

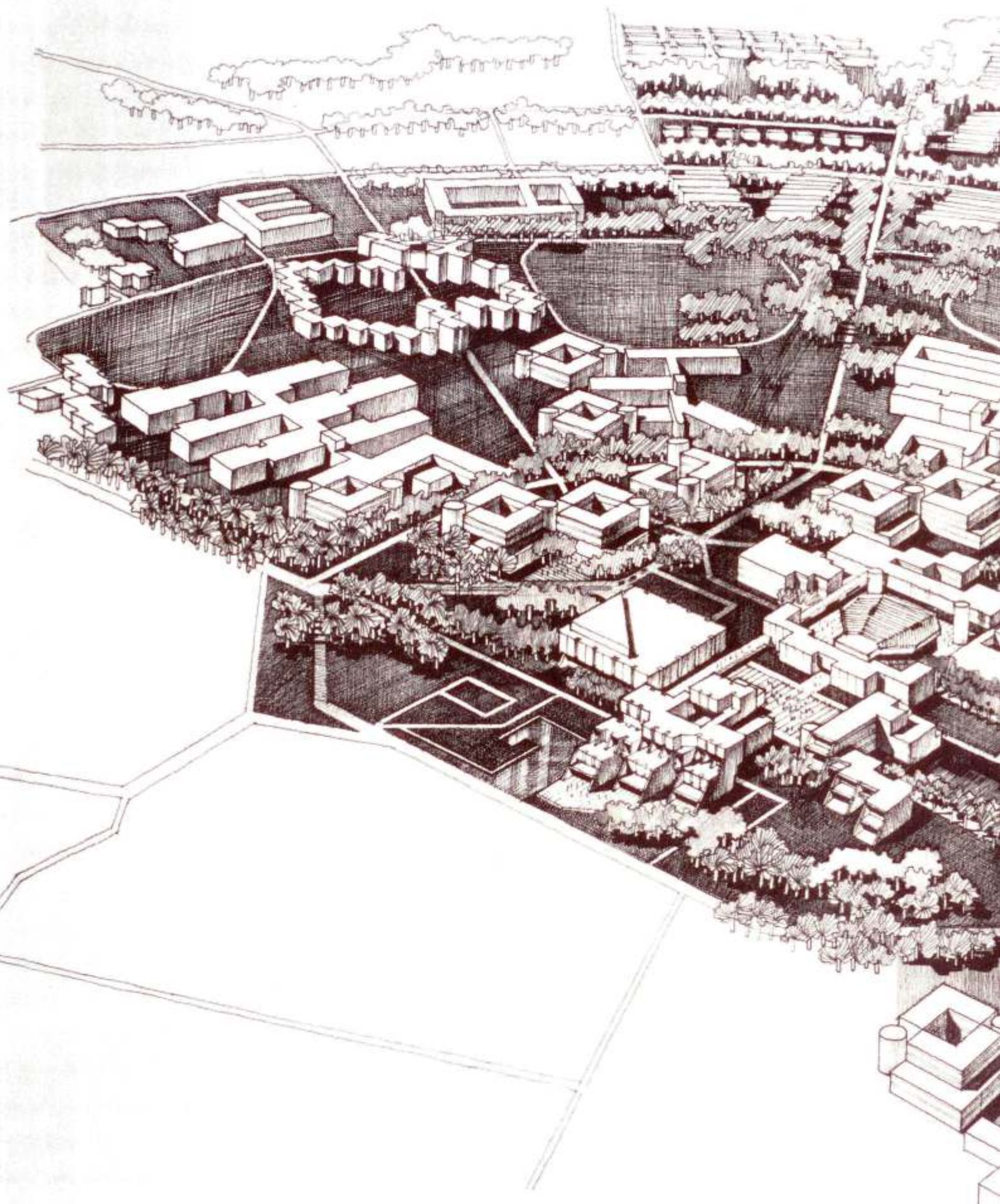
**College of Agriculture**

# **Annual Progress Report 2021**

**The efforts, outputs and outcomes**



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



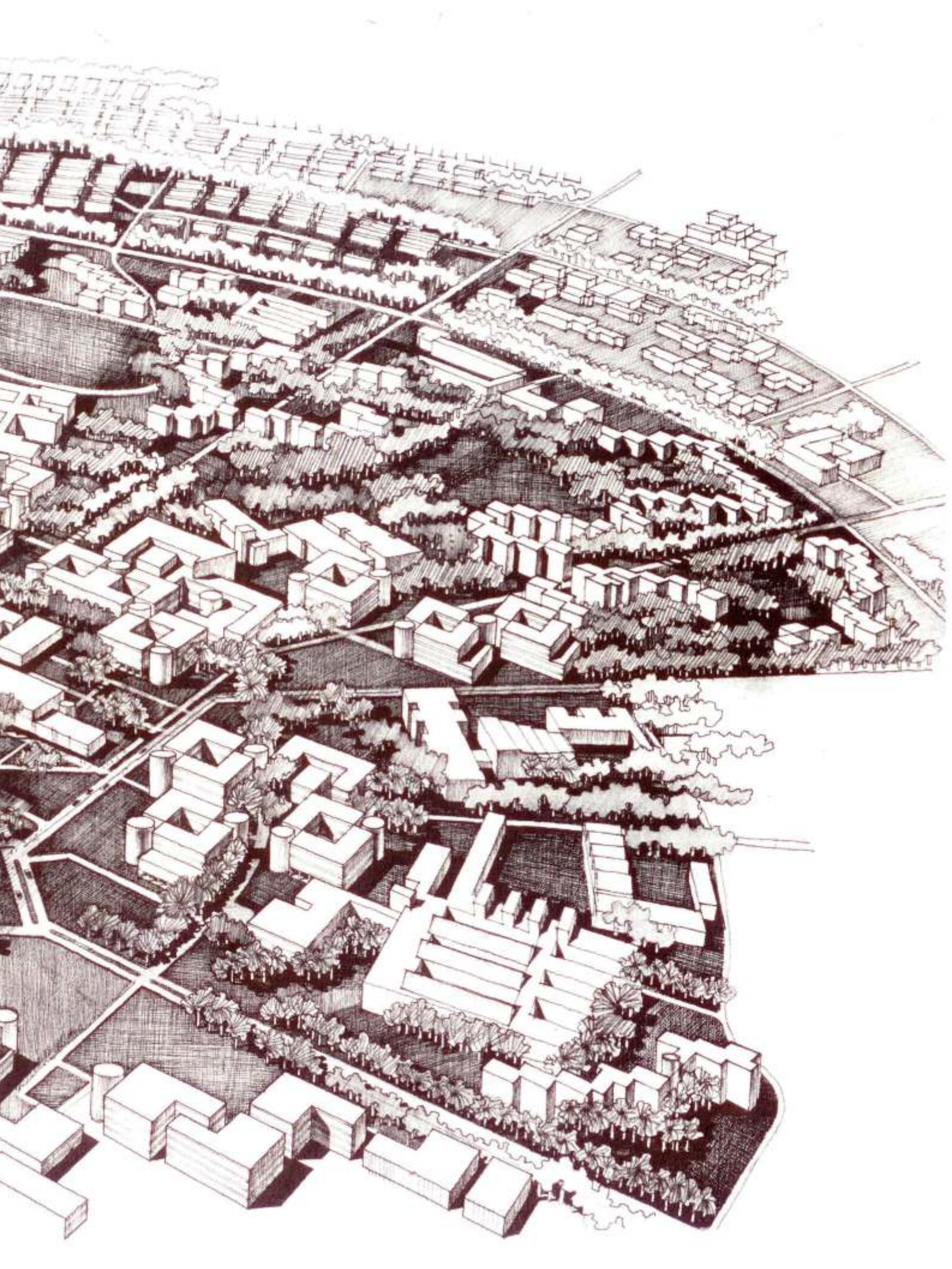




College of Agriculture  
G. B. Pant University of Agriculture and Technology  
Pantnagar 263145, Uttarakhand  
[agpdean@yahoo.com](mailto:agpdean@yahoo.com), [deanagriculturepantnagar@gmail.com](mailto:deanagriculturepantnagar@gmail.com)

# Annual Progress Report 2021







**College of Agriculture**

**Annual Progress  
Report 2021**

**The efforts, outputs and outcomes**



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



**College of Agriculture**  
**Annual Progress Report 2021**

The efforts, outputs and outcomes

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# The Indomitable Agriculture College: Salient Progress in 2021



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*The College of Agriculture retained its spree in 2021 in teaching, research, skilling, infrastructure development, improvisation of existing facilities and extension activities. The significant contribution of the College supported the University to emerge as top ranker among agricultural universities in the country.*

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## The Glimpses of Year 2021

- Presently, total 738 undergraduate, more than 440 Masters and Ph.D. students are studying in two UG, 12 Masters and 11 Ph.D. programmes, running in the College.
- Total 145 undergraduate students and more than 114 postgraduate and Ph.D. students completed their degree successfully after completing their semester final examinations and other degree requirements amidst the pandemic upheavals.
- The College has resumed its functioning in offline mode including all academic and administrative activities with complete safety precautions in place.

- A statue of Rishi Parashara was installed in the College premises and it was unveiled by Dr. Rajiv Kumar, Vice-Chairman, NITI Aayog.
- The first meeting of the External Advisory Panel of the College was held in the presence of five members viz. Dr. A.N. Mukhopadhyay, Former Dean, College of Agriculture, Pantnagar and Former Vice-Chancellor, Assam Agricultural University, Jorhat; Dr. V.V. Sadamate, Former Member, Planning Commission, Government of India; Dr. V.P.S Arora, Former Vice-Chancellor, Kumaun University and Founder Dean, College of Agribusiness Management, Pantnagar; Dr. S.P.S. Beniwal, Former Head, CGIAR Facilitation Unit, ICARDA and Chairman, Asian Agri-History Foundation, and Dr. M.L. Jat, Principal Scientist and Systems Agronomist and Strategy Lead for Sustainable Intensification, CIMMYT, Mexico,
- The first Hydroponics and Aeroponics Agri-Business Unit of the College was established in which students of second year B.Sc. Agriculture are working.
- The first College Library was established in the College with facilities to physically store more than 5000 books, e-reading facilities, and RFID system. The library was inaugurated by Hon'ble Vice-Chancellor Dr. Tej Partap.
- The Mini Auditorium of the College reopened after five years with renovation support provided by Dr. B.B. Singh, alumnus of first batch of the College and currently serving as Visiting Scientist in University of Texas, USA. Also, Mini Auditorium has been renamed as Dr. B.B. Singh Mini Auditorium.
- Remedial courses and crash courses were undertaken for six JRF disciplines for preparation of higher education entrance examinations. 18 illustrious alumni of the College led these remedial courses and crash courses.
- More than 150 interactive sessions, guest lectures, workshops and trainings were organized round the year with more than 80 experts from overseas institutes, world bodies such as FAO, UN, etc., reputed national institutes and corporate organizations.
- The Agriculture Society organized the first National Youth Fest – Adamyat'21 with participation of more than 350 students from 30 different universities of the country.
- The AICRP on Maize was declared as the Best AICRP Centre for the biennium 2018-19 and 2019-20.
- Dr. N.K. Singh, Professor, Genetics and Plant Breeding and Dr. J.P. Jaiswal, Professor, Genetics and Plant Breeding were conferred with Dr. B.B. Singh award for Outstanding Research for year 2019 and 2021 respectively.
- Dr. A.N. Mukhopadhyay Gold Medal was instituted for final year students of the College and would be given to students with excellent literary achievements. For year 2021, the award was given to Ms. Shruti Kashyap, Id. No. 51436.
- More than 2000 hours of capacity building programmes were organized for faculty members of the College to empower them for effective online and hybrid teaching-learning.
- Published regular monthly newsletter of the College to be shared across in the country among thousands of stakeholders and well-wishers.





## The College with Collective Quest of Excellence

**Dr. Tej Partap, Vice-Chancellor**

*Learning together, growing together*

Looking into the performance of College of Agriculture in 2021, the first glimpse is that of a combined, cooperative and synergized spirit of growth and contribution. An effective leadership always involves and energizes the team for responsible and improved

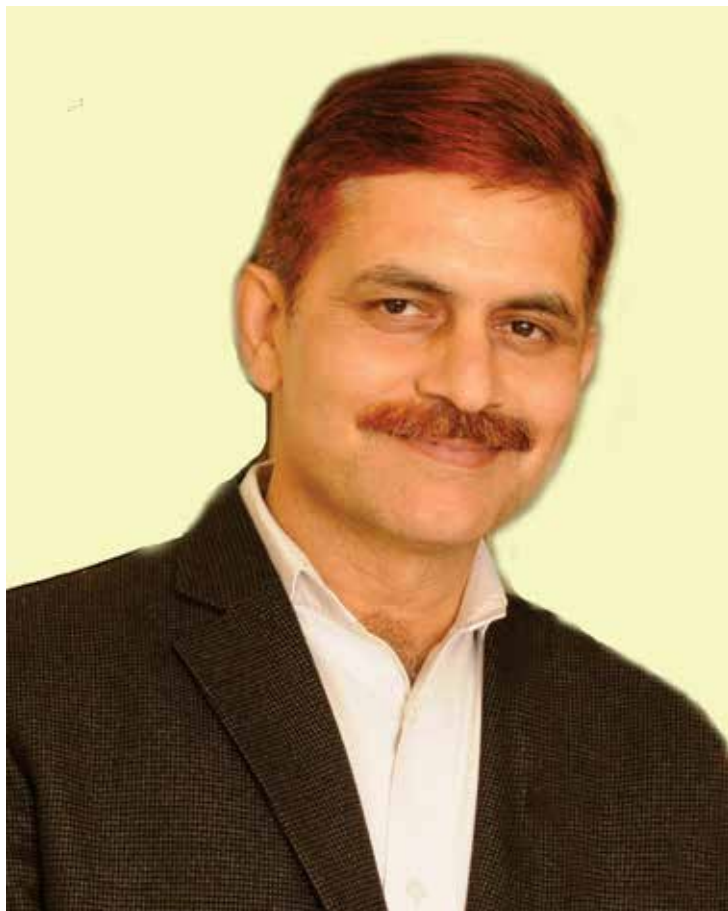
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*This motivation and spirit has percolated upto the grassroot in the College, which is visible through a peaceful, positive environment with a passion for visible contributions. I could realize that more than 100 faculty members are involved in additional college responsibilities and all the faculty members are utilizing advance educational technology very efficiently including interactive panels. It is a very positive signal for future as the upcoming generation is getting prepared strategically, which will reflect significantly in the upcoming years.*

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performance leading to organizational growth and development. This is the key of enhanced performance of College of Agriculture, in which the faculty members felt motivated to stretch for better performance with a quest of excellence. This motivation and spirit has percolated upto the grassroot in the College, which is visible through a peaceful, positive environment with a passion for visible contributions. I could realize that more than 100 faculty members are involved in additional college responsibilities and all the faculty members are utilizing advance educational technology very efficiently including interactive panels. It is a very positive signal for future as the upcoming generation is getting prepared strategically, which will reflect significantly in the upcoming years.

The newer initiatives on mass scale such as high-tech agriculture skilling and practice unit for second year students is a praiseworthy initiative of the College. I have personally visited the unit and could see the confidence and motivation of the students, who are handling the hydroponic, aeroponic and plant propagation units bringing brilliant crops. I have no doubt that the College will emerge as a globally visible entity to fulfil its mandates in excellent manner.



## College of Agriculture: An Avenue of Challenges and Growth

**Dr. S.K. Kashyap, Dean**

*Development, skilling, agility*

The College of Agriculture is a pious place. At the very onset, it emerged as a point of origin for innovation and improvisation in agricultural research and education in the country. Since then, the College has played a seminal and significant role in upbringing excellence across into the University with undaunted and responsible contribution of the illustrious faculty members down the journey of six decades. In this existential journey of the College,

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*In this existential journey of the College, year 2021 will be eulogized for capacity building of faculty members for online teaching and pedagogical reforms to suffice the requirement of alignment with new educational technology. The College could contribute significant output and outcomes with two mantras - the first was a positive, challenging and motivating ecosystem to contribute upto the level best in all directions and the second was a broad-based, democratic initiative to involve maximum faculty members for bringing an overall development in the College to generate synergy.*

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# IDP-NAHEP: A New Era of Improvised Teaching-Learning

Year 2021 in College of Agriculture will be marked as a year of successful online teaching experience with pedagogical updating of faculty members across the year. The students experienced online teaching classes on a uniform platform for synchronous learning, examinations, assignment sharing, white board sharing and other similar experiences. These facilities could come up in the College with infrastructural and technical support of IDP-NAHEP project. Moreover, an innovative unit in skilling of College students through hydroponic-aeroponic agriculture unit has also emerged with brilliant experiences of vocational updating of whole second year UG batch of College of Agriculture.

It has also been a fulfilling experience to conduct a series of guest lectures from overseas experts in emerging areas of agricultural technologies, which was an opportunity for the students and faculty members to connect with the

leading centres of the globe to look into the thrust areas across into their disciplines. This activity was mandated under IDP-NAHEP and it was utilized extensively for the College.

One more aspect was creation of College Advisory Panel with leading stalwarts of the country including Dr. A.N. Mukhopadhyay, Dr. V.V. Sadamate, Dr. V.P.S. Arora, Dr. M.L. Jat, Dr. H.S. Gupta, Dr. U.S. Singh, Dr. B.S. Hansara and many more illustrious personalities. The Advisory Panel members could make a physical visit to the College of Agriculture to analyse and interact with the present generation of faculty members, students and administrators. This activity was also mandated by IDP-NAHEP across in the University under which the College achieved the much needed inertia for innovation and improvement. Some of the activities under IDP-NAHEP, which held in transforming the academic ecosystem of the college are as under:

## Details of Trainings/Workshops/Guest Lectures/Interactive Sessions Organized by IDP-NAHEP, Pantnagar for Agriculture Students from January 2021 to December 2021

S. No.	Event	Date
1.	Guest Lecture on Advances in Soil, Crop and Weed Management: Soil Sensing for Crop Inputs Management	January 6, 2021
2.	Guest Lecture on Advances in Soil, Crop and Weed Management: Digital Soil Mapping and recent Initiatives	January 7, 2021
3.	German Language Course Beginners A1 Level	January 11, 2021
4.	French Language Course Beginners A1 Level	January 11, 2021
5.	Workshop on Role of Sensors in Smart Farming	January 8-9, 2021
6.	Guest Lecture on Breeding for Resistance to biotic and abiotic stresses and development of Bt-Cowpea	January 15, 2021
7.	Training on Advances in Remote Sensing and Machine Learning Techniques for Agriculture Applications	January 18-19, 2021
8.	Interactive Session on Sustained Food Security in India: Need for Multi-institutional Collaboration	January 22, 2021
9.	Workshop on Quantitative Analysis of Farming System	January 25-26, 2021
10.	Interactive Session on Startup Ecosystem and its Stakeholders	January 27, 2021
11.	Interactive Session on Prospective Role of Agriculture Engineering in World Market	January 27-30, 2021
12.	Training on Crop Health Monitoring Using Geospatial Technology	February 01-02, 2021
13.	Guest Lecture on Emerging Multi Satellite Dataset Techniques in Farming World	February 09, 2021



14.	Interactive Session on A Multi-Criteria Approach for Urban Stormwater and Flood Management using Remote Sensing Technology	February 11-12, 2021
15.	Remedial Crash Course on Agriculture for aspirants of JRF & other Competition	February 13, 2021
16.	Guest Lecture on Advances in Soil, Crop and Weed Management	February 16, 2021
17.	Interactive Session on International Opportunities for Professional Development in Entomology and Precision Integrated Pest Management	February 18 - March 11, 2021
18.	Workshop on Start-up Idea Validation	February 20, 2021
19.	Training on Development of Mobile Application for Agricultural World	February 22 - March 9, 2021
20.	English Remedial Classes	February 20 - March 28, 2021
21.	Guest Lectures on Prospective Role of Agricultural Engineering in World Market	February 23-26, 2021
22.	Guest Lecture on The U.S. Cooperative Extension System a Futuristic Perspective	March 5, 2021
23.	Training on Python Programming Language	March 06, 2021
24.	Guest Lectures on Advances of UAV in Agriculture	March 15-16, 2021
25.	2-months internship project on Tree Species of Pantnagar	April 01, 2021 onwards
26.	Interactive Session with the first-year students of College of Agriculture on the basics of idea generation and incubation for generating a project.	April 01, 2021
27.	An exposure visit to Chaddha Seed Farm, Kaladhungi for exposure to Innovation and Entrepreneurship in Papaya Cultivation	April 02, 2021
28.	Demonstration of facility and utility of virtual lab including 3D, AR-VR facility	April 04, 2021
29.	One month internship on the topic Finance Management in Food Startups	April 05, 2021 onwards
30.	Workshop on Effective Communication Skill	April 05-11, 2021
31.	15 Days Photography Workshop	April 5-17, 2021
32.	English Language Remedial Classes	April 05-20, 2021
33.	Interaction of Hon'ble Vice Chancellor, GBPUA&T, Pantnagar with the students regarding their food startups	April 07, 2021
34.	Workshop on How to Start a Startup	April 07, 2021
35.	1-Week Value Addition Course on Agricultural Informatics	April 10-11, 2021
36.	Workshop on Train Your Mind to Be Successful	April 10-18, 2021
37.	Demonstration of the concept of 3D videos, augmented reality and virtual reality	April 11, 2021
38.	Workshop on Identifying and Accessing Authentic Secondary Sources for Professional Writing	April 13-17, 2021
39.	Counseling session for faculty members on Systems and Contemporary Trends in Student's Counselling	April 15, 2021
40.	Beginners A1 Level in French Language Course	April 15, 2021
41.	Remedial Classes on Spoken English	April 17, 2021
42.	Introspection session with the final year undergraduate students of the University regarding the strategies to be followed in the lockdown period in context of personal growth and development	April 18, 2021

43.	Training on Fundamentals of 3D Modelling	April 28 - May 7, 2021
44.	Workshop on Idea to Venture Creation	May 07, 2021
45.	Interactive Sessions on COVID-19 and its Management Strategies	May 10-13, 2021
46.	Training on Role of Smart Farming in Indian Agriculture System	May 10-14, 2021
47.	Workshop on Honing Skills of Foreign Languages and Foreign Culture	May 10-18, 2021
48.	Workshop on Mobile App Development: Sensitizing Students for Farmer Welfare	May 20-June 2, 2021
49.	Workshop on Practicum on Writing Research based-Review Article	May 21-25, 2021
50.	Motivational Lecture	May 27, 2021
51.	Workshop on Start-up Week: From Idea to Revenue	June 02-08, 2021
52.	Workshop and Quiz Competition on Environmental Consciousness in France	June 07-10, 2021
53.	Webinar on Emerging Issues and Concerns related to Planetary Health: Making our Planet Chemically Safe	June 07-08, 2021
54.	Workshop with the theme Environmental Consciousness in France	June 07-10, 2021
55.	Interactive Session on Ecological Restoration of Degrading Wetlands	June 08, 2021
56.	Interactive Session on Le Tourisme Vert	June 09, 2021
57.	Training on Application of Machine Learning in Agriculture	June 10-20, 2021
58.	Quiz competition entitled as Le jeu-concours	June 10, 2021
59.	Training on Application of Machine Learning in Agriculture	June 12-22, 2021
60.	Training on Applications of Smart Farming Techniques for Enhancing Quality of Plant Nutrients	June 23-26, 2021
61.	Workshop on How to build successful self-profile	June 23-27, 2021.
62.	Guest Lecture on Geospatial Technology for Crop Estimations and Yield Modelling	June 25, 2021.
63.	Training on Open-Source Platforms for Image Analysis: Google Earth Engine	June 26, 2021
64.	Guest Lectures on Digital Agriculture for Enhancing Profitability	July 14-15, 2021
65.	Workshop on Effective Presentation Skills	July 15, 2021
66.	Workshop on Leadership Skills	July 15, 2021
67.	Guest Lecture on Computational Tools for Advanced Biotechnology Research	July 16, 2021
68.	Guest Lecture on ICT's Intervention for Northeastern Hill Region	July 17, 2021
69.	Workshop on Skills of Good Writing: Concerns of Micro and Macro Editing	July 21-25, 2021
70.	2-months NAHEP Internship Programme	July 31, 2021
71.	French Language A1 Level Beginners Course	July 26, 2021 onwards
72.	Workshop on Time Management	July 28, 2021
73.	Workshop on Honing Competencies for Success in Life	August 03, 2021
74.	Interactive Session with a French family	August 04, 2021
75.	Training on Big Data and the Future of Agriculture	August 09-10, 2021
76.	Workshop on Developing Success Habits	August 12, 2021



