 to December 24, 2020 under the Coordination of Dr. Roopali Sharma.
- Organized online webinar on “Mushroom Cultivation Technology” w.e.f. October 06-19, 2020 under ICAR SC Sub Plan Scheme under the Coordination of Dr. S.K. Mishra.
- Department organized online 3 days training programme on “Diagnosis and detection of plant diseases & their pathogens” w.e.f. November 03-05, 2020 under the ICAR funded training programme for skill development of SC-SP plan for PG & Ph.D students under the coordination of Dr. Pradeep Kumar.
- Department organized online 3 days training programme on “Integrated disease management in important crops” w.e.f. November 09-11, 2020 under the ICAR funded training programme for skill development of SC-SP plan for UG students under the coordination of Dr. Pradeep Kumar.
- Organized Technical Training on “Seed-to-seed basis of major horticulture crops” w.e.f. November 07-08, 2020 funded by Ramcides Crop Science Pvt. Ltd. under the coordination of Dr. K.P. Singh.
- Organized online trainings/webinars on “Mushroom production” held on November 23-27, 2020 under the Coordination of Dr. K.P.S. Kushwaha.

Other Remarkable Development/ contributions by the Department

- An edited book entitled “Emerging Trends in Plant Pathology” by K.P. Singh, Shamarao Jahagirdar & B.K. Sarma; XXI, 844p. (ebook ISBN 978-981-15-6275-4; Hardcover ISBN 978-987-15-6274-7; DOI 10.1007/978-981-15-6275-4).

Department of Soil Science



Dr. Ramesh Chandra
Head

The Vision of the department is to emerge as a centre of excellence in creating and disseminating knowledge in Soil Science.

Department : Genesis with Vision and Mission

Department of Soil Science was established in 1960 as a part of the College of Agriculture in the University. The postgraduate programme at Master's level started in 1963 and Ph.D. programme in 1967. Since then a significant increase in the size of faculty and the areas of specialization, remarkable improvement in the laboratory facilities and appreciable growth in the number of courses have been registered.

Vision

The vision of the department is to develop a centre of excellence in creating and disseminating knowledge in Soil Science for sustainable and productive use of natural resources for the welfare of humankind. Development of e-content of various departmental courses and initiation of online teaching for under graduates, masters and Ph.D. students.

Mission

- Initiation of online certificate training programme on various aspects of Soil Science.
- Efficient management technology for judicious use of natural resources.

- Sustaining soil health in the changing climate scenario.
- Development of new age fertilizers to increase fertilizer use efficiency.
- Imparting training to youth to develop skill on various aspects of natural resource use and conservation for sustaining soil health and crop productivity.

List of Faculty Members

The department has well qualified and experienced faculty to carry out teaching, research and extension activities

in the field of Soil Science. List of faculty members with their specialization is as follows:

S. No.	Name of Faculty	Designation	Specialization
1.	Dr. Ramesh Chandra	Prof. & Head	Soil Microbiology/ Soil Fertility
2.	Dr. P.C. Srivastava	Professor	Soil Chemistry/Micronutrients
3.	Dr. K.P. Raverker (Currently Dean PGS)	Professor	Soil Microbiology
4.	Dr. Navneet Pareek	Professor	Soil Fertility/Microbiology
5.	Dr. Ajaya Srivastava	Professor	Soil Fertility/Soil chemistry
6.	Dr. Shri Ram	Professor	Soil Chemistry/ Soil Fertility
7.	Dr. Jai Paul	Professor	Soil Chemistry/ Soil Fertility
8.	Dr. Poonam Gautam	S.R.O.	Soil Microbiology/ Soil Fertility
9.	Dr. A.K. Pant	S.R.O.	Soil Chemistry/ Soil Fertility
10.	Dr. Veer Singh	S.R.O.	Soil Physics/Soil Fertility
11.	Dr. S.P. Pachauri	S.R.O.	Soil Chemistry/Micronutrients
12.	Dr. A.P. Singh	S.R.O.	Soil Fertility/Soil Chemistry
13.	Dr. S.P. Gangwar	J.R.O.	Soil Microbiology/Soil Chemistry/ Soil Fertility
14.	Dr. Manish Rani	Astt. Prof.	Soil Physics/Soil Fertility
15.	Dr. A.K. Tyagi	Asstt.Prof.	Soil Chemistry/ Soil Fertility
Faculty retired in 2020			
16.	Dr. G.K. Dwivedi	Professor	
17.	Dr. Sobaran Singh	Professor	

Programmes Running in the Department

Under teaching programme, the department is offering 12 undergraduates and 18 postgraduates courses, besides 4 deficiency courses for PG students. The quality of education imparted at the department is widely acclaimed and its well-placed alumni who are holding distinguished positions in India and abroad bear a testimony of this fact.

Research Project Running in the Department

Current research focus is on development of technologies for sustainable use of Soil in the area of Soil fertility, Soil Biology and Water management to mitigate the problem of soil health in order to fulfil the food security challenges. Presently, 10 All India Coordinated Research Projects and one Net work project funded by

S.No.	Title of the research project	Funding Agency
India Coordinated Research Projects		
1.	AICRP on MULLaRP (Soil Microbiology component)	ICAR
2.	AICRP on Chickpea (Soil Microbiology component)	ICAR
3.	AICRP on Soybean improvement (Soil microbiology component)	ICAR
4.	AICRP on maize improvement (Soil Science component)	ICAR
5.	AICRP on long term fertilizer experiments	ICAR
6.	AICRP on soil test crop response correlation	ICAR
7.	AICRP on micro and secondary nutrients and pollutant elements in soils and plants	ICAR
8.	AICRP on farming system (Soil Science component)	ICAR

9.	AICRP on rice (Soil Science component)	ICAR
10.	AICRP on water management (Soil Science component)	ICAR
11.	AINP on soil biodiversity-biofertilizers	ICAR
Ad-hoc research project		
11.	Impact of Nano fertilizers, biofertilizers and Sea weed extracts on crop yield and soil health	IFFCO
12.	Impact of Nano fertilizers on crop yields of rice, maize and soil health	IFFCO

ICAR, 2 ad-hoc research project funded by IFFCO and 2 bioefficacy studies are ongoing in the department. List of on-going research projects is as follows:

The department apart from providing on farm and off farm trainings to the farmers, also extends services of Soil Testing to the farmers and other stakeholders. Soil testing trainings are imparted to state government soil testing staff and to farmers at village level. Front line demonstrations are being conducted by the faculty members at farmer's fields for assessment, refinement and promotion/adoption of generated soil technologies on nutrient management, biofertilizers application, water management and compost production. The department also extends its services through delivery of invited lectures in other SAUs, state government training programmes, Kisan Gosthi organized by the University, state government and other agencies.

