



24वाँ दीक्षान्त समारोह  
सोमवार, 16 जनवरी, 2023



# स्मारिका Souvenir

**Acharya Narendra Deva University of Agriculture & Technology,  
Kumarganj, Ayodhya – 224229 (U.P.) - India  
Website- [www.nduat.org](http://www.nduat.org)**



# स्मारिका *Souvenir*

24वाँ दीक्षान्त समारोह  
सोमवार, 16 जनवरी, 2023

24<sup>rd</sup> Convocation  
Monday, January 16th, 2023



आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय, कुमरगंज, अयोध्या-224 229 (उ.प्र.)

Acharya Narendra Deva University of Agriculture & Technology Kumarganj, Ayodhya- 224 229 (U.P.) India

Website: [www.nduat.org](http://www.nduat.org)

***Patron***

***Dr. Bijendra Singh, Vice-Chancellor***

***Chief Editor***

***Prof. Dhirendra Kumar Singh***

***Dr. Amit Singh***

***Editorial Board***

***Dr. T. Pandiaraj***

***Dr. Vinod Kumar***

***Dr.R.R. Singh***

***Dr. Satyavrat Singh***

***Dr. Sourav Verma***

***Dr. Sadhana Singh***

***Dr. Laxmi Prasad***

***Dr. Pankaj Kr. Choudhary***

***Dr. P.K. Mishra***

***Dr. Raj Bahadur***

***Dr. Sushil Kumar Singh***

***Dr. Umesh Chandra***

***Dr. Hukum Chandra Verma***

***Dr. Mamta Arya***

***Dr. Shashank Singh***

***Sri. Ashutosh Singh***

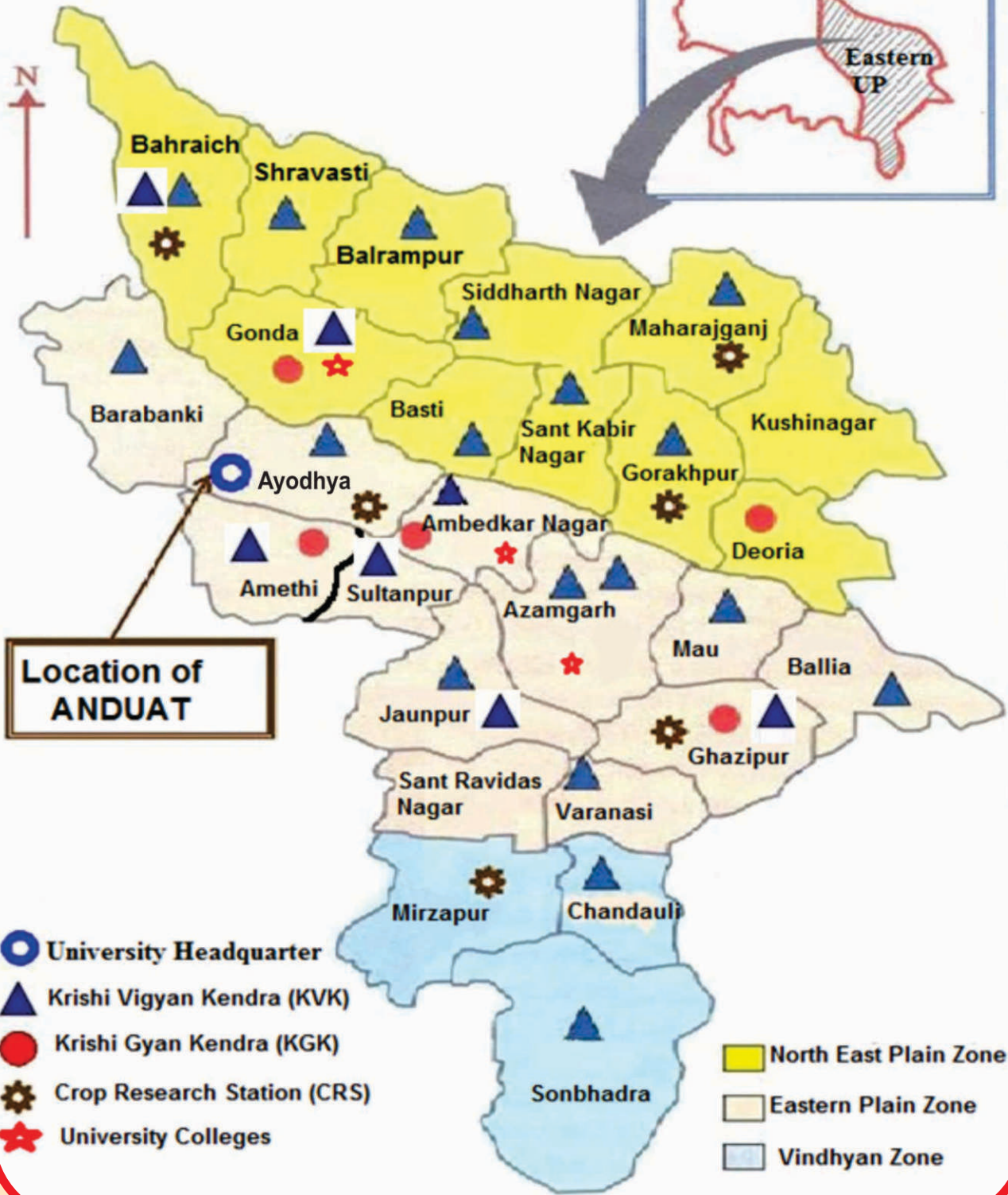
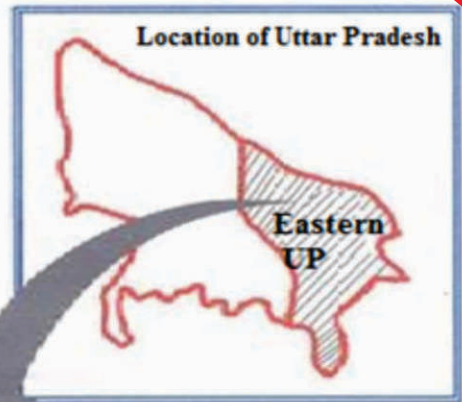
***Sri. Amarjeet Singh***