77.	Writing Online Postcards to French Families	August 14, 2021
78.	Guest Lecture on Understanding Newer Technologies for better Career Growth	August 19, 2021
79.	Workshop on User Centric Design Process	August 20, 2021
80.	Workshop on Creative Writing Skills	August 25-29, 2021.
81.	Training on Applications of Computer-Aided Design (CAD) in Automation of Agriculture	August 27-01 September 2021
82.	Idea Pitching Contest - Ingenious'21	August 29, 2021
83.	Virtual tour on Challenges and their Innovative Solutions in Farm to Fork Operations	August 31, 2021
84.	Guest Lecture on Fascinating World of Biological Nanomachines: Understanding Fundamentals of life through Macromolecular Structures	September 02, 2021
85.	Crash Course for JRF Aspirants of College of Agriculture	September 02-05, 2021
86.	Guest Lecture on Innovations in Cultivation Technology of Paddy Straw Mushroom ( <i>Volvariella sp.</i> )	September 04, 2021
87.	Guest Lecture on Innovations in Quality Seed Production of Forage Crops	September 04, 2021
88.	Guest Lecture on Applications of 3D Modelling in Automation of Agriculture	September 08, 2021
89.	Interactive Session on Maintenance of Varietal Purity/Seed Health	September 11, 2021
90.	Guest Lecture on Diseases of Mushroom and their Management	September 11, 2021
91.	German Language A1 Level Beginners Course	September 13 - December 13, 2021
92.	German Language A2 Level Advanced Course	September 13 - December 13, 2021
93.	Workshop on Seed Testing and Certification	September 18, 2021
94.	Training on Role of Digital Soil Management Practices in Smart Farming	September 20-21, 2021
95.	Workshop on News and Feature Writing	September 21-25, 2021
96.	Guest Lecture on Global Soil Organic Carbon Sequestration Mapping	September 21, 2021
97.	Workshop on Learn to Design your Write-up: Concerns of Layout and Design	October 13-17, 2021
98.	Guest Lecture on Transformation of Agri-Food System in India	October 16, 2021
99.	Campus to Corporate Workshop	October 18-21, 2021
100.	French Language A1 Level Beginners Course	October 25, 2021 onwards
101.	French Language A2 Level Advanced Course	October 25, 2021 onwards
102.	Workshop on Aeroponics and Hydroponics	October 27, 2021
103.	Hands-on-training in Aeroponics and Hydroponics unit	October 29 - November 01, 2021
104.	Guest Lecture on Opportunities in Wildlife Research	October 30, 2021
105.	Guest Lecture on Emerging Technologies in Post-Harvest Management of Horticultural Crops	November 02, 2021
106.	Training on Seed Sowing and Plant Propagation Techniques in Aeroponics and Hydroponics	November 09-11, 2021
107.	Guest Lecture on Nanotechnology: A Recent Advancement in Agriculture and its Scope	November 15, 2021

108.	Workshop on Design Thinking	November 18-19, 2021
109.	Guest Lecture on Potential Role of Internet of Things and Large Data Analytics in Agriculture	November 19, 2021
110.	Workshop on Adding Rigour in Research Paper Writing	November 23-27, 2021
111.	Interactive Session on Sustainable Soil Management	December 05, 2021
112.	Guest Lecture on Using Micro-organisms to boost Agricultural Production: Skills and Techniques	December 07, 2021
113.	Workshop on Fundamentals of Professional Writing	December 10-14, 2021
114.	2 Months Internship Programme for Undergraduate Students on Content Development for e-Resources	December 14 - February 14, 2021
115.	French Film Festival	December 18, 2021
116.	Workshop on Soft Skill and Personality Development	December 20, 2021
117.	NAHEP Orientation Workshop for First Year Students	December 22-24, 2021
118.	Interactive Session on National Farmers Day	December 23, 2021





शुद्धि कायक की शिवाय की अमला पुस्तक  
शुद्धि पराशर के रचिये  
**ऋषि पराशर**  
(पुस्तक के अन्त में पृष्ठों)  
की प्रशिक्षण का अन्वयण  
**डॉ. राजीव कुमार**  
अध्यापक, जे.पी. आर.पी. महा विद्यालय  
के अन्तर्गत  
**डॉ. तेज प्रताप**  
कुम्हार, पं. ३३३ शुद्धि पर शैलीय विद्यालय, रायपुर  
की शैलीय अन्वयण के  
पुस्तक के अन्त में पृष्ठों में अन्तर्गत  
के अन्तर्गत  
डॉ. विद्या कुमारी, अध्यापक, शुद्धि पराशर

# Activities of different action groups in College of Agriculture during 2021

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

### Mission:

To enhance the quality of education, research output, and generating innovation-based ecosystem.

### Mandate:

- Planning the activities and their implementation strategies to take the agenda of the college ahead.
- Providing support to other college committees for their continuous activity and growth.

The College Core Action Group (CCAG) was reconstituted on February 29, 2020 with the joining of new dean of the college, Dr. S.K. Kashyap involving senior as well as young faculties of the College of Agriculture. It was further strengthened involving some more members by the order dated January 22, 2021. The CCAG acts as a think tank and plays advisory role to take up the agenda of college ahead in a vibrant mode with a major focus on enhancing the quality of education, research output, and generating innovation-based ecosystem. It also guides four other committees under its umbrella, namely, College Academic Committee (CAC), College Infrastructural Development Committee (CIDC), College Placement Committee (CPC), and College Documentation and Showcase Committee (CDSC), which perform focused activities.

Decision regarding new infrastructure development, renovation of existing infrastructure, faculty development by organizing training programmes consulting national and international experts, organizing advisory panel meetings, international summits, webinars, short courses on different topics to provide technical know-how about different technologies to various stake holders, merit based selection of faculty for faculty excellence award, new initiatives for enhancing the knowledge base of students, catalysing entrepreneurship, roping college alumni for infrastructure development, facilitation of students for internship, practical training etc. were taken up with thorough discussion and interaction with the core group in the meetings held in the chairmanship of Dean, Agriculture. E-content of different courses was developed in the collaboration of NAHEP-IDP.

Some of the significant achievements in the year 2021 were viz., successful organization of 1<sup>st</sup> meeting of Advisory Panel involving veterans like Prof. A.N. Mukhopadhyay, Ex. Vice-chancellor, Assam Agriculture University; Prof. V.P.S. Arora, Founder Dean, College of Agri Business Management, GBPUAT and Ex. Vice-chancellor, Kumaun University; Dr. Vishwanath Sadamate, Eminent Agriculture Extension Expert and Former Advisor Agriculture, Planning Commission, GoI; Dr. S.P.S. Beniwal, Ex-Head, CGAIR Facilitation Unit, ICARDA; Dr. M.L. Jat, Principal Scientist and Systems Agronomist & Strategy, Lead for Sustainable Development, CIMMYT-India.

An International Summit on 'Agri innovations in 21<sup>st</sup> Century and the Way Ahead' roping a number of illustrious scientists viz., Dr. R.C. Agrawal, Dy. Director General, Education, ICAR, New Delhi; Dr. Rattan Lal, World Food Prize Winner 2020, Professor, Environment and Natural Sciences, Ohio State University, Columbus, U.S.A.; Dr. Alex E Winter-Nelson, Associate Dean, College of ACES, University of Illinois, U.S.A.; Dr. Digvir S. Jayas, University of Manitoba, USA; Dr. Basant Maheswari, Professor and Dean, Unit School of Sciences, Western Sydney University, Australia; Dr. Shiv K. Agrawal, Legume Team Leader in Biodiversity and Crop Improvement programme, ICARDA, Lebanon. Expert training lectures involving celebrated overseas scientists viz., Dr. Rameshwar S. Kanwar, IOWA State University, and Dr. Digvir S. Jayas, Vice- President (Research and International) & Distinguished Professor, Univ. of Manitoba, Canada was organized for the benefit of faculty and students.

In a new initiative, Hand holding on hydroponics and aeroponics of 2<sup>nd</sup> B.Sc. Ag. Year students have been started in which students have grown different varieties of succulents, flowering and ornamental plants. This is going to be a success story considering the keen interest being taken by the students. Mini auditorium with a sitting capacity of 300 was renovated with the funding support of Dr. B.B. Singh, 1<sup>st</sup> batch Alumnus of College of Agriculture, and NAHEP-IDP. A library cum interaction facility was also established with the support of NAHEP-IDP to facilitate the students on their reading, chasing new literature, and consultation of literature beyond routine studies.

## College Academic Committee (C.A.C.)

### Mission:

To improve overall academic environment in the college.

### Mandate:

- Leading the intellectual and visionary activities of the college through innovative activities by aligning the pool of experts of the College so that the College emerges as the seat of renowned teachers, researchers, planners, and policy makers of the nation.
- Organizing talks/lectures of distinguished persons and experts from academic fraternity throughout the world so that new thoughts and ideas percolate in the College from houses of wisdom.
- Organizing regular formal and informal get-togethers with the faculty and staff members of the college to generate inter-departmental cohesion and collaboration leading to multi-disciplinary projects and action groups.
- Pursuing all other activities aligning with the mandate of the committee.

This committee has been established with the objective of organizing and supporting different departments of the College of Agriculture in organizing various Academic activities and events in the college.

The Committee met several times during the period under report and planned to conduct various activities. But they could not be organized due to Corona lockdown. However, the committee identified and enlisted some important days/ events (such as World Food Day, World Soil Day, National Science Day, etc.) that are important for the College of Agriculture and will be celebrated in future.

College Academic Committee (CAC) in collaboration with Department of Food Science & Technology, College of Agriculture celebrated this day by organizing a number of activities spread over two days (October 16-17) involving the faculty and students of the College. The main theme of the celebrations was “Transforming Agri-Food Systems in India”, Dr. P. K. Joshi, former Director for South Asia, International Food Policy Research Institute, New Delhi delivered keynote address.



Dean Agriculture Felicitating the Guest Speaker Dr P. K. Joshi, Former Director IFPRI on the Occasion of World Food Day

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

### Mission:

To enhance the visibility of student and faculty achievements.

### Mandate:

- Placing a permanent board mentioning honours and awards earned by the students and list of students selected in ARS services and as assistant professor in SAUs/Central Universities.
- Showcasing of latest achievements of the students and faculty through various offline and online mediums on a regular basis.
- Reshaping of College Agricultural Museum.
- Pursuing all other activities aligning with the mandate of the committee.

The committee helps to create and sustain a rich, supportive, and diverse knowledge environment that raises excellence in teaching, learning, research, and innovation to serve students, faculty, researchers and community.

In 2021-22, the committee was further strengthened with the inclusion of one faculty from each department as

liaison officers. The Liaison Officers have been designated for collection and compilation of all the information of their respective departments required from time to time for preparation of various documents for ranking, awards, reports and events by College Documentation and Showcase Committee (CDSC) at college level. This year the committee took utmost efforts by developing new excel formats for uniform and timely submission of information from departments and grow database for the development of faculty and student management system of the college. Work of coordination, collection, compilation and draft preparation related annual reports, national ranking, publications and awards/ achievements, monthly newsletters, monthly reports of the college was done and submitted to the Vice Chancellor's Office and Communication Centre. The committee also prepared Annual Report (2020-21) of the College. Major contribution by scientist and students were compiled for Vice Chancellor's Speech of 26 January & 15 August, 2021, helped in development of 6-decades Report of Pantnagar University by Alumni Almamater Advancement Association (4A), Pantnagar, prepared various reports viz., SC report and a report of the College (2012-2020) for ICAR-Cell and updated alumni database at College portal for alumni.

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

### Mission:

To improve infrastructure at various levels for facilitating teaching and research activities.

### Mandate:

- Acting as a nodal body to upkeep the ambience and infrastructure of the College for excellent teaching, lab work, research and farmers' reception.
- Strengthening the classroom and laboratory facilities for UG and PG students through timely and innovative interventions.

Creating healthy ambience in the college premises by extraordinary interventions of mechanization, logistics, plantations.

Pursuing all other activities aligning with the mandate of the committee.

The committee conducted frequent meetings and visits to check and maintain the regular cleaning and sanitizing of whole college, beautification of the vacant space around outer and inner premises of college. This year new constructions were also done like parking area for two wheelers, four wheelers and cycle stand and renovation of roads in the college premises. To reduce the consumption of electricity, ordinary tube and bulbs were replaced with LED lights. To maintain the ecosystem new plantation was done near Y. L. Nene complex and Vertical Garden was developed in college premises. The team maintained the process of regular sanitization also.



## College Placement Committee (C.P.C.)

### Mission:

To improve placement of passing out students of graduation, masters and Ph.D. from the College.

### Mandate:

- Strengthening of Placement Cell through creating functional contacts with prospective employers of our students.
- Maintaining the records pertaining to achievements of pass-out students of the college including their present job, higher education, entrepreneurial ventures, etc.
- Organizing regular training programmes for improving employability skills.
- Generating and updating a database of prospective employers including public and private organizations, startups, NGOs, and other relevant national and international organizations.
- Strengthening networks with College and University alumni associations/bodies/cell
- Designing a dynamic website of college placement cell.
- Pursuing all other activities aligning with the mandate of the committee.

The College Placement Cell, College of Agriculture came into action from November 2020, and since then we have called upon 20+ organizations and have placed many students. Internship opportunities were made available to students across the disciplines of the college and many students were also granted the opportunity. Some

placements took place over the virtual platform also.

- We are coordinating with central placement cell for placement, and frequently calling and dropping mails to alumni and their respective company HRs.
- Apart from all of this, a webinar was conducted with Coromandel titled as 'Leadership Connect' that talked about the corporate environment in the organization. Alumni- Mr. J.V. Ratnam, was the main speaker for the webinar. The webinar was attended by 78 students and was 1.5 hours long, in which, the values and mission of the Coromandel International organization was shared. The inner workings of the organization were put forward with the different extension methodology that the organization applies. Mr. Sunil Sharma, Colleague and Regional Sales Manager, shared the advancement in innovation and technology that the Organization had seen, and what their future prospectus was. A question-and-answer session was also organized with students from across the colleges and years asked questions to the speakers.
- The Brochure for the Placement Cell was made by students from the cell. The brochure contained information about the university and the unique selling point of the college and students.
- On 15-Oct-2021, the college placement committee in collaboration with Tanya Saklani Ma'am (PhD. III year) organized a one-day group discussion workshop for the final year B.Sc. Agriculture students.



Group discussion conducted with college student by corporate firms

# Department of Agricultural Communication



From left to right: Dr. Kiran Arya, Dr. Arpita Sharma, Dr. Gyanendra Sharma, Dr. S.K. Kashyap (Dean), Dr. M.A. Ansari (Officiating Head), Dr. Amardeep, Dr. V.L.V. Kameswari



**Dr. M.A. Ansari**  
**Acting Head**

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*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.*

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The department was established under the Centre of Advanced Studies in Agricultural Communication (CASAC). It remains one of its own kinds 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. 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 and revised 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

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

## Research Project running in the Department

Presently, the department has the following projects

1. 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 & Dr. Kiran Rana)

## Programme 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)

## Salient Achievements of the Department

### Faculty

1. Department organised coaching classes for JRF/SRF competitive examinations under ICAR SC Sub-plan in which all the faculty members contributed.
2. Dr. Gyanendra Sharma served as Coordinator, IGNOU Study Centre at Pantnagar.

S. No.	Name of Faculty Member	Designation	Mobile No.	Email	Specialization
1.	Dr. Neelam Bhardwaj	Professor & Head	9759074050	n_ubhard@yahoo.co.in	Gender studies, Extension education
2.	Dr. Gyanendra Sharma	Professor	9412120688	Shaunik57@gmail.com	Video production
3.	Dr. S. K. Kashyap	Professor & Dean - Agriculture		kashyapsk@gmail.com	Agriculture Journalism, Extension Education, Community Radio
4.	Dr. VLV Kameswari	Professor	9412034255	vlvkameswari@yahoo.co.in	Television production
5.	Dr. M. A. Ansari	Professor	9411195410	aslam1405@yahoo.com	ICT applications in Agriculture & Rural Development sector, Climate Change & Agriculture, Development Communication
6.	Dr. Amardeep	Associate Professor	8445231492	chauhandeep@gmail.com	Educational Communication, Climate Change
7.	Dr. Arpita Sharma	Assistant Professor	9639617853	Sharmaarpita615@gmail.com	Gender issues in Agriculture, Community radio,
8.	Dr. Kiran Rana	Assistant Professor	7535881397	kiranagricommunication@gmail.com	ICTs in Extension, Women Empowerment

3. Dr. Gyanendra Sharma, as subject expert, developed a Block/ Unit: Principles of Communication: Electronic Media and Mass Communication for the IGNOU course – Master’s in Rural Development.
4. Dr. V.L.V. Kameswari delivered a lecture on “Women’s participation in agriculture: Bottlenecks and way forward” in a training programme organised by Uttarakhand Academy of Administration, Nainital during 6-8 September 2021.
5. Dr. V.L.V. Kameswari delivered a lecture on “Challenges of Online teaching in post-Covid era” on the occasion of World Literacy Day (08.09.2021) organised by NAHEP, Pantnagar.
6. Dr. M. A. Ansari assigned the responsibility of Coordinator, College Academic Committee, GBPUAT, Pantnagar.
7. Dr. M. A. Ansari appointed as Subject Editor (Agriculture Extension and Communication) for Pantnagar Journal of Research, published by GBPUAT, Pantnagar.
8. Dr. M. A. Ansari organised, in collaboration with MANAGE, Hyderabad, an online training programme on “Use of Digital and Electronic Media for Agriculture Extension” during 21-23 January 2021.
9. Dr. M. A. Ansari organised an online Lecture by Dr. Norma Samuel, Associate District Extension Director, IFAS Extension, University of Florida, USA on the topic “U.S. Cooperative Extension System: A futuristic perspective” on March 4, 2021 under ID-NAHEP International training Series,
10. Dr. M. A. Ansari, Professor delivered two lectures in 21-days National Training Course on “Opportunities in Agriculture, Animal Husbandry and Allied sectors for sustainable Entrepreneurship and Livelihood security” organised by BAU, Sabour during 01-21 July 2021.
11. Dr. M. A. Ansari presented a Lead Paper on “Extension Strategies for Climate Smart Agriculture” in the International Conference on transforming Agricultural Advisory Services to mitigate the effects of Pandemic for farmers welfare (ICTAAS) organised by VIT, Vellore, Chennai.
12. Dr. M. A. Ansari served as a Panel member for technical Session in as well as Panel Member for a technical session in the International Conference on transforming Agricultural Advisory Services to mitigate the effects of Pandemic for farmers welfare (ICTAAS) organised by VIT, Vellore, Chennai.
13. Dr. M. A. Ansari delivered an invited talk on “Policy Interventions and Innovation in Extension” at a National Conference on Transformation of Agricultural Extension – Strategies for Effective Reforms

(TAESERE 2021) organised by S V College Tirupati in collaboration with ANGRAU, Hyderabad during December 22-23, 2021.

14. Dr. M. A. Ansari delivered a lecture (Topic: Mobile Apps in Agriculture: Role and Relevance) in trainings organised by SAMETI, Uttarakhand
15. Dr. Arpita Sharma delivered two lectures (Topics: Present status of extension and need for improvement, Use of Mass media in extension) in trainings organised by SAMETI, Uttarakhand.
16. Dr. Kiran Rana delivered two lectures (Topics: Management Skills, Motivation & leadership) in trainings organised by UIRD, Rudrapur.
17. Dr. Kiran Rana delivered two lectures (Topics: Skill Development, Leadership) in trainings organised by SAMETI, Uttarakhand.

### **Students**

1. Two students (Dr. Arpit Huria & Dr. Akanchha Singh) selected as Assistant Professor at Tirthankar Mahavir University (TMU), Moradabad.
2. Two students (Ms. Aafreen Malik and Rahul Negi) got selection as Assistant Agriculture Officer, Government of Uttarakhand
3. Seven Ph. D. students (Ms. Usha Das, Ms. Neha, Ms. Pooja Karki, Ms. Gargi Paliwal, Ms. Pragya Goswami, Ms. Drishtika Jairu, and Mr. K. Sravan Kumar) qualified ICAR-NET
4. Ms. Anousha Reddy (Master’s student) got 9<sup>th</sup> rank in ICAR-SRF and got selected in PJTSAU, Hyderabad for Ph. D.
5. Best Research Paper (Oral/ Poster) Presentation Awards to students in National Seminar/ Conferences: Ms. Usha Das, Ms. Tannishtha Vardahan, Ms. Sandeep Kaur and Ms. Pratiksha Singh

### **Other Remarkable Development/ Contributions by the Department**

#### **Participation in Webinars/ Seminar/ Conferences Activities in 2021**

#### **Faculty**

1. Dr. M. A. Ansari participated in Online training programme on ‘Social Media Strategies for Agriculture Extension’ organised by MANAGE, Hyderabad (13-17 September 2021)
2. Dr. Arpita Sharma participated in an International Webinar on ‘Nutritional considerations for Women using life cycle approach’ organised by Dept. of Foods and Nutrition, College of Home Science, GBPUAT, Pantnagar

## Students

1. Sandeep Kaur, Tannishtha Vardhan, Neha, Priyanka Jalal, Tanya Saklani (Ph. D. students) participated in the National Seminar of ISEE (Theme: Transforming Indian Agriculture through Pluralistic and Innovative Extension Approaches) organised at BHU, Varanasi during 4-6 October 2021 and presented their research papers.
2. Pragya Goswami (Ph. D. student) participated and made an oral presentation in a national Seminar on Empowering farm Women powering Agriculture organised by MANAGE, Hyderabad.
3. Sandeep Kaur (Ph. D. student) got “Best Oral presentation” award at ISEE National Conference organised at BHU, Varanasi. Sandeep Kaur also attended the ‘International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences during 19-21 July 2021.
4. Arpit Huria (Ph. D. student) participated and presented a paper in International Conference on Innovative and Current Advances in Agriculture & Allied Sciences (ICAAAS-2021) from July 19-21, 2021. (Online mode)
5. Arpit Huria (Ph. D. student) participated in the e-Workshop on Research Design held from

4-5 September, 2021 organized by Researchsmiths.

6. Gargi Paliwal, Neha and Pooja Karki (Ph. D. students) participated and made an oral presentation in the 3<sup>rd</sup> International web Conference GIAFAS-2021 (Global initiative in Agriculture, Forestry and Applied Sciences) during 17-18 October 2021.

## Any others

- Publication of two Farm Magazines- INDIAN FARMERS DIGEST (English) and KISAN BHARTI (Hindi): Department’s faculty members - Dr. M. A. Ansari (Editor-IFD) and Dr. Amardeep (Editor-Kisan Bharti) published regular issues of IFD and Kisan Bharti contributing in reviewing articles and writing editorials, etc.
- Dr. Kiran Rana worked as Reviewer for Pantnagar Journal of Research.
- Dr. M. A. Ansari worked as Reviewer/ Editor for six International Journals (Journal of Advances in Agriculture & Environment; African Journal of Agriculture; Research; Journal of Agriculture Extension & Rural Development; Asian Journal of Research in Agriculture & Forestry; Asian Journal of Agriculture Extension, Economics and Sociology; Universal Journal of Agriculture).



PG students at Departmental stall during Kisan Mela



PG students planning for recording in Video lab

# Department of Agricultural Economics



From left to right: Dr. Shweta Chaudhary, Dr. Ajay Kumar Tripathi, Dr. Anil Kumar, Dr. H.N. Singh, Dr. S.K. Kashyap (Dean), Dr. M.L. Sharma (Head), Dr. Virendra Singh, Dr. Chandra Dev, Dr. S.K. Srivastava, Dr. Ruchi Rani Gangwar



**Dr. M. L. Sharma**  
Head

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*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 58 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.*

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The Department of Agricultural Economics, College of Agriculture is one of the oldest departments of this university and came into existence in 1960 with the onset of the university itself. Initially it is used to offer only undergraduate courses. The Masters' programme was started in 1963 followed by PhD programme in 1970. Acknowledging the need 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. In the last 61 years of its existence, the department has built up expertise in almost all the major fields of agricultural economics.

## Vision

The department aims at promoting Agricultural and Rural development with equity and sustainability through excellence in teaching, research, extension and training.

## Mission

We aim 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 undergraduate degree programmes in Agriculture, Fisheries, Basic Sciences 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.

## 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 pivotal factor which is a major strength. Presently department has following faculty:

S. No.	Name of Faculty Member	Designation	Mobile No.	Email	Specialization
1.	Dr. M. L. Sharma	Professor & Head	9412905427	mlsharmahc@rediffmail.com	Agricultural Finance
2.	Dr. H. N. Singh	Professor	9411160013	hns_eco@rediffmail.com	Farm Management and Production Economics
3.	Dr. Anil Kumar	Professor	9411300598	kumar70anil@yahoo.com	Agricultural Marketing
4.	Dr. S.K.Srivastava	Professor	9411393099	sks_pantnagar@yahoo.com	Farm Management and Production Economics
5.	Dr. Virendra Singh	Professor	9411159995	vsingh_pachara@yahoo.com	Farm Management
6.	Dr. Chandra Dev	Associate Professor	9412420903	cdev_2006@yahoo.com	Farm Management
7.	Dr. Shweta Chaudhary	Assistant Professor	9756603236	shwetaeconomist10@gmail.com	Farm Management, Production Economics & IPR
8.	Dr. Ruchi R.Gangwar	Assistant Professor	9997044336	ruchigangwar16@gmail.com	Agricultural Finance and Farm Management
9.	Dr. Ajay K. Tripathi	Assistant Professor	9451178823	ajaytripathi.bhu@gmail.com	Agricultural Marketing, Cooperation, Finance & Insurance

## Research Project running in the Department

The department has the honour of completing a

significant number of externally funded research projects. In 2021, following research projects are in operation:

Sl. No.	Project Title	Sponsoring Agency	P.I & Co-P.I.
1.	Stress tolerant rice for poor farmers in South Asia & Africa	IRRI, Philippines	Dr. H. N. Singh (P.I)
2.	Impact assessment of chain-linked farm fencing and farm machinery bank in Uttarakhand	UGVS, Govt. of Uttarakhand	Dr. H. N. Singh (P.I) Dr. S.K.Srivastava (Co-P.I) Dr. R.M.Srivastava (Co-P.I)
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.	ICAR, New Delhi	Dr. H. N. Singh (P.I) Coordinated Project at University level and 08 sub components are involved

## Programme running in the Department

There are two Post Graduate Degree programmes being offered by the Department:

- M.Sc. Agricultural Economics  
Intake: 08 Seat + 02 JRF (ICAR)
- Ph.D. Agricultural Economics  
Intake: 3+1 Seats (01 from other states)
- Department caters to the requirement of UG courses of other colleges/programmes viz., College of Basic Sciences & Humanities, College of Fisheries, College of Home Science, B. Tech. (Food Tech.)