Salient Achievements

- One student selected as faculty in PAU.
- Two students have qualified ICAR senior research fellowship exam 2019-20.
- Fifty one research papers have been published during 2020 in national and international journals of repute.
- Two ad-hoc project and one bioefficacy study received and implemented during 2020.
- Soil test based fertilizer recommendations and site-specific nutrient management practices have been developed.

- Isolated and characterized AIMs for pulse crops and their gene sequence submitted to NCBI.
- Development of consortia inoculant technology of *Rhizobium* and PGPR
- Department has developed/published 7 practical manuals for UG and PG courses.
- The Soil Testing Lab has analyzed more than 300 soil samples till date and provided recommendations to farmers to sustain the crop productivity and soil health. The soil health card also provided to the farmers of District Udham Singh Nagar, which proved very helpful in sustaining soil health and thereby increase in crop yield.

Infrastructure Development

Department has procured new N analyzer, spectrophotometer, flame photometer, pH meter, EC meter, precision balance and shaker to strengthen the analytical work of research and under graduate and post graduate classes.

Webinars /Activities Organized

Two trainings were organized by the department on "Recent Challenges of soil health and its management for food and nutritional security" for PG students and "Soil testing and nutrient management for maximization of productivity, soil and environmental security" for UG students-SC. Besides, faculty members also delivered lectures in webinars organized by other institutions.

Department of Vegetable Science



Dr. Dharendra Singh
Head

The department is a centre of excellence in creating, acquiring and disseminating knowledge in Vegetable Science for sustainable and productive use of the produce for the welfare of mankind/ society.

Department : Genesis with Vision and Mission

The academic council approved creation of a separate department of vegetable science after bifurcation of the existing department of Horticulture in its meeting on 11.08.1994. The board of management approved the establishment of department of vegetable science in its 156th meeting held on January 31, 1995 and the department of vegetable science at the main campus came into formal existence *w.e.f.* January 31, 1995.

Vision

The department of Vegetable Science is a centre of excellence in creating, acquiring and disseminating knowledge in Vegetable Science for sustainable and productive use of the produce for the welfare of mankind/ society. The Department envisages integrating all the three functions of land grant institution viz education, research and extension service for sustainable development of Horticulture (Vegetables) and allied sectors.

Mandate

- To offer courses in Vegetable Science to under graduate students of agriculture and other streams.

- To conduct post graduate programmes for Masters and Ph. D. degree in Vegetable Science.
- To carry out basic and strategic research on Vegetables for development of new varieties.
- To develop superior, disease and insect- pest resistant high yielding varieties/ hybrids of major Vegetable Crops.
- Standardization and demonstration of advanced production and protection technologies including protected cultivation.
- Production and distribution of high quality vegetable breeder seeds and planting materials.
- Collection, evaluation and maintenance of vegetable germplasm.
- Varietal trials on major vegetables
- Organic farming on vegetable crops.
- To disseminate and promote technologies for sustainable management of vegetables and their resources.

List of Faculty Members

The faculty is trained from renowned institutes/ universities for sharpening their skills. The specific areas in which the faculty was trained were vegetable breeding,

vegetable production and protection technology. Following faculty members are at present serving in the department:

List of faculty members of vegetable science department

S. No.	Name of faculty member	Designation	Area of specialization
1.	Dr. J.P. Singh	Professor	Vegetable Breeding
2.	Dr. Manoj Raghav	Professor	Vegetable production
3.	Dr. Dinesh Kumar Singh	Professor	Vegetable breeding
4	Dr. Dharendra Kumar Singh	Professor	Vegetable breeding
5.	Dr. Dharendra Singh	Professor	Vegetable breeding
6.	Dr. Lalit Bhatt	Assistant Professor	Vegetable Production
7.	Dr. S.K. Maurya	Assistant Professor	Vegetable breeding
8.	Dr. Alka Verma	Assistant Professor	Vegetable breeding

Research Project Running in the Department

There are 3 All India Coordinated projects viz. AICRP on Vegetable Crops, AICRP on Potato and AICRP on Spices. A total of 42 varieties have been released/ identified at State/ National level. More than 50 agro-techniques have been standardized in different vegetable crops. Besides these AICRPs projects, one Precision Farming Development Centre Project funded by Ministry of Agriculture is being run in the department and 3 bio efficacy projects on chilli, bottle guard and potato are in the department.

Programmes Running in the Department

- M.Sc. Ag. Horticulture (Vegetable Science)
- Ph.D. Horticulture (Vegetable Science).

Salient Achievements of the Department

A total of 42 varieties have been released / identified at State/ National level.

Webinars/ Activities Organized in 2020

- 3-days online training programme on “Quality Seed Production of Vegetables and Spices” for students of Agriculture College sponsored by ICAR, New Delhi (SC-SP Plan) during December 15-17, 2020.
- 3-days online training programme on “Role of Precision Farming in Quality Vegetable Production” For Students of Agriculture College sponsored by ICAR, New Delhi (SC-SP Plan) during December 18-20, 2020.
- Technical Session on “Micro Irrigation System for Hill Agriculture: Challenges and Design Solution” organized by Pantnagar Precision Farming Development Centre (PFDC), GBPUA & T, Pantnagar (Uttarakhand) and NCPAH, MoA & FW, Govt. of India, New Delhi, on Oct. 31, 2020.
- Contributed 4 lectures (weeks) for 3 months online certificate course “Nursery Production and Management in Horticulture”.
- Contributed 5 lectures (weeks) for 3 months online certificate course “Protected cultivation of horticultural crops”.