**Published by:** Dr. P.S. Pramanik, Registrar, A.N.D.U.A.T., Kumarganj, Ayodhya on the occasion of 24<sup>th</sup> Convocation on 16<sup>th</sup> January 2023

**Disclaimer:** Any recommendation/scientific data/result/interpretation is the sole responsibility of the concerned scientist(s)/person(s) and the Patron and Editorial Board does not bear any legal or administrative responsibility/binding.

# JURISDICTION

ACHARYA NARENDRA DEVA UNIVERSITY OF  
AGRICULTURE & TECHNOLOGY,  
KUMARGANJ, AYODHYA



आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय, कुमारगंज, अयोध्या

## कुल गीत

यह कृषकों का तीर्थ मनोहर गुरुकुल की नगरी ।  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

यह आचार्य नरेन्द्र देव का स्मारक सुन्दर,  
कृषि प्रौद्योगिक विश्वविद्यालय, कृषकों का मनहर ।  
कोटि—कोटि जनता की जिस पर आशा है ठहरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

थे दिलीप, रघु जहाँ राम—सीता के चरण पड़े,  
हरिश्चन्द्र, इक्ष्वाकु, भगीरथ व्रत पर सदा अड़े ।  
बुद्ध, पतंजलि, आदिनाथ की ज्ञान ध्वजा फहरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

पावन अवध भूमि यह जिसकी कीर्ति धरा गाती,  
सरयू, तमसा और गोमती जिसको दुलराती ।  
चरण पखार रही है गंगा की शत—शत लहरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

मथुरा, काबा, येरुशलम यह, कृषकों की काशी,  
संत कबीर की पुण्य धरा है युग—युग अविनाशी ।  
जहाँ चतुर्दिक लहराती हैं फसलें हरी भरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

रामायण, बाइबिल, कुरान के मंत्रों की धारा,  
अविरल, निर्झर सींच—सींच कर हरे कष्ट सारा ।  
शिक्षा, कर्म, धर्म, श्रम की दे शान्ति मोक्ष डगरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

कृषि, पशु, गृह विज्ञान, मत्स्य अरु प्रौद्योगिक शिक्षा,  
विनय विवेकशील की जननी, गुरुकुल की दीक्षा ।  
अनुसंधान, पठन—प्रसार की नींव पड़ी गहरी,  
रहे अमर युग—युग तक कृषि उद्योग कला प्रहरी ॥