## Salient Achievements of the Department

- One Ph.D. Student (M.I. Hashime) got 'Best Oral Presentation Award' on the topic "Status of Production and Export Competitiveness of Saffron in Afghanistan" by Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir at International Conference on "Saffron and Seed Spices- Innovative Technologies for sustainable Development" during 7-8 November, 2021.
- Four PG students qualified ICAR- NET 2021, Three students qualified both ICAR- NET 2021 and ARS pre Exam, One student qualified ICAR-ARS pre exam 2021
- Department organized ICAR-sponsored 3-Days online training programme on "Project Management: Practical Application for building Agripreneuers" for UG students from 21/1/2021 to 23/11/2021 sponsored by ICAR, New Delhi (SC-Sub Plan), organized by Department of Agril. Economics, GBPUAT, Pantnagar.
- Organized ICAR-sponsored 3- Days on line training programme on 'Entrepreneurship Development' for skill development of UG students from 10 /2/2021 to 12/2/2021
- Organized ICAR-sponsored 2- Days Online Training Programme on "Analytical Techniques for Social

Science Research" for PG/Ph.D. students from 03/3/2021 to 04/3/2021

- Organized ICAR-sponsored 2 Days online training programme on "Project Management: Practical Application for building Agripreneuers" for UG students from 13/3/2021 to 14/3/2021 sponsored by ICAR, New Delhi (SC-Sub Plan)
- Coordinated ICAR SRF/JRF coaching classes 2021 to UG and PG students of Agriculture College, GBPUAT, Pantnagar
- International Guest lecture on the topic "Canada-Geography, Government and Economy" delivered by Dr. Raman Srivastava, Assistant Deputy Minister in Federal Govt. of Canada on 25.01.2021.
- International Guest lectures on the topic "Changing Perspective on Resources, Environment, and Economic Development" delivered by Dr. Deepthi Kolady, Assistant Professor, Ness School of Management and Economics, South Dakota State University (USA) on 05.02.2021 .
- Department developed/ published 05 research papers, 02 books and 01 lab manual.
- Conference/ workshop/ webinars Attended: 07
- Lecture delivered by the faculty members in conference/ Training: 08
- Member of College Core Action Group (CCAG): Dr. H.N. Singh
- Incharge , College Time Table, Joint Director Research (Strategic Policy Research): Dr. Anil Kumar
- Member of the Discipline Board, College of Agriculture: Dr. S.K. Srivastava
- OIC maintenance of Agriculture College, Deputy coordinator of Test & Selection of exam (outside): Dr. Chandra Dev
- Co-Coordinator, College Placement Cell, Member of College Documentation and Showcase Committee



(CSDC), and NSS Programme Officer, Agril. Unit. GBPUAT, Pantnagar: Dr. Shweta Chaudhary

- Warden of Golden Jubilee Hostel, Co-staff counselor of University Literary Team, Coordinator of Grameen Chintan Scheme- NABARD Research Award, 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

### **Awards/Fellowship earned by faculty members 2021**

- Dr. Ruchi Gangwar, Assistant Professor got Best e-Poster Award at 4th National conference and Webinar on Doubling Farmers Income for Sustainable & Harmonious Agriculture, DISHA-2021, 13-14, March, 2021, Dhanbad, and Jharkhand.
- Dr. Shweta Chaudhary, Assistant Professor got Outstanding Achievement Award at 4th National Conference and Webinar on Doubling Farmers Income for Sustainable & Harmonious Agriculture, DISHA-2021, 13-14, March, 2021, Dhanbad, and Jharkhand.

### **Other Remarkable Development/Contributions by the Department**

1. A webinar was organized by the Department of Financial Services; Ministry of Finance to understand

the unique perspectives of various stakeholders on the budget announcements for 2021-2022 on the financial services sector and focused discussions on key themes on 26th February 2021. Dr. M.L Sharma, Professor & Head, Agril. Economics shared the web platform with Honorable Prime Minister and Union Finance Minister. His Views were also solicited in the meeting and appreciated by the Secretary and Additional Secretary of Financial Services.

2. 110th Kisan mela: The event took place from October 07-10, 2021. The theme of this All India Farmer's Fair & Agro Industrial Exhibition was "Agripreneurship: future of agriculture" A model was prepared by the students to showcase role of financial institutions in achieving the goal of maximizing the profits of farm enterprises.
3. International dignitary, Dr. Raman Srivastava, Assistant Deputy Minister in Federal Govt. of Canada delivered a lecture on the topic "Canada-Geography, Government and Economy" on 25.01.2021. The knowledge and motivation was imparted in attendees, of the scope of subject for education as well as professional opportunities in national and international boundaries.
4. Four PG students of the department qualified ICAR-NET 2021, three students qualified both ICAR-NET 2021 and ARS pre Exam, and one student qualified ICAR-ARS pre exam 2021. Dr. M.L. Sharma Head & Professor felicitated the achievers for their determination and hard work for this huge success in ICAR-ARS/NET - 2021 Exam.



Name of students qualified ICAR-NET/ARS 2021: Somya Mishra (43636), Devesh Pant (43677), Deepali (54147), Anjali Tewari (44350), Neha Joshi (54953), Shefali Srivastava (43701), Saikat Chatterjee (55413), Chavan Dhondu (56763)

# Department of Agrometeorology



From left to right: Dr. Rajeev Ranjan, Dr. R.K. Singh (Head), Dr. S.K. Kashyap (Dean), Dr. Ravi Kiran



**Dr. R. K. Singh**  
**Head**

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*The main motto of the department is to encourage weather based responsive farming in Uttarakhand so as to maximize production and protect the environment from different weather hazards at the same time; through Agromet advisory services under Gramin Krishi Mausam Sewa (GKMS).*

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## 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 pertaining to Agrometeorology was carried out within the Department of Soil Science. The M.Sc. Programme in Agrometeorology was initiated in 1995, while Ph.D. programme started in 2000. Research thrust in Agrometeorology includes climatic characterization of hill and plain zones of Uttarakhand, crop-weather relationships, application of weather driven dynamic crop growth and yield simulation models, weather-crop-insects/disease interactions, climate change and its effects on crop productivity, evapo-transpiration, 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.

## 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 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. and Ph.D.) in the field of Agrometeorology.
- To actively contribute in graduate programme (B.Sc. Ag (Hons.)).
- Weather observation, database creation and data dissemination to researchers, farmers and extension workers.
- To participate in extension activities of the University for the benefit of farmers.
- Active participation in university activities and to work for the upliftment of university and society.

## Mandate

### Teaching

- To run postgraduate programme (M. Sc. Ag. and Ph.D.) in the field of Agrometeorology.
- To contribute actively in the under-graduate programme (B. Sc. Ag) of the College.

### Research

- To conduct high quality research in crop-weather relationship, crop simulation modeling, climate change, weather based agromet advisory services, remote sensing and GIS applications in agriculture for enhancing farm productivity and precision farming.
- To study climate change and its effect on crop productivity, modifications to alleviate environmental stress, evapotranspiration and water requirements of important crops.
- To prepare contingent crop plan for all the districts of Uttarakhand.

### Extension

- To advise farmers through Agromet Advisory Services on farm operations tailored to present and future weather conditions and to prepare contingent plans for agriculture considering the extreme weather events.

## Faculty Members

The department is blessed with well qualified teachers with expertise in various areas of Agricultural Meteorology. Presently department has following faculty:

S. No.	Name of Faculty Member	Designation	Mobile No.	Email	Specialization
1.	Dr. R K Singh	Professor & Head	9411142810 9410755708	rajksingh19@gmail.com	Characterization of Climate, Crop Weather relationship, Micrometeorology
2.	Dr. A S Nain	Professor & Director Research	9411159871	nain_ajeet@hotmail.com	Simulation modeling, Remote Sensing, GIS
3.	Dr. Ravi Kiran	Associate Professor	7668395006 9411320536	ravikiransaxena263145@gmail.com	Weather Crop insects/ diseases interactions, Agricultural Meteorology, Crop Growth Simulation Modeling
4.	Dr. Rajeev Ranjan	Assistant Professor	9760824896	rajeevranjanagri@gmail.com	Crop weather modeling, Remote sensing, GIS

## Research Project running in the Department

S. No.	Project Title	Funding Agency	PI/Co-PI
1.	Gramin Krishi Mausam Sewa (GKMS)	India Meteorological Department (IMD), Ministry of Earth Sciences, Govt. of India, New Delhi	Dr. R K Singh- PI
2.	Forecasting Agricultural output using Space, Agro-meteorological and Land based observations (FASAL)	India Meteorological Department (IMD), Ministry of Earth Sciences, Govt. of India, New Delhi	Dr. A S Nain-PI

## Research Projects submitted

S. No.	Project Title	Funding Agency	PI/Co-PI
1.	Developing Novel Plant Disease Monitoring System through AI (Artificial Intelligence) ML (Machine Learning) Techniques using multispectral Images	IIRS, ISRO, Dehradun	Dr. A S Nain- PI Dr Rajeev Ranjan-Co-PI
2.	AI (Artificial Intelligence) in Soil Management for Diversified Agriculture	IIRS, ISRO, Dehradun	Dr. A S Nain- PI Dr Rajeev Ranjan-Co-PI

## Administrative Duties / Responsibilities

Director Research, GBPUAT, Pantnagar: **Dr. A S Nain**

Member of maintenance committee of Ag. College, GBPUAT, Pantnagar: **Dr. Rajeev Ranjan**

## Programmes Running in the Department

Two Post Graduate Degree programmes being offered by the department:

**M.Sc. Agrometeorology: 04 seats**

Uttarakhand domicile: 03

ICAR: 01

**Ph.D. Agrometeorology: 04**

Uttarakhand domicile: 03

ICAR: 01 (SRF)

Other states: 01

## Salient achievements of the department

- ICAR NET Selections: 09
- Qualified for ICAR ARS main exam: 06
- Lab Manuals Developed: 02
- Guest Lectures delivered: 02
- External Examiner of other Universities: 04
- Research Papers Published: 06
- Book Chapters published: 03
- 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 85,000 farmers of US Nagar and Nainital district of Uttarakhand biweekly who are registered on mKisan portal of Ministry of Agriculture, Govt. of India.
- Two of our PhD students Ms. Manjari singh and Ms. Sonam sah visited Toulouse, France to attend the International Workshop and Conference on Global Plant Health Assessment, held at Toulouse school of Economics, Toulouse from October 5-8, 2021. They have contributed to the workshop as conference Secretariat. Also they have created a website for the same and are designated as “Webmasters”. Site link: <https://sites.google.com/view/global-plant-health-assessment/home> In addition to being Secretariat & webmasters, Ms. Manjari singh participated as a lead speaker in the panel presentation on “how is Climate change affecting plant disease and plant pathogen? Is it only indirectly? Or also directly?” and Ms. Sonam presented two reports, one on “wheat and rice in South Asia” and another one on “rice in South East Asia”.
- Ms. Shweta Pokharyal, Id No. 50946, a PhD student of the department received outstanding paper presentation award in the special session on young professional 3 minutes thesis competition on 25<sup>th</sup> of February 2021.
- Mrs. Manjari Id No. 52746 a PhD student of the department received young scientist award on the occasion of 4<sup>th</sup> International Conference on “Global approaches in natural resource management for climate smart agriculture during 26-28 feb2021
- Ms. Shweta Pokharyal, Id No. 50946 a PhD student of the department received Runner of poster presentation award during 34<sup>th</sup> conference on Agriculture and forest meteorology organized by American Meteorological Society from 21-23 June 2021.

- Mr. Anurag Satpathi Id no. 54227 qualified JRF Fellowship through UGC NET
- Dr. Shalini Saxena has been selected as Scientist-D, IMD, New Delhi in the year 2021.
- Ms. Mukta Nainwal has been selected as SMS, KVK Matela, Almora, GBPUAT, Pantnagar in the year 2021
- Dr. Chetan Bhatt has been selected as SMS, KVK Gaina-Aincholi, Pithoragarh, GBPUAT, Pantnagar in the year 2021
- Mr. Indra Singh Dhami has been selected as Assistant Agriculture Officer, Group III, under Uttarakhand Subordinate Service Selection Commission in the year 2021.
- Ms. Sushmita Rawat has been selected as Assistant Agriculture Officer, Group III, under Uttarakhand Subordinate Service Selection Commission in the year 2021
- Ms. Smriti Rana has been selected as Assistant Agriculture Officer, Group III, under Uttarakhand Subordinate Service Selection Commission in the year 2021
- Ms. Manisha Tamta PhD student of the department developed Web master of Global Plant Health Assessment Website (OECD and ISPP initiative) Website link: <https://sites.google.com/view/global-plant-health-assessment/home>
- Ms. Sonam Sah and Ms. Manjari PhD student of the department developed Web master of Global Plant Health Assessment Website (OECD and ISPP initiative) Website link: <https://sites.google.com/view/global-plant-health-assessment/home>

2.	Crop Health Monitoring using Geospatial Technology	55	01-02, Feb 2021
3	Development of Mobile Application for Agricultural World (Beginner Level)	86	22 Feb to 09 March, 2021
4.	Advances of UAV in Agriculture	50	15-16, March, 2021
5.	Digital Transformation of Indian Agriculture System	48	24 <sup>th</sup> March 2021
6.	3D Modeling of G. B. Pant University	40	28 April-07 May, 2021
7.	Development of Mobile Application for Agricultural World (Advance Level)	45	20 May to 02 June, 2021
8.	Online Lecture series on Digital Agriculture for enhancing Profitability	77	14-17 July 2021
9.	विश्व मौसम दिवस के अवसर पर कृषि जाग. रूकता गोष्ठी	73	23 March 2021

## Other Remarkable Development/ Contributions by the Department

### Trainings organized

S No.	Name of the training	Number of Persons trained	Duration with dates and hours
1.	Role of Sensors in Smart Farming	143	08-09, Jan 2021



Farmers' Awareness Programme (FAP) on "Meghdoot and Damini Mobile App" organized on 23<sup>rd</sup> March, 2021



Agriculture Drone launched on 12<sup>th</sup> October 2021 under Agri-Informatics group, IDP, NAHEP



Hands-on training of meteorological instruments at Agrometeorological Observatory, NEB CRC, Pantnagar



Hands-on training and demonstration of Photosystem on 8<sup>th</sup> September, 2021 under Agri-Informatics group, IDP, NAHEP



# Department of Agronomy



Back Row, from left to right: Dr. Naresh Malik, Dr. Amit Kesarwani, Dr. Santosh Kumar Yadav, Dr. S.K. Lavania, Dr. Sumit Chaturvedi, Dr. Amit Bhatnagar, Dr. Ajay Kumar, Dr. V.C. Dhyani  
Front Row, from left to right: Dr. Tej Pratap, Dr. M.S. Negi, Dr. D.K. Singh, Dr. S.K. Kashyap (Dean), Dr. Virendra P. Singh (Head), Dr. Vijay Pal Singh, Dr. Anil Shukla, Dr. Omvati Verma



**Dr. V. P. Singh**  
**Head**

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*The Department of Agronomy address problems and discover opportunities related to the raising of the different crops, concerning the efficiency and sustainability of production, improvements in quality, and methods for safe and environmentally-sound practices.*

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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. However, department of agronomy came into being in 1963 with Master's Programme in agronomy. The Ph.D. Programme in agronomy commenced from 1965. A well-knit U.G., P.G., and Ph.D. Programme with updated syllabi has been operating in the department. The research work has been programmed to cater the needs of the area. 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 it Center of Advance Studies (CAS) in 1994 which was further upgraded to the Center of Advance Faculty Training (CAFT) in 2010. Under the Centre of Advanced faculty training, department imparts training to the scientific personnel's working in less privileged/ affiliated institutions towards strengthening human resource in the country. The department has also the mandate to develop cost effective technology for efficient and optimal use of resources. It also shares responsibility of transfer of technologies to the farmers and other end users in the state and or across the state.

## Vision

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

## Mission

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

## Mandate

The department have clear mandate for teaching, research and extension education related to sustainable crop production, evolve scientific principles, and develop package & practices of crops and cropping systems with efficient resource management.

## Faculty Members

The department own highly qualified and specialized faculty. Faculty name and their designation, email id, mobile number and specialization are given below:

S. No.	Name of faculty	Designation	Mail Address	Mobile No.	Specialization
1.	Dr. Virendra P. Singh	Professor & Head	vpratapsingh@rediff-mail.com	7055016141	Weed management in crops and cropping system and conservation agriculture
2.	Dr. B. S. Mahapatra	Professor (on leave)	bsmahapatra@gmail.com	8755221679	Soil fertility management/ cropping system research/ organic farming/fibre crops oil seeds
3.	Dr. M.S. Pal	Professor	drmspal@gmail.com	7409994826	Maize, oilseed & forage agronomy, Irrigation water & nutrient management
4.	Dr. Subhash Chandra	Professor	schandra_1961@yahoo.com	9548676719	Water management, integrated Farming System
5.	Dr. Rohitashav Singh	Professor	singh.rohitash5@gmail.com	9411088549	Weed management in crop & cropping system, integrated farming system & agronomy of forage crops
6.	Dr. Vijay Pal Singh	Professor	singh.vijaypal100@gmail.com	9457407245	Wheat agronomy, fertility, irrigation management
7.	Dr. Anil Shukla	Professor	dranilshukla@ymail.com	9808500400	Rapeseed & mustard agronomy and soil fertility
8.	Dr. Sunita T. Pandey	Professor	sunitatewari_8@yahoo.co.in	9412120735	Medicinal Plant Agronomy, Weed management, Agriculture heritage, vrikshayurveda
9.	Dr. V.K. Singh	Professor	vksagro@gmail.com	9412120986	Cropping system, soil fertility & pulses agronomy
10.	Dr. D.K. Singh	Professor	dhananjayrahul@rediffmail.com	9411320066	Rice and Organic Farming
11.	Dr. S.K. Lavania	Professor	sujeetlavania@rediffmail.com	9411184949	Agroforestry/forestry
12.	Dr. Chandra Bhushan	Professor (on leave)	chandrabhushan1969@gmail.com	9412943550,	Pulse Agronomy
13.	Dr. M.S. Negi	Professor	mahendrasingh_2005@rediffmail.com	9412370194	Oilseed agronomy and medicinal & aromatic plants agronomy



14.	Dr. Naresh Malik	Professor	drmalik.ranichauri@gmail.com	9410195862	Sugarcane & hill agriculture
15.	Dr. Tej Pratap	Senior Research Officer	drtpsingh2010@gmail.com	9411184948	Weed management, hill agriculture
16.	Dr. Omvati Verma	Senior Research Officer	dr_omvati@rediffmail.com	9411159389	Seed production technology, seed physiology, storage & testing
17.	Dr. S.P. Singh	Senior Research Officer	spdrsingh@gmail.com	7248632822	Conservation on agriculture weed management
18.	Dr. Rajeew Kumar	Senior Research Officer	shuklarajeew@rediffmail.com shuklarajeew@gmail.com	9411320357	Precision agriculture , Nanotechnology and Wheat Agronomy
19.	Dr. Amit Bhatnagar	Senior Research Officer	bhatnagaramit75@gmail.com	9411159845	Soil Fertility, Nutrition of plants, Nutrient Management
20.	Dr. Gurvinder Singh	Senior Research Officer	guruagronomy@gmail.com gurvinder_agronomy@yahoo.com	9456067551	Water management crop management
21.	Dr. Dinesh K. Singh	Senior Research Officer	dkonweb@gmail.com	9410187299	On farm research
22.	Dr. V.C. Dhyani	Associate Professor	dhyanivipin@gmail.com	9411855280	Weed and Nutrient Management, Conservation Agriculture, Crop Physiology
23.	Dr. Sumit Chaturvedi	Associate Professor	sumitagronomy78@gmail.com	9450757130	Climate change viz a viz conservations agriculture, nutrient management, cropping system research
24.	Dr. Kranti Kumar	Assistant Professor	drkrantik@gmail.com	8449028781	Medicinal and aromatic plants
25.	Dr. D.K. Shukla	Junior Research Officer	shukladk1974@rediffmail.com	9410755714	Sorghum Agronomy
26.	Dr. Ajay Kumar	Assistant Professor	drajaysrivastava@gmail.com	9412925737	Soybean agronomy, millets, hill agriculture and soil fertility
27.	Dr. S. K. Yadav	Assistant Professor	santosh.yadav87@gmail.com	7508749299	Rice and organic farming
28.	Dr. Amit Kesarwani	Assistant Professor	getkesar@gmail.com	9412088399	Sustainable Agriculture and wheat agronomy resource conservation technology
29.	Dr. Vineeta Rathore	Assistant Professor	vineetaagron@gmail.com	9412943549	Conservation agriculture, nutrient management & medicinal & aromatic plants

## Research Project running in the Department

S. No	Project Name	Project Code	P.I/ Co-P.I
1	AICRP on Weed Control		Dr. Virendra Pratap Singh
2	Efficacy of TVE29 40SC against grasses in transplanted rice as pre-emergence	2106	
3	Evaluation of herbicide VPP 72 60% WG against Phalaris minor and broad leaf weeds in wheat and effect on follow up crop	2125	
4	Bio-efficacy and phytotoxicity of UPH 1518 against weed flora of transplanted rice and its effect on succeeding crop	2165	
5	Evaluation of bio-efficacy, phytotoxicity and residue trial of CIX-4003 in rice and its effect on succeeding crop	2185	
6	Efficacy of TVE 29 400g/l SC against grasses in transplanted rice applied as early post emergence application and its effect on succeeding crop”	2196	
7	Bioefficacy and phyto-toxicity of “GPH 1020” against complex weed flora of Maize and its effect on succeeding crop.	2154	Dr. Subhash Chandra
8	Bio-efficacy and phyto-toxicity of herbicides of UPH-814 (S) against weed flora of transplanted rice and its effect on succeeding crop.	2148	Dr. Rohitashav Singh
9	Bio-efficacy and phyto-toxicity of herbicides of UPH-814 (S) against weed flora of direct seeded rice and its effect on succeeding crop.	2147	
10	Bio-efficacy & phytotoxicity of UPH -1518 against weed flora of direct seeded rice (DSR) & its effect on succeeding crop.	2166	
11	Studies to Assess the performance of Rice Varieties under organic Cultivation.	2111	
12	To evaluate the bio-efficacy and phyto-toxicity Topramezone 33.6% SC against complex weed flora of Maize and its effect on succeeding crop.	2167	Dr. D.K. Singh
13	All India Network Programme on Organic Farming (ICAR)		
14	AICRP-Rice		
15	Evaluation of bio-efficacy of “Council Prime 200 SC in Transplanted Rice.	2049	Dr. Tej Pratap
16	Evaluation of bio-efficacy of Aclonifen 600 SC in Wheat crop.	2085	
17	Evaluation of the product PIX 10042 76.75% WG against weeds of Sugarcane.	2117	
18	Bio-efficacy evaluation herbicide “Pyroxasulfone 85% WG against weed flora of Soybean and its effect on succeeding crop”.	2169	
19	Evolution of Pretilachlor 30 % w/v (300 g/l) + Florpyrauxifen-benzyl 1% w/v (10 g/l)-310 EW in Transplanted Rice and their residual effect on succeeding crop		