Department of Agricultural Communication



Dr. Neelam Bhardwaj
Head

The department was established in 1980 with the collaborative efforts of FAO, UNDP and ICAR. The academic curriculum, for both M.Sc. and Ph.D., was developed initially by deliberations of Faculty of Agricultural Communication and Foreign Consultants.

Department: Genesis with Vision and Mission

Department of Agricultural Communication, since its inception in 1980, has achieved many landmarks and has been engaged in teaching and applied research with its customised academic programmes and need based research activities. The department was established under the Centre of Advanced Studies in Agricultural Communication (CASAC). It remains one of its own kind with collaborative efforts of Food and Agriculture Organization (FAO), the United Nations Development Programme (UNDP) and the Indian Council of Agricultural Research (ICAR).

The academic curriculum, for both M.Sc. and Ph.D., was developed initially by deliberations of Faculty of Agricultural Communication and Foreign Consultants. The faculty was trained from renowned foreign institutes/universities, namely Syracuse University, University of Cornell, BBC (London), Philippines, Philadelphia, Wisconsin, etc. for sharpening their skills. The specific areas in which the faculty was trained were educational technology, speech communication, distance learning, video & television production, information management and documentation, communication research, agricultural journalism, and technologies related with audio-cassettes.

The post-graduate programme (M.Sc.) was started in the year 1981 and Ph.D. programme was started in the year 1992. From time to time the department changed its degree title in order to reflect the changing scenario in extension and communication discipline. In 1994, it was changed from “Agricultural Communication” to “Development Communication” and then later to “Agricultural Extension and Communication”. Keeping in view the directives of ICAR in mind for nationwide uniform curriculum, the Department restructured its curriculum and degree title for Master’s and Ph.D. degree. It was changed to Agricultural Extension and Communication in the year 2005.

Vision

Department endeavours to make significant contribution in preparing highly skilled and efficient academicians in the field of Agricultural Extension and Communication to meet the future demands of the country.

Mandate

- Implementation of need-based curriculum for producing professionals in the field of Extension and Communication.
- Strengthening and developing new programmes in Extension and Communication.
- Developing IT enabled extension education.
- Prioritizing location specific and clientele focussed research for Uttarakhand state in the field of extension and communication.

List of Faculty Members

1. Dr. Neelam Bhardwaj, Professor & Head
2. Dr. Gyanendra Sharma, Professor
3. Dr. S. K. Kashyap, Professor & Dean - Agriculture
4. Dr. VLV Kameswari, Professor
5. Dr. M. A. Ansari, Professor
6. Dr. Amardeep, Associate Professor
7. Dr. Arpita Sharma, Assistant Professor
8. Dr. Kiran Rana, Assistant Professor

Research Projects Running in the Department

Department received extension of its ICAR funded project under Farmer First Scheme on “Enhancing livelihood opportunities of farming community in mid-hills of Uttarakhand”. (PI: Dr. S. K. Kashyap, Professor, Co-PI: Dr. Arpita Sharma)

Programmes Running in the Department

- M.Sc. (Agricultural Extension & Communication)
- Intake: 08 Seat + 2 JRF (ICAR) = 10 Seats
- Ph.D. Agricultural Extension & Communication)
- Intake: 04 Seats (1 from other states)

New Instruments Purchased

3D Printer Purchased by the Department (Under NASF Project)



Award and Honors received by the Faculty Members

S. No	Name and Designation of Faculty	Department	Name of award
1.	Dr. S.K. Kashyap, Professor	Agricultural Communication	<ul style="list-style-type: none"> Received National Community Radio Award 2019 (1st Prize) at Vigyan Bhavan, New Delhi. Uttarakhand Pride Award for Exceptional Contribution in Field of Education in 2019 by Ray Foundation and Live 24. Dr. S.K. Kashyap, Professor and Head, Agricultural Communication joined as Dean, College of Agriculture in February 2019.

Salient Achievements of the Department

- Dr. Neelam Bhardwaj, Professor participated in Motivating and Attracting Youth in Agriculture 28th-29th Feb 2020 at PAU, Ludhiana Organized by ICAR and ATARI, PAU
- Dr. M. A. Ansari, Professor delivered two guest lectures (Topics: Drivers of agriculture technology Adoption on October 22 and Extension Strategies for effective and sustainable CSA interventions on October 25) in 21 days National Training Course on “Technology Interventions Towards Transformation of Agriculture, Sericulture, Animal Husbandry and Allied Sectors into Sustainable Enterprises for Atmanirbhar Bharat” organised by BAU, Sabour during October 11-31, 2020.
- Dr. M.A. Ansari participated in Online training conducted by NAHEP on “Issues of Copyrights” (23 Sept. 2020) and “Open Educational Resources” (27-28 Nov. 2020).
- One PG student (Ms. Shivani Jha) got ICAR-JRF selection
- One PG student (Ms. Sakshi Bhatt) was selected for UGC-NET JRF and two others (Ms. Pooja Goswami and Ms. Kanika Pandey) cleared UGC-NET.
- Two Ph. D. students (Ms. Usha Das and Ms. Tannistha Bardhan) got ‘Best Paper Award’ at 9th National Conference organised by Society of Community Mobilisation for Sustainable Development at Hamirpur (H.P.) during 15-17 Feb. 2020.

Webinars/ Activities organised in 2020.

- Department, under NAHEP, organized. “Online Interactive Session on Qualitative Research Methodologies in Social Science Research” in June 2020.
- Department organised ICAR-sponsored online training programme on “Script writing for Electronic media’ during October 27-29, 2020

- Department organised ICAR-sponsored online training programme on “Communication and Presentation Skills” during November 3-5, 2020

Other Remarkable Development/ Contribution by the Department

Contributions to Magazines

The department of Agricultural Communication published 12 illustrious issues of Kisan Bharti and Indian Farmer Digest (IFD). Dr. V. L. V. Kameswari (Professor), Dr. M. A. Ansari (Professor) and Dr. Amardeep (Associate Professor) have contributed immensely as editors in reviewing the articles to a suitable format and getting it published.