# Contents

<b>Sl. No.</b>	<b>Items</b>	<b>Page No.</b>
	Map of ANDUAT	
	Foreword	
	Messages	
1.	About the University	
	I College of Agriculture	1-5
	II College of Horticulture and Forestry	6-14
	III College of Veterinary Science and Animal Husbandry	15-23
	IV College of Community Science	24-26
	V College of Fisheries	27-31
	VI College of Agriculture Campus, Kotwa, Azamgarh	32-35
	VII Mahamaya College of Agriculture Engineering and Technology Ambedkar Nagar	36-39
	VIII Directorate of Research	40-48
	IX. Directorate of Extension	49-58
	X Seed & Farms	59-62
	XI Student's Welfare Activities	63-71
	XII Directorate of Placement	72-74
2.	List of Members of Board of Management	75
3.	Academic Council	76
4.	Convocations held at the University	77-78
5.	Recipients of Gold Medals on 24th Convocation	79-82
6.	Award of Degrees upto 23rd Convocation	83
7.	Photographs of Vice-Chancellors	84
8.	University at a Glance	85-86
9.	Student's Activities	87-88





डा. बिजेन्द्र सिंह  
कुलपति  
Dr. Bijendra Singh  
Vice Chancellor



आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय  
कुमारगंज, अयोध्या-224 229 (उ.प्र.), भारत  
Acharya Narendra Deva University of Agriculture & Technology  
Kumarganj, Ayodhya-224 229 (U.P.) India

## Foreword



The prime objective of this university is to create an "agriculturally affluent Uttar Pradesh and India" through three-dimensional pursuits such as teaching, research, and extension education in agriculture and related fields. For many Indians, agriculture is a way of life rather than a profession. As a result, boosting agriculture also enhances the overall health of the nation. Indeed, we have turned our nation from a food deficit to a surplus country, and we have contributed to the agricultural sector's expansion to the envisioned \$5 trillion economy while supporting the expanding Indian economy. The contribution of the agriculture sector to national Gross Domestic Product (GDP) increased to 18.8 per cent in 2021-22 from 17.8 per cent in 2019-20. Over the past five years, Uttar Pradesh has continued to lead the nation in terms of agricultural growth. Agricultural universities have played a significant part in the expansion of the states' agriculture industry.

Uttar Pradesh has a vital role in Indian agriculture because it contributes 22 % of the country's food basket in the form of food grains. The state is a significant producer of milk (18%), vegetables (16%), wheat (34%), rice (13%), lentils (14%), sugarcane (35%), and potatoes (37%). About 25% of Uttar Pradesh's GDP comes from agriculture, which also provides 68 per cent of the state's total employment. With majority of populace depending on the agriculture sector for their sustenance, agriculture is crucial and needs to be addressed accurately for this region.

However, farmers in this state are in a challenging quandary since they must simultaneously meet the nation's expanding food demand and the state's unstable, unpredictable weather. This difficulty is escalating daily despite numerous state and federal government programmes.

This university is committed to bringing holistic approach to agricultural education, research, and extension for the sustainable growth of eastern Uttar Pradesh. This university has received widespread recognition for its work in creating high-quality varieties of rice, wheat, barley, pulses, vegetables, oil seeds, spices, aonla, bael, turmeric, and ginger. Additionally, the university has been designated as a "Seed Hub" to boost the production of pulses.

The university is contributing to developing strategies for the optimum income of farmers with large, medium, small and marginal farm holdings. New improved technologies developed in the university are disseminated to farmers and livestock owners through different KVKs and KGKs under the Directorate of Extension.

Now, we are working on the improvement of present technologies and developing new strategies for



doubling the farmers' income. The Hon'ble Prime Minister Shri Narendra Modi ji articulated that agricultural universities should stand to strengthen the country's farm sector, and emphasised: "**seven ways**" that will make farming in India "**modern and smart**". The seven ways include natural farming on mission mode, use of technology such as AI and drone, mission oil palm to reduce import of edible oils, new logistics for transportation of farm products, agri-waste (stubble and other residues) management, use of over 1.5 lakh post offices to provide regular banking services to farmers, and agri research. Certainly, the university is trying to complete the task within the stipulated time.

The improvement and bolstering of hostel facilities offered great significance. Meetings with DSW, ADSW, Wardens and Assistant Wardens were held on a regular basis to ensure that the students had the finest possible hostel amenities. The welfare of the students, behaviour, and discipline has received the utmost consideration. The university boasts excellent sports facilities including spaces for students to play indoor games. There is zero tolerance at the university for anything related to ragging. We have conducted all the examinations in a transparent, timely and declared the results well in time.