20	Development of steel slag based cost effective eco-friendly fertilizers for sustainable agriculture and inclusive growth	8081	Dr. Rajeew Kumar
21	Feasibility studies of potassium through Remote sensing	-	
22	“Bio-efficacy evaluation of Prosulfocarb 80EC against weeds of wheat”.	2123	
23	“Evaluation the bio-efficacy improvement of Clodinofof-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”.	2129	
24	AICRP on Wheat and Barley		
25	Evaluation of bio-efficacy and phytotoxicity of herbicide of UPH616 against weed flora of Direct seeded rice and its effect on succeeding crop	2146	Dr. S.P. Singh
26	Evaluation of Shriram Super wheat varieties for suitability under north west plain zone	2175	
27	Productivity and quality assessment of rice-wheat system using Polyhalite (Poly 4) as a source of potassium and sulphur and evaluation of SEFA in Rice in tarai region of Uttarakhand	2155	
28	Efficacy studies of SHRIRAM SEASTAR on growth and field parameters of Wheat	2228	
29	AICRP on Weed management	131	
30	AICRP- Soybean Agronomy	129	Dr. Ajay Kumar
31	Evaluation of pearl millet, finger millet and barnyard millet at different locations in Uttarakhand and establishment of hill technology park at pantnagar.	6004	
32	Bio-efficacy of Boom Flower 20 E.W (Nitro-benzene 20 % E.W.) on rice and its effect on succeeding crop for one season	-	Dr. S.K Yadav
33	Bio-efficacy of Boom Flower 20 E.W (Nitro-benzene 20 % E.W.) on cotton and its effect on succeeding crop for one season	-	
34	AICRP on Rapeseed – Mustard	-	Dr. M.S Negi
35	PI of the Project “Evaluation of ASN ..... for yield and quality enhancement in sugarcane (2194)	-	Dr. Sumit Chaturvedi
36	Agri-Informatics and Project monitoring Teams, National Agricultural Higher Education Project (NAHEP), IDP – PANTNAGAR,	-	
37	Department of Science and Technology sponsored FIST Project.	-	Dr. Sumit and Dr. V.C Dhyani (Co-PI)
38	PI of the Evaluation of bio-efficacy of Glufosinate Ammonium 13.5% SL against weed flora in non-cropped area, M/S UPL Limited (2018-2021)	-	Dr. Sumit Chaturvedi

### Programme running in the Department

S.No	Programme	Uttarakhand	ICAR
1.	Masters	10	10
2.	Ph.D	05	05

### Salient Achievements of the Department

#### Student

- a) Mr Pankaj Chand, ID No 48406 selected as Agriculture Officer in Uttarakhand Government (Advisor Dr. V.C Dhyani)

- b) Ms. Sakshi Pandey , Id No 44341 selected as Assistant Agriculture officer Gov. of Uttarakhand (Advisor Dr. D.K.Shukla )
- c) Dr Shivendra Singh (50919) selected as Assistant Professor, School of Agriculture, Graphic Era Hill University, Dehradun. (Advisor Dr. Sumit Chaturvedi)
- d) Mr Tony Manoj (56899) got Best MSc Thesis Award (South) from Indian Society of Agronomy, New Delhi 2021.(Advisor Dr. Sumit Chaturvedi)
- e) Ph D student Mr Avinash Chuahan I D No. 35717 was selected in AAO, Govt. of Uttarakhand in 2021. (Advisor Dr. M. S. Pal)

### Faculty

- a) Dr. B.S. Mahapatra, Professor, Agronomy (on leave) bagged ISA Gold Medal Award in International Agronomy congress organized by Indian Society of Agronomy 2021
- b) Dr. D.K.Singh, Professor, Agronomy , bagged ISA Fellow Award , in International Agronomy congress organized by Indian Society of Agronomy 2021
- c) Dr. Sumit Chaturvedi, bagged Dr P S Deshmukh Young Agronomist Award-2021.in International Agronomy congress organized by Indian Society of Agronomy 2021
- d) Dr. Rajeew Kumar bagged the research project worth Rs 1.5 crore during 2021 (from Ministry of steel , and ICL Isreal) and made International collaboration with Agriculture Research Organization Isreal
- e) Dr. M.S Negi took over the responsibility of Joint Director Research and Intellectual Property Management Cell
- f) Dr. V.C Dhyani recognized as Reviewer of Journal of Crop and Weed, Journal of Cereal Research and Review Editor (Agronomy) Pantnagar Journal of Research, Remained Staff counsellor Agriculture society, Coordinator Teaching Facilitation Group, member College Academic Committee, Staff counsellor University Literary Team, Campus Ambassador, College of Agriculture of Election Commission of India Member of Agriculture college National Institutional ranking Framework (NIRF) team Coordinator for online registration of first year BSC Ag students, Member of IDP Industry in the project IDP-NAHEP.
- g) Dr. Sumit Chaturvedi received Certificate of Appreciation in recognition to the exemplary and significant contribution during the year 2020, College of Agriculture, G.B.P.U.A. & T, Pantnagar, on 01.01.2021.
- h) Dr. V.C Dhyani, Certificate of Appreciation in recognition to the exemplary and significant contribution during the year 2020, College of Agriculture, G.B.P.U.A. & T, Pantnagar, on 01.01.2021.
- i) Dr. Rajeew Kumar received Certificate of Appreciation in recognition to the exemplary and significant contribution during the year 2020, College of Agriculture, G.B.P.U.A. & T, Pantnagar, on 01.01.2021.
- j) Dr, S. P. Singh served as Assistant Director (Research), Directorate of Research, GBPUAT, Pantnagar and serving as Associate Director Breeder Seed Production Centre, Pantnagar.
- k) Dr. Sumit Chaturvedi, Associate Professor is also performing additional duties as Nodal Officer, ICAR Cell GBPUAT, Vice Chancellor Office, Pantnagar; Assistant Coordinator, Planning and Technical Cell, Vice Chancellor Office, GBPUA&T, Pantnagar; Chairman, College Development and Showcase Committee (CDSC), College of Agriculture, GBPUA&T, Pantnagar; Member of University accreditation committee 2021 for accreditation of University by ICAR; Member of University Ranking Improvement Team of the University for Application of University for ranking of university at national and international level; Monitoring Officer (ICAR-SCSP) in “Entrepreneurship Development Programs and Tutorial Classes” in College of Home Science during September, 2020 to March, 2021 sponsored by ICAR, New Delhi; Incharge Agroforestry Laboratory II, Agroforestry Section, GBPUAT, Pantnagar and IFS Analytical Laboratory, Agronomy, GBPUAT, Pantnagar and Member of University Accreditation Team 2021 NAAC
- l) Dr. S.K Yadav awarded Third prize in oral presentation paper entitled Balanced Fertilizer Application on Rice (*Oryza sativa* L.): Long term impact on rice productivity, economics and soil health. in the international conference TIMS-2021, 18-20 February 2021 (virtual mode) at school of Sciences, ITM University Gwalior.
- m) Dr. Sunita T Pandey received 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 study entitled “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

### Awards/Fellowship earned by faculty members 2021

- Dr B S Mahapatra, Professor Agronomy and Vice Chancellor, BCKVV, Kalyani, West Bengal received ISA Gold Medal-2017 Award from Indian Society of Agronomy, New Delhi in 2021.

- Dr. D.K Singh received prestigious ISA Fellow award-2018 from Indian Society of Agronomy, New Delhi in 2021.
- Dr Sumit Chaturvedi Associate Professor received Dr P S Deshmukh Young Agronomist Award 2021 from Indian Society of Agronomy, New Delhi.

### Infrastructure development in 2021, if any

- Renovation work of Crop Physiology lab, 106 B in the Department of Agronomy and Crop Physiology lab at NEB CRC is in progress under Development grant of ICAR.
- Development of Computer Lab and Procurement of Computers, Computer Chairs and Server sponsored by FIST Project, under the aegis of Department of Science and Technology Government of India is on.
- Procurement of AAS for development of micronutrient lab in the department of Agronomy under FIST project and other instruments under ICAR development grants is also on.
- Procurement of TDR, Nitrogen Analyzer and Plant Canopy Analyzer in IFS Laboratory Department of Agronomy, College of Agriculture under Development grant of ICAR.

### Faculty retired in 2021

- Dr. V.P Singh, Professor, Agronomy

### Other Remarkable Development/ Contributions by the Department

- i. Dr. V.C Dhyani, Associate Professor is Coordination member in College Advisory Panel Meeting 1-2 March, 2021; Staff Councilor Agriculture Society and Coordinator Literary Committee GBPUA&T, Pantnagar.
- ii. Dr. Sumit Chaturvedi, Associate Professor coordinated 3 days training on the topic "Climate Smart Agriculture" for skill development of PG Students, in the Department of Agronomy, College of Agriculture, GBPUA&T, Pantnagar is being organized February, 10-12, 2021 (Online Mode)
- iii. Dr. Sumit Chaturvedi, Associate Professor organized the 2 days online training on the topic "Quantitative analysis of farming system" organized by IDP NAHEP, Pantnagar at Microsoft Team (Online mode) at Microsoft Team on January 25-26, 2021,
- iv. Dr. Sumit Chaturvedi, Associate Professor organized the 3 days online training on the topic "Climate smart agriculture" organized by Department of Agronomy and sponsored by ICAR (SC-SP Scheme) at Microsoft Team (Online mode) at Microsoft Team on February 25-27, 2021 and also delivered lecture and International Summit, "AGRI INNOVATIONS IN 21ST CENTURY AND THE WAYS AHEAD"

organized on 9-10 March 2021 at GBPUA&T, Pantnagar

- v. Dr. Sumit Chaturvedi Reviewer of International Journals and Review Editor (Agronomy) Pantnagar Journal of Research.
- vi. Dr. Sumit Chaturvedi, Associate Professor delivered invited lecture on "AGRIWASTE BIOCHAR FOR SUSTAINABLE AND CLIMATE RESILIENT AGRICULTURE" in International Conference on Biotechnology for Sustainable Agriculture, Environment and Health (BSAEH-2021) held on April 4-8, 2021 at Jaipur, India and
- vii. Dr. Sumit Chaturvedi, Associate Professor delivered invited lecture "Crop residue biochar: climate resilient agriculture" in national brainstorming webinar on recycling of crop residue for sustainable agriculture which took place on 22nd & 23rd March 2021 organized by College of Agriculture Kotwa, Azamgarh - 276001 (Uttar Pradesh) (Acharya Narendra Deva University of Agriculture & Technology, State Agriculture University, Kumarganj, Ayodhya, Uttar Pradesh.
- viii. In the month of September, G.B.P.U.A.&T. Pantnagar centre hosted two days training programme on the 11<sup>th</sup> (Chakarpur) and 15<sup>th</sup> (Jagdishpur) of September, 2021. In this programme, scientists, Dr. Virendra Pratap Singh, Professor and Dr. Tej Pratap (Senior Research Officer), Department of Agronomy were participated and imparted training.
- ix. Dr. V.C Dhyani, Associate Professor, coordinated 3 days training on the topic "Climate Smart Agriculture" for skill development of PG Students, in the Department of Agronomy, College of Agriculture, GBPUA&T, Pantnagar has been organized February, 10-12, 2021 (Online Mode),
- x. Dr. V.C Dhyani, coordination member in International Summit on Agri innovation in 21st Century and ways ahead and World Food Day lecture on October, 16, 2021 delivered by Dr P K Joshi, Former Director IFPRI
- xi. Dr. Dinesh Kumar, OFR Activities at farmers' fields
- xii. Dr. S. P. Singh, Delivered lecture for coaching classes of JRF/SRF in agronomy on topic "Weed management" on February 16, 2021.
- xiii. Dr. S. P. Singh attended webinar on "Herbicide resistance in India: Problems and management" organized by Indian Society of Weed Science in collaboration with ICAR-Directorate of Weed Research, Jabalpur on 29th January 2021.
- xiv. Dr. M.S Negi mentor of DG knot Business Management Pvt Ltd with Director Research, founder of enterprises and farmers associated with the enterprize



**Dr B S Mahapatra, Professor Agronomy and Vice Chancellor, BCKVV, Kalyani, West Bengal received ISA Gold Medal-2017 Award from Indian Society of Agronomy, New Delhi in 2021**



**Dr. D.K Singh receiving prestigious ISA Fellow award-2018 from Indian Society of Agronomy, New Delhi in 2021**



**Dr. Sumit Chaturvedi, Associate Professor received Dr. P S Deshmukh Young Agronomist Award 2021 from Indian Society of Agronomy, New Delhi**



**Dr. M.S. Negi mentor of DG knot Business Management Pvt Ltd with Director Research, founder of enterprises and farmers associated with the enterprise**

# Department of Entomology



Back Row, from left to right: Dr. Renu Pandey, Dr. R.P. Maurya, Dr. J.P. Purwar, Dr. Meena Agnihotri  
Front Row, from left to right: Dr. R.M. Srivastava, Dr. M.S. Khan, Dr. R.P. Srivastava (Head), Dr. S.K. Kashyap (Dean),  
Dr. A.K. Pandey, Dr. Pramod Mall, Dr. Neeta Gaur, Dr. Poonam Srivastava, Dr. Ruchira Tiwari



**Dr. R. P. Srivastava**  
**Head**

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*Our department communicates basic and applied scientific knowledge of insects and arthropods that improves human well-being through breakthroughs that address human health, agriculture, and the environment and aims to prepare, train and inspire students of all backgrounds to fulfill their personal goals and make meaningful societal contributions.*

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Initially the department was a component of division of Plant Science. In 1964, it became a separate department within the College of Agriculture with an objective of achieving excellence in teaching Entomology to under-graduate students and conducting problem oriented research. The department started M.Sc. (Ag.) Entomology and Ph. D. programme in 1970 and 1979, respectively. This department has produced 346 M. Sc. (Ag.) and 106 Ph.D. students.

Department being one of the prominent centres of entomological teachings, research and extension organizations in the country gives emphasis on fundamental science research in agricultural entomology is in the areas viz. genetics of insect pest population; insecticide toxicology; pesticide residue in food chain; comprehensive investigations on beneficial insects; insect biosystematics; host plant resistance and eco-friendly management of crop pests.

## Vision

To be among the strongest research, extension, and graduate and post graduate education programs in Entomology in the nation.

## Mission

To generate advance scientific knowledge in the field of entomology and to disseminate this knowledge through publication, teaching, and service.

## Mandate

We embrace discovery, transitional, and applied entomological research from levels of ecological landscapes to biological molecules. The department provides exciting experience yet scientifically, agriculturally and environmentally relevant research and training as part of undergraduate and graduate instruction from a Faculty of nationally and internationally recognized scholars who contemplate our science from a global perspective.

Mission mode programmes for increasing crop yields through minimizing crop losses due to insect pests; conservation and promotion of crop-specific pollinators for enhancing crop productivity, molecular characterization and taxonomic studies for agriculturally important insects, development of crop, area and season-specific pest calendars and pest management modules for the country.

## Faculty Members

The department own highly qualified and specialized faculty. Faculty name and their designation, email id, mobile number and specialization are given below:

S. No.	Name	Designation	E-mail id	Mobile number	Specialization
1.	Dr. R. P. Srivastava	Professor and Head	prakash.srivastava57@rediffmail.com	9456140028	Insecticide Toxicology/ Sericulture
2.	Dr. Pramod Mall	Professor	drmall722000@gmail.com	9456345516	Apiculture/ Pollinators / Floriculture
3.	Dr. M.S. Khan	Professor	sarfrazms65@yahoo.co.in	7500241513	Insect Pollination/ Oilseed Entomology
4.	Dr. A.K. Pandey	Professor	drajay2002@gmail.com	9927194497	Stored Products Entomology /Rice Entomology / Soil Arthropods
5.	Dr. R.M. Srivastava	Professor	ravimohan_2005@rediffmail.com	9412355968	Molecular Entomology / Toxicology / Vegetable Entomology
6.	Dr. Poonam Srivastava	SRO	poonamento@gmail.com	9411159448	Fruit Entomology/ Apiculture / Host Plant Resistance
7.	Dr. Ruchira Tiwari	SRO	ruchiso3@rediffmail.com	9411006092	Apiculture/ Wheat and Pulse Entomology
8.	Dr. Neeta Gaur	SRO	neetagaur_ento@rediffmail.com	9457407231	Soybean Entomology/ Wheat Entomology
9.	Dr. Meena Agnihotri	SRO	meenaagnihotri12@gmail.com	9415150733	Biological Control/ Insect Taxonomy/ Pulse Entomology
10.	Dr. J. P. Purwar	SRO	jppurwar@gmail.com	9411324356	Pulse and Maize Entomology
11.	Dr. R.P. Maurya	Assistant Professor	rpmauryaento@gmail.com	9639750151	Biological Control/ Sugarcane and Maize Entomology
12.	Dr. Renu Pandey	Assistant Professor	renu.pandey17@gmail.com	9873239377	Insect Pathology



## Research Project running in the Department

S.No.	Name of the project	Name of PI/Co PI	Funding agency
<b>International</b>			
1.	Super Farm India- Sustainable farming through effective pollination and pest regulation in India.	Dr. Pramod Mall-PI Dr. Renu Pandey-Co-PI	University of Reading, England
<b>National</b>			
2.	Integrated Bee Development Centers	Dr. Pramod Mall-PI Dr. J.P. Purwar Dr. Renu Pandey	National Bee Board
3.	Development and standardization of mass production.....different crops	Dr. R.P. Maurya-PI	Uttarakhand Council Biotechnology, Haldi
4.	<b>Bio-efficacy Projects (&gt;20 )</b>	Dr. Pramod Mall Dr. M.S. Khan Dr. A.K. Pandey Dr. R.M. Srivastava Dr. Poonam Srivastava Dr. Neeta Gaur Dr. Meena Agnihotri Dr. J. P. Purwar Dr. R.P. Maurya Dr. Renu Pandey	FMC Dupont Bayer UPL Syngenta ISK

## Programme running in the Department

S. No.	Programme	Number of seats/ Students
1.	M.Sc. (Ag.) Entomology	12 ( UK)+4 ( ICAR)=16
2.	Ph.D. Entomology	4 (UK) +1(OS)+ 2 (ICAR)=7
3.	Certificate course on Mass production of Important Bio-control Agents	30-40
4.	Certificate course on Apiculture	40-50
5.	Certificate course on Sericulture	20-25

## Salient Achievements of the Department

### Faculty:

- Dr. M. S. Khan applied patent for the “Stingless Bee Hive Apparatus and Methods thereof”.
- Dr. M. S. Khan delivered invited lecture on “Significance of Apiculture and Insect Pollination in the Indian Agriculture” in National Webinar on Entomophagy for Livelihood Security and Ecological Engineering for Innovative Pest Management under “Aazadi ka Amrit Mahotsav” Organized by ICAR Research Complex for Eastern Region, Patna, Bihar on September 22, 2021.
- Dr. M. S. Khan and Dr. Poonam Srivastava published first report world over on *Megachile (Eutricharea) studiosa* Bingham which would help in understanding the ecology, behavior, and role of this leafcutter bee in biodiversity pool.
- Dr. M. S. Khan first time identified 14 potential weedy plants supporting indigenous insect pollinators and published innovative concept idea that sustainable management of weedy species in agro-ecosystems and scrub-lands can provide important forage resources to the pollinators helping in increasing agricultural productivity in the country.
- Dr. R.M. Srivastava applied patents for “Plant originated formulation for management of insect pests of vegetable crops” and “Multipurpose device for bioassay of whitefly in laboratory”.
- Dr. Poonam Srivastava delivered three live TV talks on Doordarshan (DD 1- Hello Kisan) on the topics

Fruit Pest Management and Beekeeping.

7. Dr. Meena Agnihotri recorded and published 92 species of butterflies from *Tarai* region of Uttarakhand.
8. Dr. J.P. Purvar studied synergistic/ antagonistic effect of *Bacillus thuringiensis* and *Beauveria bassiana* with botanical and chemical insecticides against *Spodoptera litura* in Green Gram.
9. Dr. R. P. Maurya conducted first year trial to develop Biocontrol Based Pest Management Technology in Rice Ecosystem under the AICRP-BC project.
10. Dr. R. P. Maurya reported 6 natural enemies (*Acerophagus papayae*, *Spalgis epius*, *Leptomastix dactylopii*, *Anegleis cardoni*, *Rodolia fumida* and *Aenasius arizonensis*) of mealy bugs prevailing in different crops for the first time in Uttarakhand.

#### Students achievements:

Name of fellowship/award/selection	No. of students
NET-ICAR	13
State Agriculture/Horticulture Department	06
Selections on other positions (Insurance company, IVRI, Seed certification, private sector)	04

#### Awards/Fellowship earned by faculty members 2021:

S. No.	Name of the University / College / Faculty	Name of Award	Awarded by	Date
1.	Dr. M.S. Khan	1. Certificate of Appreciation	Dean, College of Agriculture	Jan 2021
		2. Reviewer Excellence Award	Agriculture Research Communication Centre	July 2021
2.	Dr. R.M. Srivastava	1. Certificate of Appreciation	Dean, College of Agriculture	01/01/2021
		2. Certificate of Appreciation	VC, GBPUAT-Pantnagar	07/03/2021
3.	Dr. Poonam Srivastava	Certificate of Appreciation	Dean, College of Agriculture	01/01/2021

#### Infrastructure developed during the year 2021:

- Renovation of Sericulture laboratory (under progress)
- Molecular Entomology Laboratory with facilities of DNA extraction, Gel Electrophoresis.
- Renovation of *Trichogramma* mass production laboratory.

**Faculty retired in 2021:** Dr. S.N. Tiwari Professor (retired on 30 June, 2021)



B.Sc. Ag. Final year students doing beekeeping activities under ELP course APE 451 Commercial Beekeeping



B.Sc. Ag. Final year students doing sericultural activities under ELP course APE 461 Sericulture



Student conducting "National Entomology Quiz-202"



PG class in Morphology laboratory



PG class in Sericulture laboratory



PhD class in Smart class room

# Department of Food Science and Technology



From left to right: Dr. Sabbu Sangeeta, Dr. Sweta Rai, Dr. Anil Kumar, Dr. S.K. Kashyap (Dean), Dr. S.K. Sharma (Head), Dr. Simran Kaur Arora, Dr. Poonam Yadav (Teaching Personnel), Dr. Preethi Ramachandran (Teaching Personnel)



**Dr. S. K. Sharma**  
Head

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*To become a leading destination for students pursuing education and research in Food Science and Technology. Providing a solid educational experience through the diffusion and integration of knowledge of Food Technology, and services to food industries.*

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Department of Food Science and Technology is one of the oldest departments 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 remodelled 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., B.Sc. (Food Technology), B.Tech. (Food Technology) programmes in the year 1975, 1983, 2006 and 2020, respectively. 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.

## Mandate

Teaching, research & extension education in the area of Food Science and Technology with major emphasis on cereals, fruits, vegetables and dairy products including their postharvest management, processing, value addition and waste utilization.

## Faculty Members

There are five regular faculty members contributing in the Department of Food Science and Technology. Faculty of the department is from diversified specializations and have immense potential and experiences in various areas related to Food Processing.

### a. Regular Faculty

S. No.	Name	Designation	Specialization
1.	Dr S.K. Sharma	Professor	Fruit and Vegetable Technology, Food Safety, Entrepreneurship Development
2.	Dr Anil Kumar	JRO	Dairy Technology
3.	Dr Simran Kaur Arora	Assistant Professor	Dairy Technology

4.	Dr Sweta Rai	Assistant Professor	Cereal, Grains Technology
5.	Dr Sabbu Sangeeta	Assistant Professor	Fruit and Vegetable Technology

### b. Programs and student enrollment

Programme	No. of on roll students
Ph.D. Food Technology	6
M.Sc. Food Technology	10
B.Sc. Food Technology	45
B.Tech. Food Technology	29
Three months online certificate course in PROCESSING OF FRUITS, VEGETABLES AND SPICES	Variable

## Research Project running in the Department

### New Projects sanctioned in 2021

The year 2021 was remarkable for the Department in terms of projects sanctioned. The Department could win projects worth more than Rs. 4 Crores as per the following details.

S. No.	Title	Budget Outlay (Rs.)	Team	Funding Agency
1.	Food Processing Incubation cum Skill Development centre (PMFME)	2.72 Cr	Dr. SK Sharma PI cum CEO Dr Anil Kumar Co-PI cum Assoc.-CEO	Ministry of Food Processing Industry, GOI
2.	Contract research project on "Multi-location Testing of Bioefficacy of 12 % 1-Methylcyclopropene on Apples as Postharvest Treatment under Indian Conditions"	34.69 Lakh	Dr. SK Sharma (PI) Dr Sabbu Sangeeta (CoPI)	EcoPlants South Korea through EcoPlants India Ltd.
3.	Contract research project on "Multilocation trials for providing test samples to estimate residue of 0.014% 1-methylcyclopropene (SmartFresh Inbox Sachet) on Apples as post-harvest treatment under Indian conditions"	7.05 Lakh	Dr. SK Sharma (PI) Dr Sweta Rai (CoPI)	AgriFresh USA, through Tropical Agrosystems India Pvt., Ltd.