Dr. VLV Kameswari
Professor



Dr. M.A. Ansari
Professor



Dr. Amardeep
Associate Professor

■ Community Radio

The department played a crucial role in the smooth functioning of community radio service since 2011. The

hard work made by all the concerned resulted in producing 4000 hours of radio programme in the year 2020 amidst Corona pandemic too. The areas were basically focussed on agriculture and allied services, environment, rural youth, vocations and livelihood, women empowerment, social issues, etc. Adding to the contributions towards community radio development, one Ph.D. thesis was submitted on issues aligning to community radio in 2020.

■ Educational Technology (ET) Cell

The department took the responsibility in running all the training activities for the students and faculty of various colleges of the University. The students were trained in Public Speaking, Group Discussion, Personality Development, Teamwork, Motivation and Overall Development. The teachers of the department were also involved in conducting regular Faculty Development

Training for enhancing the process of teaching and learning efficiently and effectively.

■ Weekly Cleanliness Campaign

The department took an exemplary step of cleaning all the classes, laboratories, chambers on its own. This programme was started with the belief that cleaning the own house will pave the path for cleansing outside. The department completed 99 weeks of cleanliness campaign until lockdown due to Covid-19. The evening of each Monday was kept as a reserve time for carrying out the cleaning programme followed by discussion with non-teaching staffs regarding development of the department too. Faculty members, students and other department workers participated regularly. The activities motivated non-teaching staffs for working hard too.



■ Laboratories

The department lab (NASF- Video lab) has immense contributions in designing and developing the e-Content videos for supporting the cause of NAHEP (National Agricultural Higher Education Project). More than 150 videos have been created in the year 2020 including videos for certificate-courses of the college, e-content videos of NAHEP, department project related videos and videos highlighting the development of the College etc.

■ Extra Classes

A culture of nurturing and guiding the juniors on academic fronts has been created in the department by the Senior students. Petrichor- the subject based quizzes among different years were conducted in the department to guide students for competitive exams. The passed-out students also took preparation classes for JRF/SRF/ARS competitive exams in the subject through online mode during the corona pandemic.



Faculty Participation in Taking the College Ahead

The year 2020 witnessed a wide range of College Committees and their structured and very active support in fulfilling the College mandates.

The Head of Departments

According to the records of the College, the Heads meeting with the Dean, College of Agriculture was organized for the College cause 19 times in the year. The meetings were held on weekly basis and sometimes more than once according to the urgency. The heads accepted utmost responsibility to

take the agenda of online teaching, examinations, certificate courses, online webinars, online trainings of students, infrastructural development across the departments, the RAWE and Experiential Learning aspects and all possible administrative responsibilities of the College.



1. **Dr. M. L. Sharma**
Agricultural Economics
2. **Dr. R.K. Singh**
Agrometeorology
3. **Dr. Virendra P. Singh**
Agronomy
4. **Dr. S. N. Tiwari**
Entomology
5. **Dr. Satish Kumar Sharma**
Food Science & Technology
6. **Dr. Salil Kumar Tewari**
Genetics & Plant Breeding
7. **Dr. D. C. Dimri**
Horticulture
8. **Dr. Pradeep Kumar**
Plant Pathology
9. **Dr. Ramesh Chandra**
Soil Science
10. **Dr. Dharendra Singh**
Vegetable Science
11. **Dr. Neelam Bhardwaj**
Agril. Communication

College Core Action Group (C.C.A.G.)

The committee met with the Dean, College of Agriculture for 15 times in the year and took active role in decisions, implementation, networking with industries, networking with overseas partners and experts, organizing webinars with alumni linkage and all other tasks assigned in the

broader interest of the College. The committee also published a Policy Note (book) on COVID-19 and Agriculture. The group also interacted with prospective industry partners to finalize a MoU and also few prospects of technology commercialization.



Dr. J.P. Jaiswal
Professor,
Genetics & Plant
Breeding & Chairman,
C.C.A.G.



Dr. Satish Sharma
Prof. & Head,
Food Science and
Technology & Convener,
C.C.A.G.



Dr. N.K. Singh
Professor,
Genetics & Plant
Breeding & Member,
C.C.A.G.



Dr. A.K. Tewari
Professor,
Plant Pathology
& Member, C.C.A.G.



Dr. Navneet Pareek
Professor,
Soil Science & Member
C.C.A.G.



Dr. A.K. Singh
Professor,
Horticulture & Member
C.C.A.G.



Dr. R.M. Srivastava
Professor,
Entomology & Member
C.C.A.G.



Dr. Amit Bhatnagar
S.R.O.,
Agronomy & Member
C.C.A.G.

College Academic Committee (C.A.C.)

The committee met for 15 times in the year and actively initiated a webinar series with illustrious alumni of the

College. The committee successfully organized six webinars with more than 400 participants.



Dr. Rajesh Pratap Singh
Professor,
Plant Pathology &
Coordinator, C.A.C.



Dr. M.A. Ansari
Professor
Agril. Communication
& Member, C.A.C.



Dr. V.C. Dhyani
Associate Professor,
Agronomy & Member,
C.A.C.



Dr. Sweta Rai
Assistant Professor,
Food Sci. and Tech.
& Member, C.A.C.

College Documentation and Showcasing Committee (C.D.S.C.)

The committee met for 10 times in the year and took utmost efforts in generating monthly reports of the College, other reports and documents submitted to the VC office, Communication Centre, VC Technical Cell,

4A and other offices year wide. The Committee also led the proposition of launching an alumni portal Alma shine on which more than 4000 alumni have registered till date.