The institution has made concerted efforts for the improvement of teaching, research, and extension despite a lack of manpower and financial constraints. Consequently, numerous students were admitted with JRF and SRF in prestigious central and state agriculture universities in India. Research advisory committee and extension advisory committee meetings are held often to further the objectives of research and extension. Meetings of the academic council, finance committee, board of management, and boards of the faculties were periodically convened for the university's comprehensive development to assess and address issues according to priority. It is my hope and sincere endeavour to catapult our university to a new level in the national landscape. I am grateful for the efforts made by the Comptroller, the Registrar, all the Deans, Directors, HODs, JD (S & F), DSW, ADSW, and others to fulfil the aims and mission of the university. I am sure, ANDUAT will persevere to attain better achievements and recognition with the fervent support of our officers, scientists, faculty and supporting staff.

The blessings of the Hon'ble Governor and the Chancellor of our University, encouragement and support from the visionary Chief Minister and constructive support from the Hon'ble Minister of Agriculture and all positive support from the State and the Central Governments, will make this University a leading agricultural university in U.P. and the country.

Dear students, we live in a competitive era. You cannot exist until you reveal your ability to endure fierce competition. Therefore, you can succeed in life by making only sincere, innovative, and truthful attempts. Above all, always engage honourably as a citizen of this wonderful nation. I would like to close by sending my sincere congratulations and best wishes to every student who has today been awarded a degree and a gold medal for their hard work. In addition, I praise our university fraternity for consistently working hard with students to help them develop successful careers.

I would like to express my gratitude to the editorial board for dedicating their efforts and time to compiling the useful information presented in this souvenir in a precise and enticing manner. I'm hoping that the Souvenir will help readers understand the university's contributions and accomplishments in a nutshell.

**Bijendra Singh**  
Vice-Chancellor

**Messages**





**आनंदीबेन पटेल**  
राज्यपाल, उत्तर प्रदेश



राज भवन  
लखनऊ - 226 027

20 दिसम्बर, 2022

### सन्देश

मुझे यह जानकर अत्यन्त प्रसन्नता हुई कि आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय, अयोध्या द्वारा 16 जनवरी, 2023 को अपने 24वें दीक्षान्त समारोह का आयोजन किया जा रहा है। इस अवसर एक स्मारिका का प्रकाशन भी किया जा रहा है।

विश्वविद्यालय का दीक्षान्त समारोह विद्यार्थियों के साथ ही संस्थान के लिये भी गर्व का अवसर होता है। मुझे आशा है कि नव उपाधि प्राप्तकर्ता छात्र विश्वविद्यालय का मान बढ़ाते हुए यहां से प्राप्त शिक्षा के माध्यम से सामाजिक अपेक्षाओं पर खरे उतरेंगे और अपने शिक्षण के दौरान उन्होंने जो सीखा है, उससे वह प्रदेश एवं राष्ट्र विकास में अपना सहयोग देंगे।

इस अवसर पर मैं उपाधि एवं पदक प्राप्त विद्यार्थियों को हार्दिक शुभकामनाएं देती हूँ और दीक्षान्त समारोह के सफल आयोजन की कामना करती हूँ।

*आनंदीबेन*  
( आनंदीबेन पटेल )





योगी आदित्यनाथ



मुख्य मंत्री  
उत्तर प्रदेश

75  
आज़ादी का  
अमृत महोत्सव

लोक भवन,  
लखनऊ - 226001

संख्या-29 DEC 2022  
दि- 596/सीओएन 2/2022

### संदेश

मुझे यह जानकर अत्यन्त प्रसन्नता की अनुभूति हो रही है कि आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय, कुमारगंज, अयोध्या द्वारा दिनांक 16 जनवरी, 2023 को अपना 24वां दीक्षान्त समारोह आयोजित किया जा रहा है।

कृषि एवं सहवर्ती क्षेत्रों में विद्यार्थियों को गुणवत्तायुक्त उच्च शिक्षा प्रदान कर आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय ने अपनी विशिष्ट पहचान बनायी है। वैज्ञानिक कौशल के माध्यम से विश्वविद्यालय ने उच्च उपज तथा प्रतिकूल जलवायु में उत्पन्न हो सकने वाली विशेष किस्म की फसलें विकसित की हैं, जिनसे समृद्ध भारत का मार्ग प्रशस्त हुआ है। अपनी विशाल विस्तार प्रणाली के माध्यम से यह विश्वविद्यालय उत्तर प्रदेश के किसानों में नवीनतम प्रौद्योगिकियों का प्रसार कर कृषकों की आय बढ़ाने में मदद कर रहा है। मुझे विश्वास है कि यह विश्वविद्यालय भविष्य में भी इसी प्रकार कृषि के विकास हेतु तत्पर रहेगा।