4-	Developing Nutrient-Enrichment Technologies and Products of Commercial Value in a Nutraceutical Food Crop, Buckwheat ( <i>Fagopyrum</i> spp.)	1.13 Cr	Project Coordinator: Dr. R.S. Chauhan Bennett University, Noida  PI-1: Dr. Satish K. Sharma, Co-PI: Dr Sweta Rai  PI-2: Dr. Mohar Singh, ICAR-NBPGR RS, Shimla	DBT, Govt. of India  Approved - to be implemented
5-	Undertaking Capacity Building Programme of Prime Ministers Formalization of Micro Food Enterprises (PMFME) Scheme as State level Technical Institution (SLTI) for Uttarakhand	2.39 Cr.	PI & Nodal Officer: Dr SK Sharma Co-PI: Dr P Prabhakaran, CVAS Co-PI: Dr Archana Kushwaha, CHSc Co-PI: Dr Vipul Gupta, CFSc Co-PI: Dr Anil Kumar, FST, CoA Co-PI: Dr Sweta Rai, FST, CoA Co-PI: Dr Sabbu Sangeeta, FST, CoA	Ministry of Food Processing Industry, GOI – PMFME Scheme

## Programme running in the Department

Post graduation	Year of Start	Objective
M.Sc. (Ag.) Food Tech.	1975	To create human resource with fundamental research outlook
Ph.D. (Food Tech.)	1983	To create human resource with in-depth scientific research outlook

Process for deodourization of wild apricot kernel milk	Deepa Saini, SK Sharma, Anil Kumar, NC Shahi, CS Chopra
Manufacture for preparation of wild apricot milk beverage	Deepa Saini, SK Sharma, Anil Kumar, NC Shahi, CS Chopra
Manufacture for preparation of wild apricot kheer	Deepa Saini, SK Sharma, Anil Kumar, NC Shahi, CS Chopra

## Salient Achievements of the Department

### 1. New Technologies Developed in 2021

With continuous enhancement of focus on research the Department could generate about seven technologies of importance to the food industry as per the details ahead.

Technology title	Inventors
Process for preparation of tofu from black soybean	Madhuri PopatDukare, Sweta Rai, Anil Kumar, CS Chopra
Manufacture of instant soup from water chestnut and vegetables waste	Anjali Pal, Sabbu Sangeeta, Anil Kumar, CS Chopra
In-cup customized instant tea concentrate	Riya Barthwal, SK Sharma, Anil Kumar, Ashutosh Dubey
Technology for preparation of wild apricot kernel milk	Deepa Saini, SK Sharma, Anil Kumar, NC Shahi, CS Chopra

### 2. Publications in 2021

The faculty and students of Department of Food Science and Technology published many research papers out of which four papers were published in Thomas Reuters rated and journals with NAAS rating above 6.0. Besides, many chapters and other articles were also published.

### 3. Special Recognition in 2021

- Department of Food Science and Technology was recognized as State Level Technical Institution under Prime Ministers Formalization of Micro Food Enterprises, Scheme of the MOFPI, Govt. of India
- Dr Sabbu Sangeeta, Assistant Professor, was certified as Master Trainers for Spices Processing and Processing of Fruits and Vegetables by Ministry of Food Processing Industry, GOI, for implementation of PMFME Scheme
- Dr Anil Kumar, was certified as Master Trainers for Dairy Processing by Ministry of Food Processing Industry, GOI, for implementation of PMFME Scheme
- Dr Sweta Rai, Assistant Professor was certified as Master Trainers for Cereals and Grains Processing by Ministry of Food Processing Industry, GOI, for implementation of PMFME Scheme

## Awards/Fellowship earned by faculty members 2021

Type of award	No of students receiving awards	Awarding institution
Best Article Awards	04	National Food Magazines / Publications
Dance competitions	03	GBPUAT
Acting competitions	02	GBPUAT
Singing competitions	02	GBPUAT

Poster competitions	03	GBPUAT
Quiz competitions	03	GBPUAT
Lab Picture competitions	02	GBPUAT
Debate competitions	03	GBPUAT

**Faculty retired in 2021:** Dr. C.S. Chopra, Professor

## Other Remarkable Development/Contributions by the Department

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

Event	Topic	Dates	No. of Participants	Organizers
Mentoring Session for Students-I	How to deliver effective presentation	09.01.2021	11	Dr SK Sharma
Lecture Series	Advances in Food Science and Technology	12 -23 Feb, 2021	110	Dr Rajiv Bhat, University of Life Sciences, Kreutzwaldi, Estonia Dr NP Shah, University of HongKong Dr SS Sablani, Washington State University, USA
Training Programme	Food Processing - Industrial Trends	9-13 March, 2021	120	Dr Pratima Khandelwal, Lead Facilitator, Bangalore Dr Rahul G. Warke, Director Research and Development, HiMedia Labs Mr Himanshu Joshi, Senior Faculty, Centre for Creative Leadership, Mr Gaurav Gupta, Entrepreneur, Co Founder of Man's health and Wellness Startup.
National Workshop	3 <sup>rd</sup> National Workshop of Students and Food Professionals on <b>"Our Actions are Our Future : Better Production, Better Processing, better Environment Better Life"</b> on the occasion of "World Food Day"	16-17 October, 2020	101	Experts Dr. PK Joshi, Former Director, IFPREI, New Delhi  Coordinating Team: Dr. S.K. Sharma, (Chairman); Dr. Anil Kumar, (Co- Chairman) Coordinators: Dr. Sweta Rai, Asst Prof; Dr. Sabbu Sangeeta, Assistant Prof, Dr Preethi Ramachandran, Dr Poonam Yadav
Mentoring Session for Students -II	Essentials of Modern Professional Presentations	12.11.2021	25	Dr SK Sharma





# Department of Genetics and Plant Breeding



Back Row, from left to right: Dr. P.K. Pandey, Dr. D.C. Baskheti, Dr. M.K. Nautiyal, Dr. A.S. Jeena, Dr. S.K. Verma, Dr. Birendra Prasad, Dr. M.K. Karnwal, Dr. N.K. Singh, Dr. Anil Kumar  
Front Row, from left to right: Dr. B.B. Bandyopadhyay, Dr. J.P. Jaiswal, Dr. Ravindra K. Panwar, Dr. Kamendra Singh, Dr. Salil K. Tewari (Head), Dr. S.K. Kashyap (Dean), Dr. Indra Deo Pandey, Dr. A.K. Singh, Dr. Anju Arora, Dr. Swati, Dr. Usha Pant



**Dr. Salil Tewari**  
**Head**

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*The goals of plant breeding are to produce crop varieties that boast unique and superior traits for a variety of agricultural applications. The most frequently addressed traits are those related to biotic and abiotic stress tolerance, grain or biomass yield, end-use quality characteristics such as taste or the concentrations of specific biological molecules and ease of processing.*

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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 2021, 264 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 excellent facilities for teaching various courses in Genetics & Plant Breeding. 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 the of Genetics & Plant Breeding to UG and PG students and to develop high yielding crop Varieties with biotic, abiotic stress resistance, climate resilient and high quality.

## Mission

- To impart quality teaching in Genetics and Plant Breeding related subjects in UG and PG levels.
- To guide quality research to M.Sc. and PhD students in the field of Genetics & Plant breeding.
- To collect, evaluate, maintain and characterize the genetic resources of field crops
- To evolve superior varieties / hybrids of different crops with high yield, quality, biotic and abiotic stresses using classical and molecular tools
- To ensure quality seed production of seed chain of notified varieties
- To impart capacity building to the students and farmers through trainings and guidance.

## Mandate

### Teaching:

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

## Faculty Members

S. No	Name	Designation	Theme/Area of Expertise	Telephone	Email
1.	Dr. Salil.K. Tewari	Professor & Head	Tree Genetics & Improvement	9411781685/ 9027452224	sktgp@gmail.com / agpst@gbpuat.ac.in
2.	Dr. A.K.Singh	Professor	Forestry	9412438893	singhak.cfha@gmail.com
3.	Dr. Virendra Singh	Professor	Forestry	9410198570	vstomar57@gmail.com singhv_t@yahoo.com
4.	Dr. Ravindra Kumar	Professor	Genetics Plant Breeding & Pulse Breeding	9411159751	rkpanwar.pantnagar@gmail.com
5.	Dr. B.B. Bandyopadhyay	Professor	Genetics and Plant Breeding & Oilseed Breeding	7895585027	bbbandyopadhyay@rediffmail.com.
6.	Dr. J.P. Jaiswal	Professor	Genetics & Plant Breeding Wheat Breeding, Plant Biotechnology	7579145670	jjp.gbpu@gmail.com
7.	Dr. Indra Deo	Professor	Rice Breeding , Plant Biotechnology and Molecular Genetics	9411324848	idpandey2005@rediffmail.com
8.	Dr. S.K. Verma	Professor	Resistance Breeding, Pigeon- pea Breeding	9412141008	sk_pantvarsity@yahoo.co.in

9.	Dr. P.S.Shukla (on Leave)	Professor	Seed Science & Technology	9412106536	ps.shukla@rediffmail.com
10.	Dr. A.S.Jeena	Professor	Sugarcane Breeding Genetics & Plant Breeding,	9412120767	dr.asjeena@gmail.com
11.	Dr. M.K. Nautiyal	Professor	Seed Technology	9411398516	adbspe@yahoo.com
12.	Dr. N.K. Singh	Professor	Genetic and Plant Breeding, Maize Breeding, Plant Biotechnology	9412909645	narendraksingh2@rediff mail.com
13.	Dr. Birendra Prasad	Professor	Genetics & Plant Breeding & Wheat Quality Breeding	9411398516	prasadbst@gmail.com
14.	Dr. P.K. Pandey	Professor	Minor Millets Breeding, Molecular Biology & Biotechnology	9411377438	drpradeepkandey@gmail.com
15.	Dr. D.C. Baskheti	Professor	Maize Breeding, Genetics & Plant Breeding	9412120982	dcbaskheti@gmail.com
16.	Dr. M.K. Karanwal	SRO	Genetics and Plant Breeding, Rice Breeding	9410188039	karan.mk30@gmail.com
17.	Dr. Swati	S.R.O.	Genetics & Plant Breeding & Wheat Breeding	9410118597	swatigpb@gmail.com
18.	Dr. Anil Kumar	S.R.O.	Genetics & Plant Breeding & Wheat Quality Breeding	9457663269	anilsirohi_1@yahoo.in
19.	Dr. Usha Pant	J.R.O.	Genetics & Plant Breeding & Rapeseed Mustard Breeding	9411597520	ushabhattgph@rediffmail.com

## Research Project running in the Department

### (i) Coordinated 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. 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 Seed Technology Improvement	ICAR	Dr. M. K. Karnwal

**(ii) Ongoing Ad-hoc research projects:**

S. No.	Name of the project	Period	Funding agency	Amount (Rs. in lakhs)
1.	Genetic Dissection of Heat Tolerance in Wheat Using Multiple Bi-parental RIL Mapping Populations-PI. & Coordinator; PI- Dr. J.P. Jaiswal	2017-22	USAID/BIRAC/ DBT	105.3
2.	Introduction of improved 60 days Cowpea varieties in India. PI : Dr. M. K. Nautiyal	2008-2022	CIAT, Calli Colombia.	\$50,000
3.	Two line hybrid rice to improve the economy of hill agriculture. PI: Dr. M. K. Nautiyal	2018-2022	UCB, Uttarakhand.	29 lacs
4.	Characterization of chickpea germplasm resource to accelerate genomics-assisted crop improvement Dr. R.K. Pawar / Dr. Anju Arora	2020-2024	DBT	71.45 L
5.	Global Rice Array Project Dr. I.D. Pandey	2017-2022	IRRI	\$15,000
6.	Bio-Efficacy Bayer Project: Bioefficacy study of protein-based Plant bio-stimulant NZBBA9104 on Sugarcane yield and Sugar Recovery. PI: Dr A. S. Jeena	2021-22	Novozymes South Asia Pvt. Ltd.	

**Programme 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 of the Department**

1. Research Publications (>6.0 NAAS ranking) in 2021: 19

2. Varieties Identified /Released / Notified in 2021:

Crop	Variety Released	Variety Notified	Scientist (s) involved
<b>Poplar (5)</b>	IFP-BPA-30 (PP-46); IFP-BPA-33 (PP-8); IFP-BPA-34 (PH-1), IFP-BPA-38 (PH-5); IFP-BPA-41 (PH-8) (Released from ICFRE for the state of Bihar)		Dr. Salil Tewari
<b>Sugarcane (3)</b>	Co Pant 12221 Co Pant 12226 Co Pant 13224	=	Dr. A S Jeena
<b>Urdbean (2)</b>	Pant Urd 11, Pant Urd 12	=	Dr. R.K.Panwar / Dr. S.K.Verma / Dr. Anju Arora
<b>Lentil (1)</b>	Pant Lentil 12	Pant Lentil 11	
<b>Pigeonpea (1)</b>	Pant Arhar 8	Pant Arhar 7	
<b>Chickpea (2)</b>	Pant Gram-8 Pant Gram-9	Pant Gram 7	
<b>Fieldpea</b>	=	Pant Pea 195, Pant Pea 347	
<b>Cowpea (1)</b>	Pant Grain Cowpea -7		Dr. MK Nautiyal
<b>Wheat</b>	-	UP 2903, UP 2938, UP 2944	Dr. J.P. Jaiswal / Dr. Swati / Dr. Anil Kumar Dr. R.S. Rawat
<b>Oat</b>		UPO-10-2 (Pant Forage Oat 4)	Dr. Birendra Prasad

3. Germplasm Registered in 2021:

S.No.	Crop & Breeders	Germplasm details	Agency
1.	<b>Rice (2021)</b> Dr. I.D. Pandey	<b>Pant Basmati 2</b> (IET21953) of rice has registered on August 11, 2021 as extant (Notified) variety.	Protection of Plant Varieties & Farmers Right Authority (PPV & FR), New Delhi.
2.	<b>Rice, (2021)</b> Drs. M.K. Nautiyal, D.C. Baskheti, Leela Bhatt	Pant CMS 3A & Pant CMS 3B Registration No. INGR21001 Dated 18 March, 2021	NBPGR, ICAR, New Delhi
3.	<b>Wheat (2020)</b> Drs. JP Jaiswal, Swati, Anil Kumar, RS Rawat	UP 2994 (INGR 20016)* <b>Features:</b> High protein content (Av. 14.33%). High (Fe) iron content (49.0 ppm) and zinc content (43.5ppm). Other desired traits (Hectilitre weight 80.7lg/hl & Sedimentation value (59.5ml).	ICAR-NBPGR, New Delhi
4.	<b>Barley (2020)</b> Drs. JP Jaiswal, Swati, Anil Kumar, RS Rawat	UPB 1070 (INGR 20020)* <b>Features:</b> Resistance to yellow rust (ACI o.o). High yield potential in NHZ (29.2 q/ha). High bold grain percentage (89.4%) and other agronomic traits.	ICAR-NBPGR, New Delhi

5.	<b>Barley (2020)</b> Drs. JP Jaiswal, Swati, Anil Kumar, RS Rawat	UPB 1065 (INGR 20083)* <b>Feature:</b> Low Beta glucan content (<3.5%)- malt quality trait. High Filtration rate and Kolbach index (Malt Quality Traits). High yield potential and resistance to yellow rust *It was registered in the last week of Dec 2020, and hence remained unclaimed.	ICAR-NBPGR, New Delhi
6.	<b>Wheat (2021)</b> Dr. J.P. Jaiswal	IC128365 (INGR21030) <b>Feature:</b> Resistant to leaf rust.	ICAR-NBPGR, New Delhi
7.	<b>Wheat (2021)</b> Dr. J.P. Jaiswal	IC128638 (INGR21031) <b>Feature:</b> Resistance to leaf rust and yield stability across the locations.	ICAR-NBPGR, New Delhi
8.	<b>Wheat (2021)</b> Dr. J.P. Jaiswal	IC 252458 (INGR21097) <b>Feature:</b> Consist of three minor/adult plant rust resistance genes (APR) for leaf rust, <i>Lr34+</i> ( <i>Lr34/ Sr57/Yr18/ /Pm38/Ltn1</i> ), <i>Lr46+(Lr46/Sr58/Yr29/Pm39/Ltn2)</i> and <i>Lr67+ (Lr67/Yr46/Sr55/Pm46/Ltn3)</i> .	ICAR-NBPGR, New Delhi
9.	<b>Wheat (2021)</b> Dr. J.P. Jaiswal	IC290150 (INGR21098) <b>Feature:</b> Consist of three minor/adult plant rust resistance genes (APR) for leaf rust, <i>Lr34+</i> ( <i>Lr34/ Sr57/Yr18/ /Pm38/Ltn1</i> ), <i>Lr67+(Lr67/Yr46/Sr55/Pm46/Ltn3)</i> and <i>Lr68</i> .	ICAR-NBPGR, New Delhi
10.	<b>Wheat (2021)</b> Dr. J.P. Jaiswal	IC279875 (INGR21099) <b>Feature:</b> Consist of two minor/adult plant rust resistance genes (APR) for leaf rust, <i>Lr34+</i> ( <i>Lr34/ Sr57/Yr18/ /Pm38/Ltn1</i> ) and <i>Lr68</i> .	ICAR-NBPGR, New Delhi
11.	<b>Rice (2021)</b> <b>Dr.I.D.Pandey</b>	<b>Pant Basmati 2</b> (IET21953) of rice has registered on August11, 2021 as extant (Notified) variety.	Protection of Plant Varieties & Farmers Right Authority (PPV & FR), New Delhi.

### Achievements by Students (Job/ Awards)

- Ms. Anjali Joshi, Ph. D. student joined as Scientist in Indian Council of Forestry Research & Education at Jodhpur in Genetics and Tree Improvement Division, Arid Forest Research Institute, Jodhpur, Rajasthan
- Ms.Tabassum joined as Assistant Professor at Baba Farid Group of Institutions, Jalandhar
- Ms.Ranjana joined as Horticulture Inspector in Uttarakhand Government.
- Neha Panwar qualified as Assistant Agriculture officer in Uttarakhand Government.
- Simaran Sidodiya qualified as Livestock extension officer in Government of Uttarakhand.
- Himanshu Chaudhary joined as Agriculture Technical Assistant, Department of Agriculture, Government of Uttar Pradesh.
- Harikant Yadav joined as lecturer in Government of Uttar Pradesh.
- 16 students qualified ICAR Net 2021

### Awards/Fellowship earned by faculty members 2021

S. No.	Name of Faculty	Award details	Agency
1	Dr. N. K. Singh	Dr. P. S. Khankhoje Gold Medal, October 2021	Dr. Panjabrao deshमुख Krishi Vidyapeeth Akola (Maharashtra)
2.	Dr. N. K. Singh	Dr. BB Singh Outstanding Scientist Award on 9 <sup>th</sup> July 2021	G. B. Pant University of Agric. & Tech., Pantnagar

3	Dr. N. K. Singh	AICRP Maize Best centre award, June-2021	ICAR-IIMR, Ludhiana
4	Dr. J.P. Jaiswal	Dr. B.B. Singh Outstanding Scientist Award 2019 conferred on 9 <sup>th</sup> July 2021	GB Pant University of Agriculture & Technology, Pantnagar
5	Dr. J.P. Jaiswal	Fellow 2021 of International Society of Noni Sciences (ISNS) conferred on Feb 1, 2021	International Society of Noni Sciences (ISNS)
6	Dr. Swati	Excellence in Teaching award for outstanding contribution in the field of Genetics and Plant Breeding	Astha Foundation, Meerut

### Infrastructure Development in 2021

- Air conditioning of the UG Genetics & Cytogenetics Lab. and class room sponsored by the alumni of the department
- Tile flooring of the seminar hall sponsored by the alumni of the department
- Renovation of Library cum Interaction room

**Faculty Retired in 2021:** Dr. Kamendra Singh, Professor

### Other Remarkable Development/Contributions by the Department

S. No.	Title & details
1.	Dr. Salil Tewari was invited as Panelist in the training course on "Agroforestry for boosting tree cover and livelihood enhancement" for Indian Forest Service officers at Forest Research Institute, Dehradun from 22 to 26 November, 2021
2.	Dr. N. K. Singh: Plant Breeding: Innovations and speeding-up in the varietal development process in Faculty Development Programme on Scaling up Agricultural Research with New Methodologies of Rama University, Kanpur on 06 September 2021
3.	Online Certificate course "Seed Production & Technology" re-launched in September, 2021.
4.	Genetics and Plant Breeding Society won 1st prize for departmental stall during Farmers Fair, October 6-9, 2021
5.	Dr. AS Jeena, nominated as Coordinator, "University Connect Project -APSA/NSAI" in Oct. 2021.
6.	Prasad, Birendra 2021. All in one objective in Seed Science and Technology. Jaya Publishing House (11 April 2021) New Delhi. ASIN: B0928W25VL. pp:340
7.	Dr. Birendra Prasad Professor acted as Dy. Coordinator in the Certificate course "Seed Production Technology" Sept.-Oct. 2021
8.	Dr. Birendra Prasad Professor got Certificate of Appreciation from Dean, College of Agri-Business & Management for conducting successful JRF/SRF tutorial program. August 2021
9.	Dr. Salil Tewari delivered an invited lecture on "Genetic Improvement in Agroforestry Programs" at National Seminar in FRI, Dehradun; August 24, 2021
10.	Dr. J. P. Jaiswal, Professor participated in Leadership for Academicians Programme at the University of Pennsylvania, USA during December 6-10, 2021.



**Pant Urd - 12**



**Pant Grain Cowpea-7**



**Pant Chana - 9**



**Poplar Hybrid - 5**



# Department of Horticulture



Back Row, from left to right: Dr. Satish Chand, Dr. Rajesh Kumar, Dr. V.P. Singh, Dr. Ratna Rai, Dr. Rashmi Panwar, Dr. Pratibha, Dr. Shweta Uniyal  
Front Row, from left to right: Dr. B.D. Bhuj, Dr. V.K. Rao, Dr. Navin Singh, Dr. P.N. Rai, Dr. S.K. Kashyap (Dean), Dr. D.C. Dimri (Head), Dr. A.K. Singh, Dr. Omveer Singh



**Dr. D.C. Dimri**  
**Head**

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*Horticultural crops require intense care in planting, carrying out intercultural operations, manipulation of growth, harvesting, packaging, marketing, storage and processing. India is the second largest producer of fruits and vegetables in the world after China. Horticultural crops constitute a significant portion of the total agricultural produce in India.*

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Department of Horticulture came into existence in 1961 and M. Sc. Ag. in Horticulture programme was initiated in 1963. The Department of Horticulture 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, research and training in the field of horticulture.

## **Mandate**

Teaching, Research & Extension education in the area of Horticulture with major emphasis on fruits and flowers including their postharvest management, processing, value addition and waste utilization.

## Faculty Members

S. No.	Name of Faculty	Designation	E-mail ID	Mobile No.	Specialization
1.	Dr. D.C. Dimri	Professor & Head	dineshdimri61@gmail.com	9412984236	Fruits (Temperate Fruits)
2.	Dr. V.K. Rao	Professor	vkraohort@gmail.com	7500241434	Horticulture (Floriculture & Pomology)
3.	Dr. P.N. Rai	Professor	drraithorti@gmail.com	7668839668	Fruits (Production Technology)
4.	Dr. B.D. Bhuj	Professor	bdbhujvcsg@rediffmail.com	9456552484	Floriculture & Landscaping
5.	Dr. Ranjan Srivastava	Professor	ranjansrivastava25@gmail.com	9412039911	Floriculture and Tissue Culture
6.	Dr. A.K. Singh	Professor	drashokkumar71@gmail.com	9411324825	Fruits (Production & Growth Regulation)
7.	Dr. Omveer Singh	Professor	ovspt@gmail.com	9411741267	Fruits (Post Harvest Technology)
8.	Dr. V.P. Singh	Professor	hortvp@gmail.com	9536102111	Precision Horticulture
9.	Dr. Ratna Rai	Professor	ratnarai1975@gmail.com	9456123554	Fruits (Nursery Production & Tissue culture)
10.	Dr. Ajit Kumar	Professor	ajitflori@gmail.com	9412451262	Floriculture & Landscaping
11.	Dr. Satish Chand	S. R. O.	sc_1966@rediffmail.com	9412120885	Fruits & Floriculture
12.	Dr. Rajesh Kumar	Assoc. Professor	rkshukla2006@gmail.com	9415574127	Fruits (Tissue culture & Canopy management)
13.	Dr. Navin Singh	S. R. O.	navinsingh31@yahoo.in	9412121060	Fruits (Production Technology)
14.	Dr. Pratibha	Asstt. Professor	pratibhahorti@rediffmail.com	8650730476	Fruits (Production Technology)
15.	Dr. Shweta Uniyal	Asstt. Professor	shweta.horti@gmail.com	9411103472	Low-chill Temperate Fruits
16.	Dr. Anju Pal	Asstt. Professor	anjupal128@gmail.com	7060212605	Floriculture, Medicinal Plant and Biotechnology
17.	Dr. Rashmi Panwar	Asstt. Professor	panwarrashmi2016@gmail.com	6398284141	Fruits (Production Technology)

## Research Project running in the Department

Name of the Project	Funding agency	P.I.	Co-P.I.
All India Coordinated Research Project on Floriculture	ICAR, New Delhi	Dr. Ajit Kumar	Dr. V. K. Rao, Dr. B. D. Bhuj and Dr. Ranjan Srivastava

All India Coordinated Research Project on Fruits (Mango, Litchi and Guava)	ICAR, New Delhi	Dr. A. K. Singh	Dr. Poonam Srivastava, Dr. Satish Chand, Dr. Rajesh Kumar and Dr. Pratibha
Collection and establishment of budwood bank of low chill temperate fruits viz., Peach, Plum and Pear	HMNEH, Uttarakhand	Dr. D. C. Dimri	Dr. Shweta Uniyal
Evaluation of Quantis in Apple for reduction in flower drop, yield increase and better fruit quality	Syngenta Ltd.,	Dr. D. C. Dimri	-
Bio-efficacy project code-2072 & title "Evaluation of plant growth regulatory potential of Mepiquat chloride 5% AS in Mango	Gharda Chemicals Limited, Thane - 421 203, Maharashtra	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	-

### Programme running in the Department

S. No.	Name of Degree	Students intake (Uttarakhand Domicile)	Students intake (ICAR)	Total
1.	M.Sc. Ag. Horticulture (Fruit Science)	08	02	10
2.	M.Sc. Ag. Horticulture (Floriculture & Landscaping)	04	01	5
3.	Ph.D. Horticulture (Fruit Science)	05 (4+1)	01	6
4.	Ph.D. Horticulture (Floriculture & Landscaping)	04 (3+1)	01	5

### Salient Achievements of the Department

- Twenty two research paper have been published during 2021 in national and international journal of repute.
- Two books and 12 book chapters were published.
- Department has developed/published 5 lab manuals for UG courses.
- Two weeks Online Entrepreneurship Development Program on "Post-harvest Technology in Horticultural Crops" was organized from 11th January, 2021 to 25th January, 2021 under ICAR SC Sub Plan.
- Five days training programme was conducted on the topic "Propagation and nursery production of horticultural and forestry plants" from 22-02-2021 to 26-02-2021, in which 20 gardeners and field staff of Forest Department were participated and trained for different techniques and methods of propagation of plants.
- Three days ICAR funded training programme was

conducted for the skill development of UG level students of College of Agriculture, GBPUAT, Pantnagar under SC-Sub Plan Scheme from 5-7<sup>th</sup> January 2021.