Dr. Sumit Chaturvedi
*Associate Professor,
Agronomy & Coordinator,
C.D.S.C.*



Dr. Amardeep
*Associate Professor,
Agril. Communication
& Member, C.D.S.C.*



Dr. Kiran Arya
*Assistant Professor,
Agril. Communication
& Member C.D.S.C.*



Dr. Shweta Chaudhary
*Asstt. Professor,
Agril. Economics
& Member C.D.S.C.*



Dr. Amit Kesarwani
*Assistant Professor,
Agronomy & Member,
C.D.S.C.*



Dr. Sabbu Sangeeta
*Assistant Professor,
Food Science &
Technology & Member,
C.D.S.C.*



Dr. Shilpi Rawat
*Assistant Professor,
Plant Pathology &
Member, C.D.S.C.*

College Infrastructure and Maintenance Committee (C.I.M.C.)

The Committee met for 06 times and took responsibility to keep the college environment safe, secured and clean. The team maintained the process of regular sanitization of

whole college, maintaining the college cleanliness, upkeeping the lawn and surrounding and beautification of the college.



Dr. Chandra Dev
*Associate Professor,
Agril. Economics &
Coordinator, C.I.M.C.*



Dr. Satish Chand
*Senior Research Officer,
Horticulture & Member,
C.I.M.C.*



Dr. Rajeev Ranjan
*Assistant Professor,
Agrometeorology &
Member C.I.M.C.*



Dr. Shweta Uniyal
*Assistant Professor,
Horticulture & Member
C.I.M.C.*

College Placement Committee (C.P.C.)

The committee met for 07 times in the year to look into the propositions of College Placement and Students' Counselling. The Committee also organized a Webinar

Series with illustrious alumni for the students empowerment on issues of Soft Skills in which more than 400 students participated.



Dr. Rajeew Kumar
S.R.O., Agronomy & Coordinator, C.P.C.



Dr. Bijendra Kumar
S.R.O., Plant Pathology & Member, C.P.C.



Dr. Anil Kumar
J.R.O., Food Science & Member C.P.C.



Dr. Usha Pant
Asstt. Professor, Genetics & Plant Breeding & Member C.P.C.



Dr. Arvind Kumar Tyagi
Asstt. Professor, Soil Science & Member, C.P.C.

Online Teaching Facilitation Group

This group met daily in the Lecture Complexes of the College for initial few months of the semester many times each day. They took the crucial responsibility of IT facilitation in the College through regular hand-holding with all the faculty members for online teaching through interactive panels. The group members stood with the

faculty members invariably in each class whole day in the Lecture Complexes for troubleshooting till the faculty members emerged comfortable with the hardware and software. The team also looked towards the regularity of internet connectivity in classrooms and facilitated for every possible problem faced by the faculty members.



Dr. V.C. Dhyani
Associate Professor & Coordinator



Dr. Ruchi Rani Gangwar
Assistant Professor, Agricultural Economics & Member



Dr. Manju Sharma
Assistant Professor, Plant Pathology & Member



Dr. Shweta Uniyal
Asstt. Professor, Horticulture & Member

Public Information Officer



Dr. Navin Singh
Senior Research Officer, Horticulture

Time-table Incharge



Dr. Anil Kumar
Professor, Agricultural Economics

The RAWE Team

The team created an innovative framework of RAWE programme during COVID 19 condition and took sincere responsibility to organize all the segments of RAWE with utmost seriousness to provide maximum exposure and

experience to the enrolled students. The students were divided in small groups of eight each with separate mentors to look after their involvement and learning stepbystep.



Dr. M.L. Sharma
*Professor & Head,
Agril. Economics &
Coordinator, RAWE*



Dr. Rajesh Pratap Singh
*Professor, Plant Pathology
& Dy. Coordinator,
RAWE*



Dr. Omveer Singh
*Professor,
Horticulture (PHT) &
Dy. Coordinator, RAWE*



Dr. Birendra Prasad
*Professor,
Genetics & Plant Breeding
& Dy. Coordinator, RAWE*



Dr. Poonam Gautam
*Associate Professor,
Soil Science &
Dy. Coordinator, RAWE*



Dr. J.P. Purwar
*Associate Professor,
Entomology &
Dy. Coordinator, RAWE*



Dr. B.D. Bhuj
*Professor, Horticulture
& Instructor, RAWE*



Dr. Naresh Malik
*Professor, Agronomy &
Instructor, RAWE*



Dr. Meena Agnihotri
S.R.O, Entomology &
Instructor, RAWE



Dr. Chandra Dev
Associate Professor,
Agricultural Economics
& Instructor, RAWE



Dr. Mukesh Kumar Karnwal
Associate Professor,
Genetics & Plant Breeding
& Instructor, RAWE



Dr. S.K. Mishra
Senior Research Officer,
Plant Pathology &
Instructor, RAWE



Dr. Swati
Senior Research Officer,
Genetics and Plant Breeding
& Instructor, RAWE



Dr. Shailbala Sharma
Senior Research Officer,
Plant Pathology &
Instructor, RAWE



Dr. R. P. Maurya
Assistant Professor,
Entomology &
Instructor, RAWE



Dr. S.P. Gangwar
Junior Research Officer,
Soil Science & Instructor,
RAWE



Dr. Alka Verma
Junior Research Officer,
Vegetable Science &
Instructor, RAWE



Dr. Manisha Rani
Assistant Professor,
Soil Science & Instructor,
RAWE



Dr. Ruchi Rani Gangwar
Assistant Professor,
Agricultural Economics
& Instructor, RAWE



Dr. Arpita Sharma
Assistant Professor,
Agricultural Communication
& Instructor, RAWE



Dr. Shweta Uniyal
Assistant Professor,
Horticulture &
Instructor, RAWE



Dr. Vineeta Rathore
Assistant Professor,
Agronomy & Instructor,
RAWE

The Agriculture Society

The Staff Counselor and the Co-Staff Counselor worked in close cohesion with the College Core Action Group, the Academic Committee and the College Placement Committee to keep the students of the College involved in all the webinars and events on regular basis. They took utmost efforts to create the structure of Batch Representatives (BR) and Co-Batch Representatives

(Co-BRs) with a new quantified format of selection and final interview. The Dean, College of Agriculture along with the Dean, Students Welfare themselves gave utmost importance to the society activity and physically participated in all the selection interviews of Students' Representatives to support the Staff Counselor and Co-Staff Counselor of the society.



Dr. Omvati Verma
*S.R.O., Agronomy &
Staff Counselor,
Agriculture Society*



Dr. S.K. Maurya
*J.R.O., Vegetable Science
& Co-Staff Counselor*

The External Examination Cell

The Cell functioned round the year to facilitate all the examinations, paper setting, evaluation, marks submission and registration processes. Dr. Navneet Pareek alongwith Dr. Ravi Mohan Srivastava took utmost

efforts to support the examination paper formation, training of faculty members, conduction of online examination during the conduct of semester final examination.



Dr. A.K. Singh
*Professor, Genetics
& Plant Breeding
& Coordinator,
External Examination*



Dr. Navneet Pareek
*Professor, Soil Science,
& Dy. Coordinator,
External Examination*

The Certificate and Diploma Courses

The faculty ran nine certificate courses of three months each in year 2020 involving about 700 participants from all across the country. Each course consisted of 12 video lectures, 60 reading assignments, 12 weekly quizzes, 12 online interaction and Q&A

sessions, one final examination and 1-2 webinars of illustrious national experts. Dr. Ranjan Srivastava, Professor, Horticulture and Dr. Ravi Mohan Srivastav, Professor, Entomology are the coordinators for these courses.

Coordinator



Dr. Ranjan Srivastava
*Professor,
Horticulture*

Co-Coordinator



Dr. R.M. Srivastava
*Professor,
Entomology*

Certificate course on Seed Production Technology



Dr. M.K. Nautiyal
*Professor,
Genetics & Plant Breeding*



Dr. J.P. Jaiswal
*Professor,
Genetics & Plant Breeding*



Dr. N.K. Singh
*Professor,
Genetics & Plant Breeding*



Dr. P.S. Shukla
*Professor,
Genetics & Plant Breeding*



Dr. Usha Pant
*Junior Research Officer,
Genetics & Plant Breeding*



Dr. S.K. Verma
*Professor,
Genetics & Plant Breeding*



Dr. I.D. Pandey
*Professor,
Genetics & Plant Breeding*

Certificate course on Beekeeping



Dr. Pramod Mall
*Professor,
Entomology*

Certificate course on Processing of Fruits, Vegetables and Spices



Dr. Satish Kumar Sharma
*Professor & Head,
Food Science & Technology*



Dr. Subbu Sangeeta
*Assistant Professor,
Food Science & Technology*



Dr. R.K. Singh
*Professor & Head,
Agrometeorology*



Dr. Rajeev Ranjan
*Assistant Professor,
Agrometeorology*

Certificate course on Protected Cultivation for Horticulture crops



Dr. V.P. Singh
*Professor,
Horticulture*



Dr. S. K. Maurya
*J.R.O,
Vegetable Science*



Dr. Dharendra Singh
*Professor & Head
Vegetable Science*



Dr. Lalit Bhatt
*Junior Research Officer,
Vegetable Science*



Dr. Anju Pal
*Asstt. Professor,
Horticulture*



Dr. Ajeet Kumar
*Professor,
Horticulture*



Dr. V.K. Rao
*Professor,
Horticulture*

Certificate course on Mushroom Cultivation



Dr. K.P.S. Kushwaha
*Professor,
Plant Pathology*



Dr. Sarvesh Mishra
*Senior Research Officer,
Plant Pathology*



Dr. Geeta Sharma
*Junior Research Officer,
Plant Pathology*



Dr. Shilpi Rawat
*Junior Research Officer,
Plant Pathology*

Certificate course on Nursery Production & Management



Dr. D.C. Dimri
Professor & Head,
Horticulture



Dr. Ajeet Kamar
Professor,
Horticulture



Dr. S.K. Maurya
J.R.O.
Vegetable Science



Dr. A.K. Singh
Professor,
Horticulture



Dr. B.D. Bhuj
Professor,
Horticulture



Dr. Ratna Rai
Professor,
Horticulture



Dr. Rashmi Panwar
Assistant Professor,
Horticulture



Dr. Satish Chand
Senior Research Officer,
Horticulture



Dr. Dharendra Singh
Professor & Head,
Vegetable Science



Dr. Pratibha
Assistant Professor,
Horticulture



Dr. Shweta Uniyal
Assistant Professor,
Horticulture

Certificate course on Sericulture



Dr. R.P. Srivastava
Professor,
Entomology



Dr. Poonam Srivastava
Senior Research Officer,
Entomology



Dr. Roopali Sharma
Senior Research Officer,
Plant Pathology



Dr. Ravi Prakash Maurya
Assistant Professor,
Entomology

Certificate course on Mass Production of Important Bioagents

The Lab Manuals

Total 22 Lab Manual teams were created under 22 Coordinators involving 125 faculty members to write and 22 reviewers. The Manuals of average 100 pages each have been well-developed and have been put to publication

during the lockdown period. Dr Geeta Sharma, JRO, Plant Pathology and Dr Renu Pandey, Assistant Professor, Entomology are looking towards the publication of all the manuals as coordinators.