- Online ICAR JRF/SRF Coaching classes on "Fruit Science and Floriculture and Landscaping" were organized from 9<sup>th</sup> February to 23<sup>rd</sup> February, 2021 in the department under ICAR SC Sub Plan. 15 faculty of the department have successfully conducted 25 coaching classes for enrolled 40 UG and PG students of College of Agriculture.

#### Students Achievements:

Name of fellowship/award/selection	No.
NET -ICAR	09
SRF-ICAR	03
Scientist/ Assistant Professor/SMS/RA	03
State agriculture/horticulture department	07

**National award, fellowship earned by the faculty members in 2021:**

1. Dr. V. P. Singh received best poster presentation award for the poster on “Effect of deficit irrigation with mulching on growth and yield of guava cv. VNR Bihi” at International Web Conference on Innovative and Current Advances in Agriculture & Allied Sciences held during July 19-21, 2021.
2. Dr. Anju Pal received National Gladiolus Trust Fellow Award.
3. Dr. Anju Pal got best oral presentation award in 4<sup>th</sup> International Conference on Global approaches in

Natural Resource Management for Climate Smart Agriculture during Pandemic Era of COVID-19 held during 26-28<sup>th</sup> February, 2021.

4. Dr Pratibha received SERS Women Scientist award during 2nd International e-Conference on Advances in Agriculture, Technology and Allied Science for Sustainable Development organized by Scientific & Educational Research Society, Meerut U.P., India at Graphic Era Hill University Dehradun during 9-10 October 2021

**Faculty Retired in 2021:** Dr. N. K. Mishra, Professor



Visit of Hon'ble Governor of Uttarakhand and Chancellor, Lt. Gen. Gurmit Singh to HRC, Patharchatta



Certificate distribution in Training on Nursery Production held from 22-02-2021 to 26-02-2021 at HRC, Patharchatta



Visit of government officer Guinea to HRC, Patharchatta



Five days training programme on “Propagation and Nursery Production of Horticultural and Forestry Plants” held from 22-02-2021 to 26-02-2021 at HRC, Patharchatta



Blooming beautiful flowers at Model Flouriculture Centers

# Department of Plant Pathology



Back Row, from left to right: Dr. Bijendra Kumar, Dr. Shailbala, Dr. Roopali Sharma, Dr. Rashmi Tiwari, Dr. S.K. Mishra

Front Row, from left to right: Dr. L.B. Yadav, Dr. A.K. Tewari, Dr. K.P.S. Kushwaha, Dr. Pradeep Kumar (Head),  
Dr. S.K. Kashyap (Dean), Dr. K.P. Singh, Dr. R.P. Singh, Dr. Satya Kumar



**Dr. Pradeep Kumar**  
Head

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*Plant Pathology are the study on the living entities that cause diseases in plants; the non-living entities and the environmental conditions that cause disorders in plants; the mechanisms by which the disease causing agents produce diseases and the method of preventing or managing the diseases and reducing the losses/damages caused by diseases.*

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The Department of Plant Pathology was created & accredited by the ICAR in 1961. Postgraduate programme leading to M.Sc. (Ag.) in Plant Pathology and Ph.D. Plant Pathology were started in 1963 and 1965, respectively. Department stupendously progressed under the able guidance of Drs. Y.L. Nene, first Head of the Department, and 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

## Faculty Members

S. No.	Name of Faculty Member	Designation	Mobile No.	Email	Specialization
1.	Dr. Pradeep Kumar	Prof. & Head-cum-Director, CAFT	9412121099	pradeepguptaachieve@gmail.com	Soybean Pathology, Maize Pathology & Fruit Pathology
2.	Dr. K.P. Singh	Professor	9412142537	kpsingh.gbpuat@gmail.com	Plant Disease Epidemiology & Forecasting
3.	Dr. Y. Singh	Professor	9412121152	drysingh69@gmail.com	Sorghum & Forest Pathology
4.	Dr. R.P. Singh	Professor	7500941100	rajesh_p_singh@rediffmail.com	Vegetable Pathology and Maize Pathology
5.	Dr. K.P.S. Kushwaha	Professor	9411160014	kps.kushwaha@gmail.com	Pulse Pathology, Mycology, Mushroom
6.	Dr. A.K. Tewari	Professor	9411324813	anandtewari9@gmail.com	Rapeseed-mustard pathology, Integrated Disease Management, Pathogen diversity, Biological control of plant pathogens, Mushroom production technology
7.	Dr. Satya Kumar	Professor	9412436219	skumar8326@rediffmail.com	Nematology
8.	Dr. L.B. Yadav	Assoc. Prof.	9456345392	lalbhadurpatho@gmail.com	Mycology and Pulse Pathology
9.	Dr. Roopali Sharma	SRO	7830355250	roopalibiocontrol@gmail.com	Biological Control
10.	Dr. Bijendra Kumar	SRO	9411159506	bij2810@gmail.com	Small Millets & Rice Pathology
11.	Dr. S.K. Mishra	SRO	9410405616	drskmishra1972@gmail.com	Mushroom Production Technology
12.	Dr. Shailbala	SRO	9456678706	shailbalasharma10@gmail.com	Potato Pathology
13.	Dr. Deepshikha	JRO	8859065125	deepshikhapatho@gmail.com	Wheat Pathology

14.	Dr. Geeta Sharma	JRO	9410111625	geetash30@gmail.com	Sugarcane Pathology & Mushroom Production Technology
15.	Dr. Rashmi Tewari	Asstt. Prof.	9412100770	rashmipnt@gmail.com	Seed Pathology / Seed Health Technologies
16.	Dr. Shilpi Rawat	Asstt. Prof.	9457555638	rawatshilpi19@gmail.com	Plant Nematology and Mushroom

### Research Project 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)
- Development of Natural Products from Plant Origin as Potent Bio-pesticide for Plant Disease Management (Uttarakhand Council for Biotechnology).
- A project on "Development of Natural Product from Plant Origin as Potent Bio-pesticide for Plant Disease Management". Funded by: Uttarakhand Council for Biotechnology. Total budget: 12, 34, 200.00.
- A collaborative project on "Characterization of Chickpea Germplasm Resources to Accelerate Genomics- assisted Crop Improvement", funded by Department of Biotechnology Gov. of India. Budget: 71.457 Lac and for five years duration.
- Production of Growing Medium of Button Mushroom through New Invented Semi-Automatic Portable Composting Structure at the Door of Beneficiaries (Women and ST/SC Community People) of Uttarakhand Hills funded by National Mission on Himalayan Studies.

### Programme running in the Department

Degree Programme	Year of Start	Total no. of Courses	Total No. of Lab
M.Sc. (Ag.) Plant Pathology	1963	28	680
Ph. D. Plant Pathology	1965	08	216

- Department also organizes 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 organize farmers training programme on Mushroom & Spawn Production Technology for Development skills of the farmers.
- Organized certificate course on mushroom cultivation-Phase-II-2.0 w.e.f. 12 July to 11 October 11, 2021.

### Salient Achievements of the Department

- In wheat, thirteen germplasm accessions (accession No.29, 36 59, 65, 77, 80, 86, 107, 109, 128, 172 178, 16) showed leaf rust resistance at adult plant and the presence of major leaf rust resistance gene, *Lr19* was also confirmed by SSR marker *Xwmc221*. Similarly, in eight accessions (accession No.29, 65, 80, 86,103,126, 171, 16) the presence of Adult Plant Resistance gene i.e. *Lr67* confirmed by *Xcfd7*.



- The cultural-morphological variability among the *Bipolaris sorokiniana* isolates from different locations in Uttarakhand (Pantnagar, Sitarganj, Nanakmatta, Khatima, Rudrapur, Gadarpur, Kashipur and Haldwani) were studied. All the isolates showed variations in the colony morphology, pigmentation and conidial structure.
- Five germplasm with number IC 128565, IC 128638, IC 252458, IC 279875 and IC 290150 of wheat for rust disease were registered by Plant Germplasm Registration Committee (PGRC) of ICAR during 2021.
- Under glass house condition, mixed formulations i.e. PBAT-3, Th17+Psf-173, Th14+Psf-2, Th17+Psf2 and Th17+Th14 showed better performance over individual isolates with respect to their effect on seed germination and plant growth in rice crop.
- In rice, formulation PBAT-3 showed minimum Sheath blight (*Rhizoctonia solani*) severity as well as minimum percentage of Brown spot (*Drechslera oryzae*) infected panicle/ hill, which though did not differ significantly with carbendazim.
- Under field conditions, mixed formulations, viz. Th17+Psf-173, PBAT-3, Th14+Psf-2, Th17+Psf2 and Th17+Th14 showed better performance over individual isolates with respect to their effect on rice plant vigor and yield.
- In field experiment maximum percentage of seed germination and plant stand were observed with PBAT-3. Minimum number of mature plant wilt (4.17) at 120 DAS was observed with consortium Th17+Psf 173, while maximum in control (11.54) in chickpea.
- Twenty two nucleotide sequences submitted to GenBank and got accession number against pod blight in soybean on May 21, 2021.
- Twenty two nucleotide sequences submitted to GenBank and got accession number against yellow mosaic virus in soybean on May 24, 2021.
- Five Wheat germplasm has been registered by Plant Germplasm Registration Committee of Indian Council of Agricultural Research (ICAR):
  1. With IC 128565 of wheat (INGR21030) by ICAR-NBPGR, Pusa Campus, New Delhi. March, 18 2021.
  2. With IC 128638 of wheat (INGR21031) by ICAR-NBPGR,

Pusa Campus, New Delhi. March, 18 2021.

3. With IC 252458 of wheat (INGR21097) by ICAR-NBPGR, Pusa Campus, New Delhi. June, 30 2021.
4. With IC 279875 of wheat (INGR21099) by ICAR-NBPGR, Pusa Campus, New Delhi. June, 30 2021.
5. With IC 290150 of wheat (INGR21098) by ICAR-NBPGR, Pusa Campus, New Delhi. June, 30 2021.

### **Awards/Fellowship earned by faculty members**

- Drs. K.P. Singh, L.B. Yadav and Deepshikha were honoured with 'Certificate of Appreciation' by Board of Faculty Agriculture, from G.B. Pant University of Agriculture & Technology (GBPUAT), Pantnagar, 01 January, 2021.
- Dr. K.P. Singh received Certificate of appreciation in IPS, National e-conference, Plant health and food security: Challenges and Opportunities, March 25-27, 2021, ICAR-IARI, New Delhi.
- Received best performing AICRP Centre on Maize award for overall performance during the period 2019-20 & 2020 -21.

### **Infrastructure development in 2021, if any**

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

**Faculty retired in 2021:** Dr. J. Kumar, Professor

### **Other Remarkable Development/Contributions by the Department**

#### **Webinars/activities organized in 2021**

- A one-day training Program on "Improved cultivation technologies of Rapeseed- mustard in Uttarakhand" for Agriculture Extension Officers was organized jointly by AICRP Rapeseed- Mustard, and Directorate of Agri. extension education, GBPUAT, Pantnagar Uttarakhand on 13<sup>th</sup> March, 2021
- Two days technical Training (11-12 June 2021) on Production and Protection Technology of *Kharif* Crops through zoom link, Ramcides Crop Science R & D workers, farmers, ICAR Institute, GBPUAT

# Department of Soil Science



Back Row, from left to right: Dr. A. P. Singh, Dr. Poonam Gautam, Dr. Manisha Rani, Dr. S.P. Gangwar, Dr. S.P. Pachauri, Dr. Veer Singh, Dr. A.K. Pant  
Front Row, from left to right: Dr. Shri Ram, Dr. Navneet Pareek, Dr. K.P. Raverkar, Dr. S.K. Kashyap (Dean), Dr. Ramesh Chandra (Head), Dr. Ajaya Srivastava, Dr. Jai Paul, Dr. Arvind Kumar Tyagi



**Dr. Ramesh Chandra**  
Head

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*Soil is alive complex material that supports life. It may take a thousand years for just 1 inch of soil to form. Therefore, managing soil properly for the benefit of future generations is critical. There are more species of organisms in the soil than there are aboveground. A single handful of soil contains millions of individual living organisms.*

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Department of Soil Science was established in 1960 as a part of the College of Agriculture in the University. Our department deals with soil as a natural resource on the surface of the earth including soil formation, classification and mapping; physical, chemical, biological, and fertility properties of soils per se; and these properties in relation to the use and management of soils. We trained our PG and Doctoral program students in the above branches of soil science. 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

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.

## Mission

- To provide high quality education to the students with an understanding of and ability to apply fundamental principles of Soil Science and natural resource management

- To develop knowledge of soil science and the interrelationships with plant nutrition, plant growth and environmental quality
- To apply this knowledge to advance resource efficient and environmentally sound soil management technologies.

3. Evaluation of new age fertilizers to increase fertilizer use efficiency.
4. Imparting training to youth to develop skill on various aspects of natural resource use and conservation for sustaining soil health and crop productivity.

## Mandate

1. Development of efficient soil technologies for judicious use of natural resources.
2. Sustaining soil health in the changing climate scenario.

## 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	Designation	E-mail Id	Mobile no	Specialization
1.	Dr. Ramesh Chandra	Prof. & Head	rc.pantnagar@gmail.com	9412982048	Soil Microbiology/ Soil Fertility
2.	Dr. K.P. Raverker (Currently Dean PGS)	Professor	kraverkar@gmail.com	9412364837	Soil Microbiology
3.	Dr. Navneet Pareek	Professor	pareeknav@gmai.com	9411320501	Soil Fertility/ Soil Microbiology
4.	Dr. Ajaya Srivastava	Professor	ajayasoiliari@gmail.com	9411539422	Soil Fertility/Soil chemistry
5.	Dr. Shri Ram	Professor	shriram_189@yahoo.co.in	9411324812	Soil Chemistry/ Soil Fertility
6.	Dr. Jai Paul	Professor	jaipaulsoils@rediffmail.com	8279542229	Soil Chemistry/ Soil Fertility
7.	Dr. Poonam Gautam	S.R.O.	drpgautam@gmail.com	9411195426	Soil Microbiology/ Soil Fertility
8.	Dr. A.K. Pant	S.R.O.	akpsoil@yahoo.com	9412419872	Soil Chemistry/ Soil Fertility
9.	Dr. Veer Singh	S.R.O.	Veer1969_singh@yahoo.com	9837649644	Soil Physics/Soil Fertility
10.	Dr. S.P. Pachauri	S.R.O.	Sp_pachauri@gmail.com	9411159733	Soil Chemistry/ Micronutrients
11.	Dr. A.P. Singh	S.R.O.	ajeetsona@gmail.com	9412036492	Soil Fertility/Soil Chemistry
12.	Dr. S.P. Gangwar	J.R.O.	drspgangwar@gmail.com	9997713054	Soil Microbiology / Soil Chemistry
13.	Dr. A.K. Tyagi	Asstt. Prof.	aktyagi26@gmail.com	9412801873	Soil Chemistry/ Soil Fertility
14.	Dr. Manisha Rani	Asstt. Prof.	ranimanisha23@gmail.com	8375929625	Soil Physics/Soil Fertility

## Research Project running in the Department

Presently, 10 AICRPs and one Network project funded by ICAR and one ad-hoc research project funded by

IFFCO in 2021 are ongoing in the department. The list of ongoing research projects is as follows:

S. No.	Title of the research project	P.I.	Co-P.I.	Funding Agency
<b>All India Coordinated Research Projects</b>				
1.	AICRP on MULLaRP (Soil Microbiology component)	Dr. Ramesh Chandra	Dr. Navneet Pareek	ICAR
2.	AICRP on Chickpea (Soil Microbiology component)	Dr. Ramesh Chandra	Dr. Navneet Pareek	ICAR
3.	AICRP on Soybean improvement (Soil microbiology component)	Dr. Navneet Pareek	-	ICAR
4.	AICRP on maize improvement (Soil Science component)	Dr. Veer Singh	-	ICAR
5.	AICRP on long term fertilizer experiments	Dr. Shri Ram	-	ICAR
6.	AICRP on soil test crop response correlation	Dr. Ajaya Srivasatva	Dr. Poonam Gautam	ICAR
7.	AICRP on micro and secondary nutrients and pollutant elements in soils and plants	Dr. Ajaya Srivastava	-	ICAR
8.	AICRP on Integrated farming system (Soil Science component)	Dr. Ajeet Pratap Singh	-	ICAR
9.	AICRP on rice (Soil Science component)	Dr. A. K. Pant	-	ICAR
10.	AICRP on Water Management (Soil Science component)	Dr. Manisha Rani	-	ICAR
11.	AINP on soil biodiversity-biofertilizers	Dr. K.P. Raverker	-	ICAR
<b>Ad-hoc research project</b>				
12.	Fertility studies of AGMA Energy Pvt. Ltd. AMF ( <i>Arbuscular Mycorrhizal Fungi</i> ) for yield increase in rice	Dr. Ajeet Pratap Singh	Dr. Navneet Pareek	M/S AGMA Energy Private Limited, New Delhi

### Programme running in the Department

10 seats in M.Sc. Ag. (08 seats for Uttarakhand domicile & 2 seats through ICAR) & 5 seats in Ph.D. (4 seats for Uttarakhand domicile & 1 seat-ICAR). Under teaching programme, the department is offering 12 under graduate and 18 postgraduate 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.

The department apart from providing on farm and off farm trainings to the farmers, also extends service 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 of the Department

- Submitted 6 PGPR microorganisms to National Agriculturally Important Microbial Culture Collection at ICAR-NBAIM, Mau, U.P.
  - Stenotrophomonas rhizophila* strain KB 133
  - Stenotrophomonas rhizophila* strain PUK 171
  - Nanobacterium* sp. strain PUK 46B6
  - Stenotrophomonas rhizophila* strain LK 786
  - Bacillus cereus* strain NE-10
  - Bacillus aerophilus* strain NE-12

2. Following 9 students got placement in different organizations during the year 2021:

S. No.	Name	Id No.	Post and Organization
1.	Dr. D. C. Kala	47069	SMS, GBPUAT, Pantnagar
2.	Dr. Maneesh Bhatt	45579	Assistant Professor, Himgiri Zee University, Dehradun
3.	Ms. Ananya Chitransh	56664	Technical Officer, Department of Agriculture, Uttar Pradesh
4.	Ms. Abhilasha Pathak	55682	
5.	Dr. Varsha Pandey,	41379	Assistant Professor, TMU, Moradabad, UP.
6.	Ms Abha Lohani	44374	Assistant Agriculture Officer, Dept. of Agriculture, Uttarakhand
7.	Mr. Vishal Kumar	46179	
8.	Ms. Swapnil Bisht	46152	
9.	Ms. Shivani Chawdhary	46082	

- Ms. Pooja Nain, Id. No. 46071, a Ph. D. scholar got ICAR -SRF (Ph.D.) 2021 and ASRB- NET-2021.
- Ms. Aashu Rajput, Id No. 46179, M.Sc. Ag Soil Science qualify ASRB-NET- 2021.
- Ms. Pooja Nain, Id. No. 46071, a Ph. D. scholar published an article and won the Best Article Award for article Id 11233 entitled “Biochar: Properties and importance in agriculture”, which got published in Volume 03 - Issue 06 in Agriculture & Food: e-Newsletter.
- Ms. Pooja Nain, Id. No. 46071, qualified for online National Quiz on “Advance Techniques in Agriculture” held during 23<sup>rd</sup> - 30<sup>th</sup> May 2021, organized by Hindustan Agricultural Research Welfare Society, Agra, UP.
- Soil test-based fertilizer recommendations and site-specific nutrient management practices have been developed.
- Development of consortia biofertilizer inoculant production technology of *Rhizobium* and PGPR
- The Soil Testing Lab has analyzed more than 300 soil sample still 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.

- 19 research papers, one book chapter and one popular article have been published during 2021 in national and international journals of repute.
- Department has developed/published 7 practical manuals for UG and PG courses.
- Organized Training programe for P.G. and Ph.D. students of SC plan on “Soil quality and its management” from 22-24 Feb, 2021 at Pantnagar.
- Training organized for U.G. students of SC plan on “Soil health for sustainable agriculture” from 25-27Feb, 2021 at Pantnagar.
- Organized World Soil Day- 2021 on 5<sup>th</sup> December 2021by conducting events a) Panting competition for school children, b) Quiz for University students and c) Online Guest lecture by Dr. Deeksha Krishna, Associate Dean Research of College of Agriculture, Fisheries & Forestry, Fiji National University, Fiji, Islands)
- Developed a low- cost assembly for extraction of hot calcium chloride extractable Boron from soil samples by P.C. Srivastava and S.P. Pachauri, Department of Soil Science, GBPUAT, Pantnagar.

### Patent filed

- Srivastava, P. C.; Pachauri, S.P.; Guru, S.K. and Shukla, A.K. filed patent on new foliar spray formulation for supplying zinc, boron, sulphur and nitrogen to crops. Patent Application No. 202111008833 Dated 03.03.2021.
- Dr Shri Ram, Professor, Soil Science filed by two patents (under process)

### Awards/Fellowship earned by faculty members 2021

- Dr. K.P. Raverker, Professor and Dean PGS received Certificate of appreciation from Hon’ble Vice Chancellor of GBPUA&T for exceptional hard work and selfless service in running COVID-19 Quarantine Centre at University.
- Dr. K.P. Raverker, Professor and Dean PGS and Dr. Manisha Rani, Assistant Professor received Certificate of Appreciation from Hon’ble Vice Chancellor in recognition of commendable work done as part of the team IDP-NAHEP.
- Dr. Navneet Pareek, Professor received Certificate of appreciation from Hon’ble Vice Chancellor of GBPUA&T for exceptional hard work during online examination and selfless service in running COVID-19 pandemic situation at University.
- Dr. Navneet Pareek, Professor received Certificate of appreciation from Dean, College of Agriculture, GBPUA&T for successful completion of online

examination, hard work and selfless service in running COVID-19 pandemic situation at University.

### Infrastructure development in 2021

Department has procured new spectrophotometer, Flame photometer, distillation unit, top pan electronic balance to strengthen the analytical work of research and under graduate and post graduate classes.

### Faculty member retired in 2021

- Dr. P. C. Srivastava, Professor Soil Science

### Other Remarkable Development/ Contributions by the Department

- ICAR sponsored three days training on “Soil Quality and Its Management” organized by Department of Soil Science, Pantnagar. Lecture delivered by the faculty to PG and Ph.D. students of the department – SC, from 22- 24.2.2021 in Online mode.
- ICAR sponsored three days training on “Soil health for sustainable agriculture” organized by Department of Soil Science, Pantnagar. Lecture delivered by the faculty to UG students of the department – SC, from 25-27.2.2021 in Online mode.



Prize distribution to the winners of the Poster Making Competition held on the occasion of World Soil Day dated 5th Dec. 2021



Students working in Micronutrient Laboratory in the Department of Soil Science



Students working in Microbiology Laboratory in the Department of Soil Science



Students working in Wet Analysis Laboratory in the Department of Soil Science

# Department of Vegetable Science



From left to right: Dr. Alka Verma, Dr. M. Raghav, Dr. Dinesh K. Singh (Head), Dr. J.P. Singh, Dr. Lalit Bhatt, Dr. S.K. Maurya



**Dr. D. K. Singh**  
Head

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*Our department dedicatedly works to implement sustainable development of field vegetable production, thereby contributing to economic development, to food security and food quality and to environmental and human health protection by reducing pesticide use.*

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The academic council approved the M.Sc. (Ag.) and Ph. D. programmes in Vegetable Science to be effective from 1995-96 and also 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.

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.

## Vision

- Nurture scientific excellence and promote interdisciplinary, systems-based, knowledge-intensive, problem-solving research to ensure quality education.