Dr. Lalit Bhatt
JRO,
Vegetable Science



Dr. Ruchi Rani Gangwar
Assistant Professor,
Agricultural Economics



Dr. Ajay Kumar Tripathi
Assistant Professor,
Agricultural Economics



Dr. Shweta Chaudhary
Assistant Professor,
Agricultural Economics



Dr. R.K. Singh
Professor & Head,
Agrometeorology



Dr. Amit Bhatnagar
SRO,
Agronomy



Dr. KPS Kushwaha
Professor,
Plant Pathology



Dr. Pramod Mall
Professor,
Entomology



Dr. R.M. Srivastava
Professor,
Entomology



Dr. R.P. Maurya
Assistant Professor,
Entomology



Dr. Neeta Gaur
SRO,
Entomology



Dr. Usha Pant
JRO,
Genetics & Plant Breeding



Dr. D.C. Baskheti
Professor,
Genetics & Plant Breeding



Dr. Rajesh Kumar
Associate Professor,
Horticulture



Dr. Satish Chand
S.R.O.,
Horticulture



Dr. Bijendra Kumar
SRO,
Plant Pathology



Dr. Navneet Pareek
*Professor,
Soil Science*



Dr. Sobaran Singh
*Professor,
Soil Science*



Dr. A. K. Pant
*Professor,
Soil Science*



Dr. Shri Ram
*Professor,
Soil Science*

Lab Manuals Coordinator



Dr. Geeta Sharma
*JRO,
Plant Pathology*



Dr. Renu Pandey
*Assistant Professor,
Entomology*

The IDP-NAHEP teams

The academic team, the innovation cum incubation team, the e-content development team, the language team, the procurement team, the informatics team, the industry collaboration team, the PME team of

IDP-NAHEP was assisted through illustrious faculty of the College who led the IDP activities as an extremely successful project supporting the University cause.



Dr. Manisha Rani,
*Assistant Professor
Nodal Officer,
Procurement/ Member,
Agri-Informatics Team*



Dr. Amit Kesarwani
*Assistant Professor
Member, Academic Team
/ Innovation and Incubation
Center*



Dr. Amit Bhatnagar
*Associate Professor
Member, Academic Team*



Dr. Poonam Gautam
*Associate Professor
Member, Academic Team*



Dr. P. K. Pandey
Professor
Member, Innovation
and Incubation Center



Dr. P. S. Shukla
Professor
Member, Innovation and
Incubation Center



Dr. Ranjan Srivastava
Professor
Member, Innovation and
Incubation Center



Dr. Lalit Bhatt
Junior Research Officer
Member, Innovation and
Incubation Center



Dr. M. A. Ansari
Professor
Member, e-Content
Development Team



Dr. Neelam Bhardwaj
Professor
Member, e-Content
Development Team



Dr. A. P. Singh
Senior Research Officer
Member, e-Content
Development Team



Dr. A. S. Nain
Director Research
Coordinator,
Agri-Informatics Team



Dr. Ajay Kumar
Assistant Professor
Member,
Agri-Informatics Team



Dr. R. K. Singh
Professor
Member,
Agri-Informatics Team



Dr. A. K. Tyagi
Assistant Professor
Member,
Agri-Informatics Team



Dr. Rajeev Ranjan
Assistant Professor
Member,
Agri-Informatics Team



Dr. Arpita Sharma
Assistant Professor
Member,
Language Laboratory Team



Dr. Ajay Kumar Tripathi
Assistant Professor
Member,
Language Laboratory Team



Dr. Kiran Rana
Assistant Professor
Member, Language Laboratory
Team/Project Monitoring
and Evaluation Team



Dr. A. K. Singh
Professor
Member,
Industry Collaboration Team



Dr. Navneet Pareek
*Professor
Member,
Industry Collaboration Team*



Dr. S. K. Sharma
*Professor & Head
Member, Industry Collaboration
Team/Project Monitoring and
Evaluation Team*



Dr. K. P. Raverkar
*Dean
Coordinator,
Project Monitoring
and Evaluation Team*



Dr. Gurvinder Singh
*Associate Professor
Member, Project Monitoring
and Evaluation Team*



Dr. Sumit Chaturvedi
*Associate Professor
Member, Project Monitoring
and Evaluation Team*



Dr. Rashmi Tewari
*Assistant Professor
Member, Project Monitoring
and Evaluation Team/ Language Laboratory Team*

The College Faculty with University responsibilities

The College Faculty have been successfully looking after various responsibilities across in the University besides the basic task of teaching, research and extension in the College. It is the broader role of the College to sustain the excellence in the campus.

- Dr. J. Kumar, Registrar
- Dr. S.K. Kashyap, PI, IDP-NAHEP
- Dr. K.P. Raverkar, Dean, Post Graduate Studies
- Dr. Ajeet Nain, Director, Experiment Station
- Dr. S.P. Singh, Assistant Director, Experiment Station
- Dr. D.K. Singh, Chief General Manager, University Farm
- Dr. Ramesh Chandra, Chairman, Central Purchase Committee and University Rate Contract Committee
- Dr. A.K. Pandey, Additional Chief Personnel Officer
- Dr. J.P. Jaiswal, Nodal Officer, Pantnagar Centre for Plant Genetic Resources
- Dr. V.P. Singh, Joint Director, Crop Research Centre
- Dr. Virendra Singh, O.S.D. to V.C. (B.O.M.)
- Dr. Lalit Bhatt, Assistant Director, Vegetable Research Centre
- Dr. A.K. Singh, Joint Director, Horticulture Research Centre
- Dr. Pratibha, Assistant Director, Horticulture Research Center
- Dr. V.K. Rao, Joint Director, Model Floriculture Centre/OIC Garden Section
- Dr. M.S. Negi, Joint Director, Medicinal Research & Training Centre
- Dr. S.K. Lavania, Joint Director, Agroforestry
- Dr. K.P.S. Kushwaha, Joint Director, Mushroom Research and Training Centre
- Dr. Sumit Chaturvedi, Nodal Officer, ICAR Cell/Assistant Coordinator, Planning & Technical Cell, Office of the Vice-Chancellor
- Dr. P.S. Shukla, Joint Director, Breeder Seed production Center
- Dr. Ajay Kumar, Assistant Director, Breeder Seed Production Center
- Dr. Poonam Srivastava, Associate Director, Honey Bee Research and Training Center
- Dr. M.S. Pal, Vice-President, 4A
- Dr. Rajeev Shukla, Deputy Coordinator, Admission Cell
- Dr. M.A. Ansari, Editor, Indian Farmers Digest
- Dr. VLV Kameswari, Editor, Indian Farmers Digest
- Dr. P.S. Shukla, Editor, Kisan Bharti
- Dr. Amardeep, Editor, Kisan Bharti
- Dr. S.K. Maurya, Warden, CB-1
- Dr. Ajay Tripathi, Warden, CB-2
- Dr. Manisha Rani, Warden, Gandhi Bhawan
- Dr. Anju Pal, Warden, Shubhash Bhawan
- Dr. Rashmi Panwar, Warden, Sarojini Bhawan
- Dr. Shweta Rai, Warden, Kasturba Bhawan
- Dr. Ruchi Rani Gangwar, Warden, Golden Jubilee
- Dr. M.S. Pal, Warden, Vivekananda Bhawan

The Pride



The College won the Vice-Chancellor's Revolving Trophy 2020 as team-prize in English Section in the first ever Online Inter-Collegiate Debate competition organised by the University on November 12, 2020.. Shruti Kashyap and Manisha Chamoli, two final year B.Sc. Ag. students of the college represented in English language and brought the Giant Accord to the Pavilion. In Individual category, Shruti

Kashyap stood winner and Manisha Chamoli was awarded consolation in English language whereas Vaishali Shree stood winner and Yuvraj Singh was awarded the consolation prize in Hindi language. The students summed up with the highest score in all, beating the counterparts and created history. Students have truly left no stones unturned in bringing fame to the name of College.

The Winner Team (Vice-Chancellor's Trophy 2020)

English Debate Team



Miss Shruti Kashyap
Id No. 51436 – First



Miss Manisha Chamoli
Id No. 51508 - Consolation

Hindi Debate Team



Miss Vaishali Shree
Id No. 54593 - First



Mr. Yuvraj Singh
Id No. 51664 - Consolation

The Agriculture Society 2020

Dr Omvati Verma, Staff Counsellor & Dr S.K.Maurya, Co-Staff Counsellor, Agriculture Society

“A society exists for the benefits of its members not the members for the benefits of the society.”

Herbert Spencer

Agriculture society is a professional society of College of Agriculture for holistic development of under graduate students. The aims and objectives of the society are-

- To provide a forum for the organization and development of professional activities amongst its members.
- To provide facilities for development of professional talent among the members.
- To arrange healthy professional competitions and aesthetic recreation for the members.
- To create good will and unity amongst the members.

All the enrolled students of College of Agriculture are member of agriculture society. Hon'ble Vice Chancellor of the University is the Patron of the society, Dean, College of Agriculture is the President of the society and Dean Student Welfare is the Chief Counsellor of society. Staff Counsellor and Co-staff Counsellor are nominated by Dean, College of Agriculture.

Students being the representative of the society take initiatives for the betterment of the society in consultation with Chairperson, Vice Chairperson, General Secretary, Joint General Secretary and the members as a whole. If one plants a tree others help to strengthen the roots and it goes

simultaneously. All students can learn and succeed, but not in the same way and not in the same day. It is a society that encourages the holistic development of the personality that is relatively enduring pattern of the thoughts, feeling and behaviours that distinguish an individual from others. The personality that finally emerges is largely formed by the environment in which a man happens to find himself during this development by the structure of the society in which he grows up.

The society provides a path for improving professional skills of the students. Moreover, it gives opportunities and facilities for all round development of personality and leadership abilities. Agriculture society has played a major role in harnessing and shaping the plethora of talent that exists among students. Beneath the umbrella of agricultural society different literary activities such as quizzes, debates, poetry composing, essay writing competitions are organized for the student through-out the academic year. Agriculture society brings out the administrative and managerial skills of students by organizing agro fun fair once a year. Thus, agriculture society acts as a hub for personality development of students and nurtures them as multi-skilled and smart professionals in their life.



The College Newsletter Team 2020



Miss Abha Belwal



Mr. Aman Negi



Mr. Anubhav Singh Raj



Miss Anureet Kaur Sandhu



Mr. Gautam Harbola



Mr. Himanshu Bhakuni



Mr. Neeraj Tewari



Miss Geetika Joshi



Miss Niharika Arora



Miss Pooja Kaira



Miss Prachi Nagarkoti



Miss Samiksha Yadav



Mr. Saurabh Chandra Tamta



Miss Simran Pundir



Mr. Vijay Kumar



Mr. Sumit Tewari



Miss Vanshika Gupta



Mr. Mohit Singh Bohra



Mr. Chetan Joshi



Miss Riya Maithani



Mr. Vishwas Bhandari



Miss Volga Pant



Mr. Vikash Kumar



Miss Sheetal Bhagat

THE PASS OUT STUDENTS OF YEAR 2020

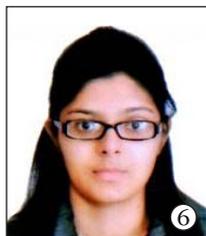
B.Sc. Food Technology

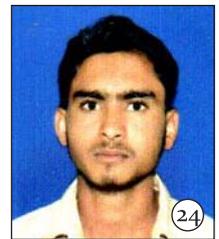


Details of Passed out U.G. students of B.Sc. Food Technology (Batch 2016)

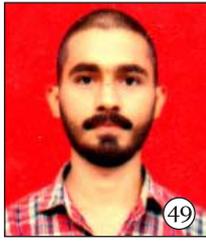
S. No.	Name	ID	Email Id
1.	Ajeet Kumar Yadav	50169	ajeetkumar25021997@gmail.com
2.	Ananya Mathur	50157	ananyamathur97@gmail.com
3.	Asmita Joshi	50158	asmitaj81@gmail.com
4.	Bhagya Shree Raj	49768	bhagyashreeraj52311@gmail.com
5.	Hansika Sati	50156	hansikasati1510@gmail.com
6.	Manisha Bhandari	50159	Manisha.bhandari101@gmail.com
7.	Neha Chaubey	50163	chaubeyn30@gmail.com
8.	Rahish Khan	50171	rahishmaniyaro7@gmail.com
9.	Rashika Rautela	50164	rrautela44@gmail.com
10.	Shivam Lovewanshi	50162	shivamloveic@gmail.com
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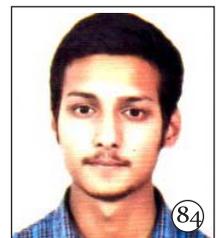
B.Sc. Agriculture











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