- Promote Respond proactively to economic opportunities for the farmers, rural community, consumers and the society as a whole.

### Mission

- To Provide high quality teaching, research and development to the students with an understanding and ability to apply fundamental principles of vegetable production and cereal varieties development, their seed production, disease and insect management and post-harvest management.
- To develop knowledge about the various vegetable crops for the enhancement of production and productivity of Vegetables, and Horticulture commodities in the area.

### 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.

### Faculty Members

S. No.	Name	Designation	Email ID	Mobile No.
1.	Dr. Dinesh Kumar Singh	Prof. & Head	dks1233@gmail.com	9412931556
2.	Dr. J. P. Singh	Prof.	gautam56@yahoo.com	7055621244
3.	Dr. Manoj Raghav	Prof.	raghav1963@yahoo.co.in	9411159584
4.	Dr. Dharendra Kumar Singh	Prof.	dksinghbais@gmail.com	9456137020
5.	Dr. Dharendra Singh	Prof.	dheer_singh72@yahoo.co.in	9411320520
6.	Dr. Suresh Kumar Maurya	JRO/ Astd. Prof.	drskm23@gmail.com	9411159800
7.	Dr. Lalit Bhatt	JRO/ Astd. Prof.	drbhattlalit@gmail.com	9412986485
8.	Dr. Alka Verma	JRO/ Astd. Prof.	alkadvs@gmail.com	9045377634

### Research Project running in the Department

Research Projects	Funding Agency	PI
Studies on seed quality traits and root stock production of kiwi plant ( <i>Actinidia deliciosa</i> cv. Haward).	Uttarakhand Biotechnology Council, Department of Agriculture, Govt. of Uttarakhand	Dr. D.K. Singh
Collection, characterization and conservation of vegetable crop biodiversity of Uttarakhand.	Uttarakhand Biotechnology Council, Department of Agriculture, Govt. of Uttarakhand	Dr. D.K. Singh
Expansion of activities of Biotech Kisan hun in two aspiration districts (Haridwar and US Nagar) of Uttarakhand	Department of Biotechnolgy, Govt. of India	Dr. D.K. Singh



## Programme running in the Department

Programmes	Uttarakhand Domicile	ICAR	Total
M. Sc.	6	2	8
Ph. D.	4	1	(+1 other state)

## Salient Achievements of the Department

ICAR- AICRP Vegetable has recommended on the basis of 3 years multilocational trails during AICRP Vegetable Group meeting held on ICAR-IIVR, Varanasi on 07-09<sup>th</sup> September, 2021. It was overall opinion of the house that Pant Parthenocarpic Cucumber-2, Pant Parthenocarpic Cucumber-3 and tomato PTH-1 are from the Public Sector i.e. G.B. Pant University of Agriculture and Technology, Pantnagar developed by Dr. D.K. Singh, Professor and Head, Department of Vegetable Science. Their performance is found better at most of the centres. Thus they are recommended for polyhouse cultivation. These are first variety in India from the public sector including ICAR institutes and SAUs.

Two final year M. Sc. Students, Mr. Sk Hamim Rahaman (55453), selected for Assistant Director Horticulture, Government of West Bengal and Mr. Ashish Rikhari (55495) was selected as Assistant Agriculture Officer with the Government of Uttarakhand recently.



Pant Polyhouse Tomato-2



Pant Polyhouse Hybrid Tomato-1



Pant Parthenocarpic Cucumber-2



Pant Parthenocarpic Cucumber-3

## Awards/Fellowship earned by faculty members 2021

- Dr. D.K. Singh confers Fellowship 2020 by International Society for Noni Science Chennai India, confirm during Annual General Body Meeting held at ICAR-Indian Institute of Vegetable Research Varanasi on 22 March, 2020.
- Dr. D.K. Singh received International Excellence Award 2021 in recognition of exceptional services and outstanding contribution in Biotechnology confirmed by International Jury Panel of Intelligence Technology, Australia
- Dr. S.K. Maurya confers Fellowship 2021 by International Society for Noni Science Chennai India, Confirm during Annual General Body Meeting held at ICAR-Indian Institute of Vegetable Research Varanasi on 17<sup>th</sup> December, 2021.

## Infrastructure development in 2021

- a. Equipments/ Machinery purchased – water bath, hot plate and autoclave
- b. Renovation of PG lecture room in the department



# Faculty participation in taking the College ahead

The year 2021 witnessed a wide range of College Committees and their structured and very active support in fulfilling the College mandates.

## The Heads of Departments:

According to the records of the College, the Heads meeting with the Dean, College of Agriculture was organized for the College cause 24 times in the year. The meetings were held on weekly/fortnight 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, webinars, trainings of students, infrastructural development across the departments, the RAWE and Experiential Learning aspects and shoulder all possible administrative responsibilities of the College.



**Dr. Neelam Bhardwaj**  
Professor & Head,  
Agril. Communication



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



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



**Dr. Virendra P. Singh**  
Professor & Head,  
Agronomy



**Dr. R. P. Srivastava**  
Professor & Head,  
Entomology



**Dr. S. K. Sharma**  
Professor & Head,  
Food Science &  
Technology



**Dr. Salil K. Tewari**  
Professor & Head,  
Genetics & Plant  
Breeding



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



**Dr. Pradeep Kumar**  
Professor & Head,  
Plant Pathology



**Dr. Ramesh Chandra**  
Professor & Head,  
Soil Science



**Dr. D. K. Singh**  
Professor & Head,  
Vegetable Science

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



From Left to Right: Dr. Amit Bhatnagar, Dr. Navneet Pareek, Dr. N. K. Singh, Dr. A. K. Singh, Dr. A. K. Tewari, Dr. S. K. Kashyap, Dr. J. P. Jaiswal, Dr. K. P. Singh, Dr. R. M. Srivastava, Dr. V. P. Singh, Dr. Anil Kumar

## College Academic Committee (C.A.C.)



From Left to Right: Dr. Sweta Rai, Dr. M. A. Ansari, Dr. S. K. Kashyap, Dr. J. P. Jaiswal, Dr. V.C. Dhyani

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



From Left to Right: Dr. Shilpi Rawat, Dr. Kiran Rana, Dr. Amardeep, Dr. Sumit Chaturvedi, Dr. Shweta Chaudhary, Dr. Sabbu Sangeeta

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



From Left to Right: Dr. Shweta Uniyal, Dr. Rajeev Ranjan, Dr. Chandra Dev, Dr. Satish Chand

## College Placement Committee (C.P.C.)



From Left to Right: Dr. S.K. Maurya, Dr. Anil Sharma, Dr. Shweta Chaudhary, Dr. Omvati Verma, Dr. Usha Pant, Dr. Rashmi Panwar

## The Online Certificate Courses

The faculty ran nine certificate courses of three months each in year 2021 involving about 150 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 Livelihood Security through Integrated Farming



**Dr. D.K. Singh**  
*Professor, Agronomy*



**Dr. Subhash Chandra**  
*Professor, Agronomy*



**Dr. Rohitashav Singh**  
*Professor, Agronomy*



**Dr. V.K. Singh**  
*Professor, Agronomy*



**Dr. M.S. Pal**  
*Professor, Agronomy*



**Dr. D.K. Singh**  
*S.R.O., Agronomy*



**Dr. K.P. Raverkar**  
*Professor, Soil Science*



**Dr. A.K. Singh**  
*Professor, Horticulture*



**Dr. A.P. Singh**  
*S.R.O., Soil Science*



**Dr. S.K. Mishra**  
*S.R.O., Plant Pathology*



**Dr. Poonam Srivastava**  
*Associate Professor, Entomology*



**Dr. Omveer Singh**  
*Associate Professor, Horticulture*



**Dr. Lalit Bhatt**  
*Associate Professor, Vegetable Science*

## Certificate course on Seed Production Technology



**Dr. Salil K. Tewari**  
*Professor & Head,  
Genetics & Plant Breeding*



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



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



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



**Dr. Virendra P. Singh**  
*Professor & Head,  
Agronomy*

## Certificate course on Processing of Fruits, Vegetables and Spices



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



**Dr. Sabbu 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 Horticultural 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*



**Dr. Satya Kumar**  
*Professor,  
Plant Pathology*



## Certificate course on Nursery Production and 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 Beekeeping



**Dr. Pramod Mall**  
*Professor,  
Entomology*

## Certificate course on Mass Production of Important Bioagents



**Dr. Roopali Sharma**  
*Senior Research Officer,  
Plant Pathology*



**Dr. Ravi Prakash Maurya**  
*Assistant Professor,  
Entomology*

## The Examination Cell:

The Cell functioned round the year to facilitate all the examinations, papersetting, evaluation, marks submission and registration processes. Dr A. K. Singh, Professor, Genetics and Plant breeding is holding the Examination

cell as Coordinator Examination. Dr. Navneet Pareek, Dy. Coordinator, alongwith Coordinator, Examination Cell took efforts to support the examination paper formation, conduct of Midterm and Final Examinations.



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



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

## The Lab Manuals:

Total 25 Lab Manual teams were created with 25 Coordinators involving 125 faculty members of the college to write. Senior faculty members as expert have reviewed the Manual thoroughly. The Manuals of approximately of

100 pages each have been prepared and put for publication. Dr Geeta Sharma, Assistant Professor, Plant Pathology and Dr Renu Pandey, Assistant Professor, Entomology are serving as coordinators of this work.



**Dr. Geeta Sharma**  
*JRO, Plant Pathology &  
Coordinator*



**Dr. Renu Pandey**  
*Assistant Professor,  
Entomology & Coordinator*

## The RAWE Team



From Left to Right: Dr. Poonam Gautam, Dr. Omveer Singh, Dr. Salil Tewari, Dr. R. P. Singh, Dr. Birendra Prasad, Dr. J.P. Purwar

## The NSS Team



From Left to Right: Dr. Santosh Kumar Yadav, Dr. Rashmi Panwar, Dr. Shweta Chaudhary, Dr. Rashmi Tewari

## The IDP-NAHEP teams:

The academic team, innovation cum incubation team, e-content development team, language team, procurement team, informatics team, industry collaboration team, 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, Soil Science, College of Agriculture  
Nodal Officer,  
Procurement/ Member,  
Agri-Informatics Team*



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



**Dr. Amit Bhatnagar**  
*Associate Professor,  
Agronomy, College of  
Agriculture  
Member, Academic  
Team*



**Dr. Poonam Gautam**  
*Associate Professor, Soil Science, College of Agriculture  
Member, Academic Team*



**Dr. P. K. Pandey**  
*Professor, Genetics and Plant Breeding, College of Agriculture  
Member, Innovation and Incubation Centre*



**Dr. Ranjan Srivastava**  
*Professor and Head,  
Horticulture, College of Agriculture  
Member, Innovation and Incubation Centre*



**Dr. Lalit Bhatt**  
*Junior Research Officer,  
Vegetable Science, College of Agriculture  
Member, Innovation and Incubation Centre*



**Dr. M. A. Ansari**  
*Professor, Agricultural Communication, College of Agriculture  
Member, e-Content Development Team*



**Dr. Neelam Bhardwaj**  
*Professor, Agricultural Communication, College of Agriculture  
Member, e-Content Development Team*



**Dr. A. P. Singh**  
*Senior Research Officer, Soil Science, College of Agriculture  
Member, e-Content Development Team*



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



**Dr. Ajay Kumar**  
*Assistant Professor, Agronomy, College of Agriculture  
Member, Agri-Informatics Team*



**Dr. R. K. Singh**  
 Professor,  
 Agrometeorology,  
 College of Agriculture  
 Member, Agri-  
 Informatics Team



**Dr. A. K. Tyagi**  
 Assistant Professor,  
 Soil Science, College of  
 Agriculture  
 Member, Agri-  
 Informatics Team



**Dr. Rajeev Ranjan**  
 Assistant Professor,  
 Agrometeorology,  
 College of Agriculture  
 Member, Agri-  
 Informatics Team



**Dr. Arpita Sharma**  
 Assistant Professor,  
 Agricultural  
 Communication,  
 College of Agriculture  
 Member, e-Content  
 Development Team



**Dr. Ajay Kumar  
 Tripathi** Assistant  
 Professor, Agricultural  
 Economics, College of  
 Agriculture  
 Member, Language  
 Laboratory Team



**Dr. Kiran Rana**  
 Assistant Professor,  
 Agricultural  
 Communication,  
 College of Agriculture  
 Member, Language  
 Laboratory Team/  
 Project Monitoring and  
 Evaluation Team



**Dr. A. K. Singh**  
 Professor,  
 Horticulture, College  
 of Agriculture  
 Member, Industry  
 Collaboration Team



**Dr. Navneet Pareek**  
 Professor, Soil Science,  
 College of Agriculture  
 Member, Industry  
 Collaboration Team



**Dr. S. K. Sharma**  
 Professor & Head, Food  
 Science and Technology,  
 College of Agriculture  
 Member, Industry  
 Collaboration Team/  
 Project Monitoring and  
 Evaluation Team



**Dr. Gurvinder Singh**  
 Associate Professor,  
 Agronomy, College of  
 Agriculture  
 Member, Project  
 Monitoring and  
 Evaluation Team



**Dr. Sumit Chaturvedi**  
 Associate Professor,  
 Agronomy, College of  
 Agriculture  
 Member, Project  
 Monitoring and  
 Evaluation Team



**Dr. Rashmi Tewari**  
 Assistant Professor,  
 Plant Pathology, College  
 of Agriculture  
 Member, Project  
 Monitoring and  
 Evaluation Team/  
 Language Laboratory  
 Team

# The College Faculty with University responsibilities

The College faculties 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. S.K. Kashyap, Dean Agriculture and PI, IDP-NAHEP
- Dr. K.P. Raverkar, Dean, Post Graduate Studies
- Dr. A.S. Nain, Director, Experiment Station
- Dr. Ramesh Chandra, Chairman, Store Purchase Office and University Rate Contract Committee
- Dr. Virendra Singh, O.S.D. to V.C. (B.O.M.)
- Dr. A.K. Pandey, Additional Chief Personnel Officer
- Dr. K. P. Singh, Joint Director Research (Farmers Research & Technology Needs Programme)
- Dr. Subhash Chandra, Joint Director Research (National Agricultural Research System)
- Dr. M.S. Negi, Joint Director Research (Intellectual Property Management)
- Dr. Anil Kumar Chahal, Joint Director Research (Strategic Policy Research)
- Dr. Ranjan Srivastava, Joint Director, Extension Education
- Dr. D. K. Singh, Chief General Manager, University Farm
- Dr. Veer Singh, Joint Director, University Farm
- Dr. S.K. Yadav, Assistant Director, University Farm
- Dr. Ajay Kumar, Assistant Director Research and Chief Operating Officer, STRIEDS
- Dr. Kranti Kumar, Assistant director, Instructional Dairy Farm
- Dr. R.K. Panwar, Joint Director, Breeder Seed Production Centre
- Dr. Anil Kumar, Associate Director, Breeder Seed Production Centre
- Dr. S. P. Singh, Associate Director, Breeder Seed Production Centre
- Dr. Pramod Mall, Joint Director, Honey Bee Research and Training Centre
- Dr. A.K. Singh, Joint Director, Horticulture Research Centre
- Dr. Pratibha, Assistant Director, Horticulture Research Centre
- Dr. V.P. Singh, Joint Director, Medicinal Plants Research and Development Centre
- Dr. Lalit Bhatt, Assistant Director, Vegetable Research Centre
- Dr. Pradeep Kumar, Joint Director, Mushroom Research and Training Centre
- Dr. Geeta Sharma, Assistant Director, Mushroom Research and Training Centre
- Dr. S. K. Verma, Joint Director, NEB Crop Research Centre
- Dr. A.P. Singh, Associate Director, NEB Crop Research Centre and Chief Operating Officer, STRIEDS, Air Care Taker Officer, NCC
- Dr. A.S. Jeena, Joint Director, Sugarcane Research Centre
- Dr. V.K. Rao, Joint Director, Model Floriculture Centre/OIC Garden Section
- Dr. Dinesh K. Singh, Officer Incharge, Khanna Farm
- Dr. Rajeew Shukla, Deputy Coordinator, Admission Cell
- Dr. Sumit Chaturvedi, Nodal Officer, ICAR Cell/Assistant Coordinator, Planning & Technical Cell, Office of the Vice-Chancellor
- Dr. J.P. Jaiswal, Nodal Officer, Pantnagar Centre for Plant Genetic Resources and Chief Coordinator & Secretary, Alumni Almamater Advancement Association (4A)
- Dr. S.K. Sharma, CEO, Pant Business Park and Startup Incubator STRIEDES
- Dr. M.A. Ansari, Editor, Indian Farmers' Digest
- Dr. VLV Kameswari, Editor, Indian Farmers' Digest
- Dr. Amardeep, Editor, Kisan Bharti
- Dr. S.K. Maurya, Warden, CB-I
- Dr. A.K. Tripathi, Warden, CB-II
- Dr. Ruchi Rani Gangwar, Warden, Golden Jubilee
- Dr. Anju Pal, Warden, Subhash Bhawan
- Dr. Rashmi Panwar, Warden, Sarojini Bhawan
- Dr. Shweta Rai, Warden, Kasturba Bhawan
- Dr. Vineeta Rathore, Warden, Gandhi Bhawan
- Dr Omveer Singh, Coordinator SC/ST Cell
- Dr. Satya Kumar, Liaison officer, SC/ST Cell

# The Pride

## College retains the Vice-Chancellor's Trophy in 2021

In the second Inter-Collegiate Debate Competition organized by Dean Student Welfare of the University, the College of Agriculture retained the Revolving Vice-Chancellor's Trophy 2021 in English Section of the debate. Ms. Mallika Tripathi and Ms. Aishna Srivastava, two third year students of B.Sc. Agriculture won the Revolving Trophy as team prize in the English Section, while Ms. Mallika Tripathi also won the First Prize in Individual category of English Section. The Hindi Section of the

debate was represented by Mr. Ravi Kumar Jha, third year student of B.Sc. Agriculture and Mr. Vijay Singh Dangwal, second year student of B.Sc. Agriculture. Mr. Ravi Kumar Jha received the Second Prize in Individual category of Hindi Section. It was indeed a commendable performance by all four students of the College. The College wishes to continue this tradition of excellence and hopes to retain this magnanimous trophy as a token of inspiration for the coming generations.



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

### English Debate Team



Mallika Tripathi  
54412



Aishna Srivastava  
54458

### Hindi Debate Team



Ravi Kumar Jha  
54455



Vijay Singh Dangwal  
55856

## Statue of Rishi Parashara installed in the College premises

A grand statue of Rishi Parashara was placed in the central lawn of the College which was unveiled by Dr. Rajiv Kumar, Vice-Chairman, NITI Aayog. This statue is a tribute to the great saint who created one of the oldest treatises of agriculture named Krishi Parashara in 400 BC. The treatise contains 243 verses on different aspects of agricultural science and technology. This initiative aims to sensitize the agricultural education fraternity

especially the students about the ancient agricultural knowledge systems and their significance. It will also solve the purpose of bringing into limelight our valuable ancient scriptures and literature of agriculture and allied sciences. Dr. Sunita T. Pandey, Professor, Agronomy and Coordinator, Uttarakhand Chapter of Asian Agri History Foundation made the financial contribution for the statue creation.



Unveiling of Statue of Rishi Parashara by Dr. Rajiv Kumar, Vice-Chairman, NITI Aayog, Govt. of India in presence of Hon'ble Vice-Chancellor Dr. Tej Partap, Dean Agriculture Dr. S.K. Kashyap, Shri Sudhir Chadha, Former Member, Board of Management on June 09, 2021



## State of Art Hydroponic and Aeroponic agri-business units initiated

The College of Agriculture is committed for skill development of the students especially in emerging areas of agricultural technologies. Taking support of the World Bank funded IDP-NAHEP project running in the University, two agri-business units have been established in the College. These units constitute the hi-tech precision farming units operating on the technologies of

hydroponics and aeroponics along with high intensity plant propagation units. Currently, second year undergraduate students enrolled in B.Sc. Agriculture are working in these units and are managing all the operations of the units. This hand-on working experience will help students to not only strengthen their technical knowledge and skills but will also instill in them entrepreneurial capabilities.



# The Agriculture Society 2021



## Agriculture Society 2021-22

<b>Patron</b>	Dr. Tej Partap, Vice-Chancellor
<b>President (Dean)</b>	Dr. S. K. Kashyap, Dean Agriculture
<b>Chief Counsellor</b>	Dr. Brijesh Singh, DSW
<b>Staff Counsellor</b>	Dr. V. C. Dhyani, Associate Professor Agronomy
<b>Co-staff Counsellor</b>	Dr. Rashmi Panwar, Assistant Professor Horticulture
<b>Chairperson</b>	Ms. Abha Belwal (53017)
<b>Vice-Chairperson</b>	Mr. Abhijeet Rai (53284)
<b>Vice-Chairperson II</b>	Mr. Sparsh Jain (55910)
<b>General Secretary</b>	Ms. Palak Chaturvedi (55768)
<b>Joint General Secretary I</b>	Mr. Saurabh Goswami (54360)
<b>Joint General Secretary II</b>	Ms. Abha Bhatt (55870)
<b>Treasurer</b>	Mr. Abhyudaya (52087)
<b>Literary Secretary</b>	Ms. Ria Mehra (54511)
<b>Cultural Secretary</b>	Ms. Urvi Rai (54488)

<b>Executives: Batch Representative (II<sup>nd</sup> to IV<sup>th</sup> year), Co-batch Representative (II<sup>nd</sup> to IV<sup>th</sup> year)</b>	II <sup>nd</sup> Year	BR	Ms. Abha Bhatt (55870) Mr. Sparsh Jain (55910)	
		Co-BR	Section A	Ms. Vidhi Tiwari (56434) Mr. Shagun Grewal (56820)
			Section B	Ms. Simran Maurya (56918)
			Section C	Ms. Tanishqa Lodhi (55765) Mr. Akarsh Nath (56414)
			Food Tech	Ms. Kanika Bhagat (56779) Mr. Anubhav Singh Bhandari (55913)
	III <sup>rd</sup> Year	BR	Mr. Ria Mehra (54511) Mr. Atul Gaur (54435)	
		Co-BR	Section A	Ms. Bhumi Sonkar (54518) Mr. Aakash Sharma (54362)
			Section B	Ms. Palak Chaturvedi (54512) Mr. Nitin (54491)
			Section C	Mr. Lokesh Singh Bora (54482)
			Food Tech	Ms. Arti Bisht (54594) Mr. Suraj Kumar (55662)
	IV <sup>th</sup> year	BR	Ms. Abha Belwal (53017) Mr. Abhijeet Rai (53284)	
		Co-BR	Section A	Ms. Niharika Arora (53045) Mr. Shreyansh Maurya (52962)
			Section B	Ms. Kavita Chufal (52960) Mr. Abhyudaya (52087)
Section C			Ms. Pratiksha Singh (53243)	
<b>Chief Activity Coordinators</b>	Ms. Lata Panoura (52951) Mr. Abhishek Kumar (53098)			
<b>Haritima Committee</b>	Heads: Ms. Shubhangi Tripathi (52983), Ms. Stuti Lavania (54413) Members: Ms. Kumkum (56873) and Mr. Deepankar Pandey (55787)			
<b>Literary Committee</b>	Heads: Ms. Tanuja Palariya (53024) Ms. Smruti Rekha Patil (54454) Members: Mr. Gaurav Kabadwal (55771) and Ms. Ria Makker (55841)			
<b>Cultural Committee</b>	Heads: Ms. Deepika Kanyal (52952)			
	Ms. Shruti Pandey (54393) Members: Ms. Ayushi Bankoti (55762) and Ms. Simran Arya (55768)			
<b>Technical Committee</b>	Heads: Mr. Jujhar Singh (53289) Mr. Paras Arya (54395) Members: Mr. Yugal Alchauni (56859) and Ms. Shruti (55748)			
<b>Fine Arts and Decoration Committee</b>	Heads: Ms. Ashika Ansari (53046) Ms. Sandhya Tomar (54468) Members: Ms. Tanisha Chilkoti (56421) and Mr. Ashish Giri (56805)			
<b>Logistics Committee</b>	Heads: Mr. Naveen Chandra Bhatt (52970) Mr. Asad Rehman (54634) Members: Mr. Vishal Gaur (55898) and Ms. Preeti Thakur (56855)			

# The College Newsletter Team 2021



Miss Aishna Srivastava



Mr. Arpit Jain



Mr. Asad Rehman



Mr. Atul Gaur



Miss Deeksha Shahi



Miss Diksha Mathpal



Miss Diksha Pal



Miss Himani Panwar



Miss Kirtika Tiwari



Miss Mallika Tripathi



Mr. Mukul Giri Goswami



Mr. Mukul Parihaar



Mr. Nitin Khajotia



Miss Palak Chaturvedi



Mr. Paras Arya



Mr. Prabhat Kumar Singh



Mr. Rajat Joshi



Mr. Rajnish Pandey



Miss Rashi Chahal



Mr. Ravi Kumar Jha



**Miss Ria Mehra**



**Mr. Rishabh Barnwal**



**Miss Riya Bisht**



**Miss Riya Goswami**



**Mr. Rubal Vimal Kumar**



**Mr. Sagar Bhatt**



**Miss Samesha**



**Mr. Saurabh Goswami**



**Miss Shagun Goyal**



**Miss Shruti Pandey**



**Miss Shruti Singh**



**Miss Smrutirekha Pati**



**Miss Stuti Lavania**



**Miss Tejaswini Pandey**



**Miss Unnati Joshi**

# The Pass Out Students of Year 2021

## B.Sc. Food Technology

### Details of Passed Out U.G. Students of B.Sc. Food Technology (Batch 2017)

S. No.	Name	Id. No.	Email Id
1.	Aditi Sharma	51701	s.aditi.v@gmail.com
2.	Aditi Thareja	51705	aditithareja746@gmail.com
3.	Ankit Adhikari	51697	adhikariankit2398@gmail.com
4.	Anupriya Khanka	51706	destiny1997@gmail.com
5.	Avneesh Kaur	51698	avneeshkaur123@gmail.com
6.	Gaurav Chandola	51696	grchandola@gmail.com
7.	Hemant Singh Kanyal	51711	hemant1551999@gmail.com
8.	Kaushiki Arora	51704	kaushik.arora12@gmail.com
9.	Kiran Parihar	51720	kiranparihar52@gmail.com
10.	Kritika Sharma	51561	kritikasharma1203@gmail.com
11.	Loveraj Singh Bisht	51710	singhbisht64@gmail.com
12.	Mohd Faiz Ali Siddiqui	51671	mfaizalisiddiqui@gmail.com
13.	Nikhil Bhatt	51713	nikhil.bhatt.oo@gmail.com
14.	Rinku Budhlakoti	51700	rinkurb3140@gmail.com
15.	Saloni Haldua	51708	halduasaloni20@gmail.com
16.	Saurabh Bhatt	51699	saurabhbhatt547@gmail.com
17.	Sukhmandeep Singh	51703	sukhman.rdr@gmail.com
18.	Surbhi Rajoot	51718	surbhiro415@gmail.com
19.	Tarandeep Kaur	51702	tarandeep.sandhu97@gmail.com
20.	Vibha Bhatt	51707	vibhabhatt62@gmail.com

## B.Sc. Agriculture

### Details of Passed Out U.G. Students of B.Sc. Agriculture (Batch 2017)

S.No.	Name	Id. No.	Email Id
1.	Abhilasha Bhatt	51456	abhilashabhatt98@gmail.com
2.	Abhishek Vardhan	51430	vardhanabhisheko07@gmail.com
3.	Aditi Badhani	51679	aditi.badhani@gmail.com
4.	Aishwarya Shah	51470	aishwariyashah975@gmail.com
5.	Ajay Pangtey	51433	ajaypandey100@gmail.com

6.	Akansha Tomar	51594	akanshatomar@gmail.com
7.	Anita Arya	51475	aryanita312000@gmail.com
8.	Anjali Kanyal	51682	anjalikanyal23@gmail.com
9.	Anjali Kohli	51409	kohli.anjali2001@gmail.com
10.	Ankit Nagar	51417	ankitnagarind@gmail.com
11.	Ankita Pangti	51473	ankitapangti@gmail.com
12.	Ankita Tewari	51443	ankita.sraa05@gmail.com
13.	Arfaz Ahmed	51389	arfazahmed81@gmail.com
14.	Avantika Chand	51377	avantikaanshu26308@gmail.com
15.	Ayushi Joshi	51598	ayushijoshi.uk@gmail.com
16.	Ayushi Mehra	51680	ayshimehra1015@gamil.com
17.	Azad	51485	adad96195@gmail.com
18.	Bhawana Moolchandani	51428	b.bhawanamoolchandani@gmail.com
19.	Bhumika Manral	51467	bhumikamanralakku@gmail.com
20.	Bhumit Sah	51484	bhumitbiowg4123@gmail.com
21.	Chhavi Bisht	51374	chavibrj@gmail.com
22.	Deepshikha Singh	51494	Deepshikhasingh6980
23.	Dikesh Singh Chilwal	51382	dikeshchilwal1999@gmail.com
24.	Dipanshu Pandey	51515	dipanshupandey05@gmail.com
25.	Estuti Joshi	51463	estuti.2807@gmail.com
26.	Garima Arya	51414	garima.arya114@gmail.com
27.	Geetanjali Pant	51517	geetanjali pant01@gmail.com
28.	Harshita Pandey	51462	harshupandey3199@gmail.com
29.	Jaiveer Singh	51408	jai1111veer@gmail.com
30.	Jytsna Adhikari	51442	jadhikari26@gmail.com
31.	Kajal Mehra	51509	mehra9505@gmail.com
32.	Kalpana Negi	51476	kalpananegi984@gmail.com
33.	Karishma Joshi	51466	karishmajoshikj1999@gmail.com
34.	Khaba Moirangthem	51418	khobomoirang97@gmail.com
35.	Kritika Pant	51369	kritikapant2705@gmail.com
36.	Kritika Singh Mer	51404	kritikasingh22230@gmail.com
37.	Kunal Shah	51573	B2.shah42@gmail.com
38.	Kusum	51457	rawatkusum1998@gmail.com
39.	Laxmi Nayal	51483	laxminayal11@gmailcom
40.	Lokesh	49892	lokeshjclia80000@gmail.com
41.	Manisha Arya	51447	maneesharya013@gmail.com

42.	Manisha Bisht	51681	Biishtmanish48@gmail.com
43.	Manisha Chamoli	51508	manisha.chmaoli16@gmail.com
44.	Mansi Arora	51677	mansiarora2809@gmail.com
45.	Manvi Aggarwal	51371	manvisjasgarwal@gmail.com
46.	Mayank Chauhan	51506	mayankchauhan666666@gmail.com
47.	Mayank Lohani	51373	lohnimayank13@gmail.com
48.	Meena Chauhan	49936	meenachauhan1207@gmail.com
49.	Meenakshi Rawat	51712	meenakshirawat1000@gmail.com
50.	Mohit Arya	51445	aryamohito12@gmail.com
51.	Mohit Kumar Tamta	51451	mohittamtahld@gmail.com
52.	Mr Chitranshi Yadav	51407	chitranshiyadav1998@gmail.com
53.	Mrinal Arya	51429	mrinalarya8@gmail.com
54.	Mufaiz Malik	51390	Faizmalik299@gmail.com
55.	Mukesh Raj	51427	mraji4554@gmail.com
56.	Neha Padaliya	51452	padaliyaneha2411@gmail.com
57.	Niharika Pandey	51435	neha0190@gmail.com
58.	Niharika Rawat	51861	nikharikar1998@gmail.com
59.	Nikhil Gupta	51493	nikhilgupta94133@gmail.com
60.	Nikhil Rawat	51370	nikhil.rawat1001@gmail.com
61.	Nikita Bisht	51479	bisht17nikita@gmail.com
62.	Nimisha Maurya	51395	maurya19nimisha@gmail.com
63.	Nirmal Panday	51361	nirmalpandey943@gmail.com
64.	Nishtha Rautela	51670	imnishtharautela@gmail.com
65.	Nitesh Kumar Bhardwaj	51415	nitesh172015@gmail.com
66.	Nitin Kharayat	51391	nitinkharayat07@gmail.com
67.	Nitin Patni	51386	nitinpatni412@gmail.com
68.	Oshin	51471	oshinrawatdishu@gmail.co.
69.	Pallavi Joshi	51516	pallavij1331@gmail.com
70.	Pallavi Bharti	48445	pallavibharti19@gmail.com
71.	Pankaj Kumar	51378	pankajois14@gmail.com
72.	Pankaj Kumar Meena	51437	pankajkmeeo6@gmail.com
73.	Parth Gulati	49962	parth4ogulati@gmail.com
74.	Prachi Pandey	51388	prachipandey2810@gmail.com
75.	Pradeep Negi	51393	negipradeep265@gmail.com
76.	Pranjali Pandey	51397	ppranjalixyz@gmail.com
77.	Prashant Bisht	51368	prashantbisht482@gmail.com



78.	Pratham Belwal	51489	prathambelwal17@gmail.com
79.	Priyam Arora	51490	kubharpriyam@gmail.com
80.	Pushkar Bora	51366	borapushkar1998@gmail.com
81.	Raguvendra Singh	51405	thakurraglivendra99@gmail.com
82.	Rahul Bohara	51675	rahulbohara@gmail.com
83.	Rajat Nautiyal	51383	rajatnautiyal3jun@gmail.com
84.	Rajat Singh	51510	siverlco3556@gmail.com
85.	Rashmi Rana	51511	ranarashmizoo6@gmail.com
86.	Ritik Kumar	51412	mangnet.ritis123@gmail.com
87.	Ritu Singh	50070	ritusingh28@gmail.com
88.	Rohini	51570	rohinipantvarsity@gmail.com
89.	Saba Tanveer	51432	sabatanveer1998@gmail.com
90.	Sachin	51518	sachinchhikara1612@gmail.com
91.	Sachin Singh Gariyal	51502	sachinghariyal@gmail.com
92.	Sadaf	51392	sadafhasan200@gmail.com
93.	Sakshi Dimri	51459	sakshi.dimri16@gmail.com
94.	Sandeepi Rawat	51477	sandeepi29@gmail.com
95.	Saroj Arya	51403	sarjome@gmail.com
96.	Sarthak Joshi	51364	sj3osarthak21@gmail.com
97.	Sarthak Kothiyal	51662	Kethiyal.sarthak@gmail.com
98.	Sharad Kumar	49875	chauhansharad128@gmail.com
99.	Sheetsl Berry	51453	akberry@gmail.com
100.	Shekhar Dangi	51424	dangishekhar2424@gmail.com
101.	Shifa Ansari	51491	ss.shifa.ansari@gmail.com
102.	Shreshtha Chandra	51461	Shreshthachandra7@gmail.com
103.	Shreya Priyadarshi	51406	shreya.priyadarshi1@gmail.com
104.	Shrishti Tiwari	51482	shrishtitiwari98@gmail.com
105.	Shruti Kashyap	51436	kashyapshruti1998@gmail.com
106.	Shruti Mishra	51492	shrutimishra392@gmail.com
107.	Shubha Hatwal	51399	shubhatwal9@gmail.com
108.	Shubham Juyal	51379	shubhamjuyal3@gmail.com
109.	Shueb Alam	49943	khanshuebo09@gmail.com
110.	Shwatank Pratap Singh	51448	raja.shwatank@gmail.com
111.	Shweta Aswal	51514	shwetaaswal71@gmail.com
112.	Soumya Pokhariya	51678	soumipokhariya55@gmail.com
113.	Swarnika Uniyal	51381	swarnikauniyal123@gmail.com

114.	Swati Sweta Ghadei	51439	swatiswetapnit@gmail.com
115.	Sweta Rawat	51376	swetarawats57@gmail.com
116.	Tanuja Arya	51566	ataruja1998@gmail.com
117.	Tanuja Rautela	51365	rautelatanuja1999@gmail.com
118.	Tulika Sharma	51410	tulika102@gmail.com
119.	Vaishali Bhatt	51446	vaishalibhatt2017@gmail.com
120.	Vikas Avasthi	51495	jamviranawasrhe@gmail.com
121.	Vikash Kumar	51455	vikash.kumar@gmail.com
122.	Vishesh Bhatt	51394	vishehbhatt1998@gmail.com
123.	Yamini Bisht	51663	bishtyamini47@gmail.com
124.	Yusra Suhail	51717	suhailyusra1234@gmail.com
125.	Yuvraj Singh	51664	yuvraj.rgnu45@gmail.com

# The Obituary

*Remembering you on this day, expressing our sadness is the hardest thing, you still have loving presence between us, because a wonderful man like you is never gone.*



**Dr. Shailesh Tripathi**  
(08.01.1971 - 20.04-2021)

Dr. Shailesh Tripathi, who has been working as Associate Professor in the Department of Horticulture expired on April 20, 2021 due to cardiac arrest. A resident of village Kalli, Tehsil Misrik, Distt. Sitapur (UP), Dr. Tripathi was born on January 08, 1971 at Pantnagar. He joined the erstwhile College of Forestry and Hill Agriculture, Ranichauri of the GBPUAT Pantnagar University as Assistant Professor on April 07, 2004 and thereafter shifted to Department of Horticulture of the College of Agriculture on August 22, 2012 and was promoted to Associate Professor on February 07, 2016. He had also served KVK, Matela from 09.12.2019 to 01.06. 2020 and later on rendered his services at HRC, Patharchatta from 02.06.2020 to 20.04.2021. He served the University for about 17 years with full honesty, sincerity and dedication. He taught various courses of Horticulture at undergraduate and postgraduate levels. His sudden demise on 20 January 2021 was a huge loss for the Department of Horticulture and College of Agriculture, GBPUA&T, Pantnagar.

*Death cannot take away a person like you. You will always remain alive in our hearts with a smiling face. All our grave condolences are with you.*



**Dr. Manju Sharma**  
(28.01.1985 - 14.05-2021)

Dr. Manju Sharma was born on 28<sup>th</sup> January, 1985 at Village Jaunaji, District- Solan, Himanchal Pradesh. She joined on 30-11-2015 as Assistant Professor in the Department of Plant Pathology, College of Agriculture, GBPUA&T, Pantnagar. She was a brilliant student throughout her studies and she completed her Ph.D. degree from the Department of Mycology & Plant Pathology and was a recipient of Gold Medal for her Ph.D. programme from Dr. YS Parmar University of Horticulture & Forestry, Nauni, Solan (HP). She was also a recipient of ICAR-SRF fellowship, Ph.D. merit scholarship and qualified ICAR National Eligibility Test two times. She also reviewed e-course of Mushroom culture at National level for B.Sc. Horticulture degree programme during 2010-11. In her short span of academic career as a researcher and assistant professor she published 11 full length research papers in peer reviewed journals, 01 book chapter and 01 popular article. During this period she presented her research papers in various national and international conferences. Her work was recognized and she had been awarded as best paper presenter in various platforms and was also awarded best research paper award from the Horticultural Society of India for the year 2017. She served at G.B.P.U.A.&T., Pantnagar for the period of five and half years with full honesty and dedication. Her sudden demise on 14 June 2021 was a huge loss for the Department of Plant Pathology and College of Agriculture, GBPUA&T, Pantnagar.

# The Futuristic Vision: Perspectives and Views

## *Saleable Technologies for Sustainable Development*

The institutional funding in agricultural research is declining day by day due to unsubstantial gain in this field. The research in this direction is highly unproductive even after development of some popular varieties and other technologies which have been achieved at a massive cost. Under such circumstances it is imperative to focus agricultural research towards saleable technologies which may help in sustainable development of agriculture. Presently most of the research either from thesis of students or some coordinated and ad-hoc projects is highly unproductive due to lack of vision in formulating the objectives. We are focusing on topics which may be studied very easily. We are not giving due importance to its utility. Moreover, we try to justify each and every topic and objective in a vague manner. To make the agricultural research more fruitful and production and to generate the funds for it we have to change our approach and permit the researches which yield product or technology directly applicable at farmers level. We may be not be able to carry cosmetic and unproductive research in future. So it is high time to identify the problem and develop product and technologies to solve it. To implement such approach, we may be required to change the procedure for selection of researchers

and only the scholars are having keen interest in research should be permitted to enter in this field. This field should be opened only for talented and interested scholars and not for each and every one who is taking admission in masters or doctoral program with sole intension to get a degree with in specific time frame for earning the employment. Such researchers should be encouraged and compensated in various ways.

We should atleast try to compete China, USA, Israel and other developed countries which are far ahead in agricultural research.



**Dr. S.N. Tewari**  
*Former Head,  
Entomology*

## *Necessity for innovative agricultural education*

Shaping young vibrant mass in to Agri-innovators, researchers, and planners through the intégation of knowledge, skills, and perseverance seem to be the foremost agenda of agricultural education. In fact, imparting agricultural education is beyond a teaching profession because here moto is not only to develop well-trained experts for performing various official duties like other scientific and non-scientific disciplines but also to develop excellent manpower who can do farming, support farming and farmers, develop innovative approaches for crop husbandry for optimizing agricultural production so that the even poorest of the poor can have access of food. The perception that agriculture is the most simple subject is a great misconception because raising crops, ensuring optimum crops' requirements, protection from various biotic and abiotic stresses, harvesting, storage, and finally marketing is beyond the purview of straightforward science. Developing specialized crop varieties using the science-driven approach, accelerating the process using micro-and nanoscale sciences, field bound assured and precise standardized operational practices are essentially required to address our one

and the only neediest client 'Farmers'. We need well-trained and skilled young agricultural graduates and post-graduates who could take the challenges and accomplish the specialized task of innovative agriculture to enhance productivity and profitability at the household level. In spite of many hurdles and hardships, I understand that the integrated and dedicated efforts of the college in totality will make a significant stride in addressing the issue of farmers and the farming community through the development of excellent expertise in agriculture.



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

## ***Alumni, the ultimate strength for an institution building***

Association between the alumnus and its alma mater has no boundaries. Alumni are incredible resources and real assets to an institution. In many world-class institutions, alumni are playing a pivotal role in achieving institutional excellence. They are paying back to alma mater in many ways, it could be either in the form of infrastructure, fellowship to students, facilitation of students on their placement and training, developing entrepreneurship skills, and in many more ways. My recent visit to the University of Pennsylvania (U-Penn), Philadelphia, USA, the first University of USA, was an opener as far as the magnanimous support of its alumni to U-Penn is concerned. Likewise, voluminous alumni support in US universities is a common phenomenon. In India too IITs and IIMs are live example of impressive support they are receiving from their alumni.

G.B. Pant University (GBPU), the first agriculture university of India, the Harbinger of Green Revolution, has a proud legacy of its illustrious alumni as they are spread all over the world, and no graceful profession is untouched. GBPU illustrious alumni have

made the alma mater proud with seven eminent political leaders, 38 Vice-chancellors, more than 40 bureaucrats, many directors of national-level institutions, business country heads, successful entrepreneurs, and many celebrated scientists in national and overseas institutions. Seeking to engage GBPU alumni in a mutually beneficial, lifelong connection to each other, and encourage alumni support and guidance would help advance GBPU's eminence for future generations.



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

### ***New roads to explore....***

Pantnagar University has been known for his great alumni build up and their services. The hands on practices through practical crop production (PCP), plant clinic and industrial internship had trained the students to be future leaders. It's time to aggregate the new relationship with our stalwarts under one umbrella and set up advance farming practices deals with artificial intelligence (AI), crop models, integration of agribusiness oriented research and pilot project establishments as students venture in Uttarakhand. Every alumnus wishes to see his University under Top 100 institutes on a world map in a decade.



**Dr. Vijay Pal Singh**  
*Professor,  
Agronomy*

### ***Futuristic Vision of College of Agriculture***

College of Agriculture, since its inception, has been striving to be a premier institution for education, research, extension and training in the country. The College is blessed with committed faculty having expertise in all areas of agriculture. The College believes in the core values of professionalism, teamwork, integrity, innovation and leadership. The college has the honour of setting many milestones in the past, yet it has to go a long way keeping in mind the new challenges emerging in the agricultural sector of the country. To keep pace with the problems and challenges, College must envision and act upon the following:

1. Making course-curriculum practical oriented to promote entrepreneurship among students.
2. Focus on demand driven multi-disciplinary research to provide solution to farmers' problems.

3. Creating a professional environment conducive to promoting teamwork among faculty, staff, and students.
4. Develop a robust network with alumni to enhance student learning experiences and to facilitate placement for students.



**Dr. Anil Kumar**  
*Professor,  
Agricultural Economics*

## ***The Goals with New Vision***

**A**gricultural growth, although commendable, is placing increasing stress on the earth's resources. The sector contributes to and is threatened by environmental degradation and climate change. In recent decades, poor agricultural practices have been a factor in the depletion of soil fertility, species diversity and water availability and quality. Meanwhile, broader environmental changes are affecting agriculture in ways yet to be fully understood. Alterations in climate mean that farmers must adapt to changing rainfall patterns and fluctuations in temperature; yields could be reduced by more than 20% in many areas, with poor countries – and poor farmers. Agriculture faces the dual challenge of becoming more environmentally sustainable while feeding more people.

With 70% of the world's population expected to live in cities by 2050, the need for effective food distribution – linking growers to retailers to consumers – will intensify. Urban populations demand more processed and ready-to-eat food, as well as more diverse options. This will increase the role of processing, packaging and logistics providers in food systems.

Agriculture is a principal platform for human development and social welfare. Agricultural development is an opportunity to better meet these basic needs. Nearly 1 billion people are hungry today – half of them farmers. Three-quarters of the poor in developing countries live in rural areas. These issues are inextricably linked, particularly in developing countries, where the poor spend a high proportion of their income on food.

Agriculture can be a positive driver of food security, environmental sustainability and economic opportunity. On the fact of the above vision, what do we envision? Consider the following: as a Scientist, we develop and disseminate technologies in wider community. The New Vision can be anchored with the priorities are:

- Increase agricultural production by 20% each decade and substantially reduce waste, towards the elimination of hunger and undernourishment.
- Reduce emissions per tonne of production by 20% each decade; optimize overall water use; lessen agricultural impact on the environment.
- Decrease the proportion of rural inhabitants living below poverty line by 20% each decade.



**Dr. Navneet Pareek**  
*Professor,  
Soil Science*

## ***College Ahead.....***

**T**he premiere College of Agriculture has been leading the agri-education-institutes of the country by inducting 'Practical Crop Production', 'Earn While You Learn' programmes in curriculum. To continue with the same dynamism, the College must grab the opportunity to be the epicentre of READY (Rural Entrepreneurship Awareness Development Yojana) programme to once again lead the nation by working beyond the periphery of the University/ state and by fetching hands on training and building confidence in the young agriculture graduates. This will facilitate agri-graduates for out of box thinking to be entrepreneurs and begin their own start-ups which the nation needs indispensably. Similar ventures will be

the most sought after activities in years to come in NEP era too. Kudos College of Agriculture..... you need to re-orient your efforts to



**Dr. Ranjan Srivastava**  
*Professor,  
Horticulture*

## Vision for Food Science and Technology

Food has been the most important necessity for human survival and its preservation and processing is being understood and improved since our existence. With increasing human population and decreasing cultivable land, future may not be as comfortable as the present, for food availability. Therefore, newer sources of food would be required to fulfill the demand. In the next two to three decades, a substantial proportion of field grown human food, would be replaced by **Lab Grown Foods**. The lab grown animal foods i.e. lab grown meat, lab grown eggs have already been researched, although at experimental level till date, however, lab manufactured rice, lab manufactured wheat, lab manufactured legumes and fruits are not a fact, far distant in future. Future researches of food science and technology would enable us to create innumerable man-made foods of the desired colours, shapes, sizes, flavours and the nutritional characteristics.

As far as human resource generation is concerned, universities would be asked to develop three types of human resources i.e. skilled food technologists, food innovators and pure academicians in food science and technology. Educational institutions would need to understand that iron and gold cannot be obtained from the same furnace. Although, both are extremely important at their specific places, still the ore as well as the furnace has to be different for both. This may be understood by the fact the employability of the graduates is low and still declining against the rising number higher education institutions; competence of the postgraduate degrees and philosophy attached to the doctorate degree, have been lost somewhere. Biggest problem today is that the students are not going for higher education due to their choice or passion.

## Vision for College of Agriculture

Apart from imparting quality education and outreach to several thousands of students and farmers across the country, College of Agriculture, Pantnagar has special place in bringing green revolution in India. According to past need we made departments like Agronomy, Soil Science, Plant Pathology, Horticulture, Vegetable Science, Entomology, Food Science and Technology, Genetics and Plant Breeding, Agricultural Communication, Agro-Meteorology and Agricultural Economics. But now challenges are multifold and thus business as usual will not work. Curriculum should also match the demands of job market. Research should address triple hurdles posed by climate change, sustainability, productivity and quality. Integrating basic knowledge in applied science through, multidisciplinary approach and is very urgent. Challenge of dissemination of sustainable technologies to farmers while maintaining their income security is very big. Agriculture College will have to emerge as leader battling these challenges. It is possible through restructuring and integrating life sciences, animal sciences and global developments into ambit of agriculture

90 % of the students come to a particular course because they did not get admission where they wanted.

In specific context of Food Science and Technology, at GB Pant University of Agriculture and Technology, I would opine that we need to create a separate institute or college of food science and technology to highlight and strengthen the existing programmes and to create and support newer certificate, diploma and degree programmes in Industrial Food Technology, Food Safety, Food Innovation and Entrepreneurship etc. Time has come to create newer eligibilities, course structures, course durations, flexible entries and exits, in the higher educational programmes.

I wish to change our focus from qualification to education and graduation to innovation. Let us add the *Glory* back to the post-graduate degree and *Philosophy* back to the doctorate degree.



**Dr. S.K. Sharma**  
Professor and Head,  
Food Science and Technology

education research and extension. College will also look out for grants to strengthen lab facilities to make it world class and a system to sustain them. Diversity is key for any institution, diversity of experience and nationalities is lacking since long so faculty students and staff should be obtained/hired from all walks of life. NAHEP experience shows us especially during pandemic, how the inclusion of professionals can make improve quality of education and outcome.



**Dr. V.C. Dhyani**  
Associate Professor,  
Agronomy