दीक्षान्त समारोह में उपाधि प्राप्त करने वाले समस्त छात्र-छात्राओं के उज्ज्वल भविष्य की कामना करते हुए मैं आशा करता हूँ कि यह समस्त विद्यार्थीगण देश-दुनिया में अपनी उपलब्धियों से प्रदेश व संस्थान का गौरव बढ़ाएंगे।

आयोजन की सफलता हेतु मेरी हार्दिक शुभकामनाएं।

  
( योगी आदित्यनाथ )







**ब्रजेश पाठक**

उप मुख्यमंत्री



**चिकित्सा शिक्षा, चिकित्सा एवं स्वास्थ्य,  
परिवार कल्याण तथा मातृ एवं शिशु  
कल्याण विभाग, उत्तर प्रदेश**

कार्यालय कक्ष संख्या-99, 100, मुख्य भवन,  
विधान सभा सचिवालय

दूरभाष- 0522-2238088/2213272 (का०)

लखनऊ: दिनांक

**शुभकामना-संदेश**

कृषि विश्वविद्यालय, कृषि शिक्षा, प्रसार एवं शोध के सर्वोच्च केंद्र होते हैं। आचार्य नरेंद्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय, कुमारगंज, पूर्वी उत्तर प्रदेश का एक प्रमुख कृषि शिक्षा का संस्थान है जो कि अकेली हरित क्रांति में एक महत्वपूर्ण भूमिका निभा रहा है। यहां के वैज्ञानिक एवं छात्र कृषि सम्बन्धी शिक्षा प्राप्त कर, कृषकों के बीच जाकर उनकी समस्याओं का समाधान कर सराहनीय कार्य कर रहे हैं। मुझे यह जानकर असीम हर्ष हो रहा है कि यही छात्र इस ऐतिहासिक दिवस पर अपनी पदवी प्राप्त कर एक नई भूमिका निभाने के लिए तैयार हैं। मैं उनके उज्ज्वल भविष्य की कामना करता हूँ तथा छात्रों से आह्वान करता हूँ कि निरंतर परिश्रम एवं कर्तव्य निष्ठा से अपना कार्य करते हुए आत्मनिर्भर भारत एवं किसानों की आय दोगुनी करने के सपनों को पूरा करें।

मैं विश्वविद्यालय के 24वें दीक्षांत समारोह की अपार सफलता की कामना करता हूँ।

(ब्रजेश पाठक)





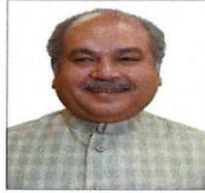
नरेन्द्र सिंह तोमर  
NARENDRA SINGH TOMAR

D.O. No. 927.....IAM



75  
आज़ादी का  
अमृत महोत्सव

कृषि एवं किसान कल्याण मंत्री  
भारत सरकार  
कृषि भवन, नई दिल्ली  
MINISTER OF AGRICULTURE & FARMERS WELFARE  
GOVERNMENT OF INDIA  
KRISHI BHAWAN, NEW DELHI



**MESSAGE**

I am happy to know that the Acharya Narendra Deva University of Agriculture and Technology, Kumarganj is going to celebrate its 24th Convocation Day on 16th January 2023, and on this occasion, a souvenir would also be published to communicate the message to the general masses.

This university has played a vital role in transforming the state to become self-sufficient and an exporter of food grains. Thanks to the untiring efforts and selfless services of the university scientists, who made the state boastful and self-reliant in agricultural production. It is a noteworthy point that food security has always been the top priority on the agenda of the university. The university can be proud of having produced more than 5000 graduates and scientists who are serving the cause of agriculture throughout the world and has released more than 196 new varieties of diverse crops. This university has 25 Krishi Vigyan Kendra (KVK) which played a laudable work in disseminating various kinds of developed technologies to the farmers.

I am sure that this university as ever will succeed in its endeavor in making excellent technical sound graduates and community as global competitors.

The students of this university are ready to mark a noteworthy place in the farming community strata through hard work and the novelty in their approach to finding better solutions to all the agricultural challenges. I congratulate the graduating students and hold them responsible for keeping the university brand high.

I wish the Convocation a grand success.

(Narendera Singh Tomar)





परशोत्तम रूपाला  
PARSHOTTAM RUPALA



सत्यमेव जयते



मंत्री  
मत्स्यपालन, पशुपालन एवं डेयरी  
भारत सरकार  
MINISTER  
FISHERIES, ANIMAL HUSBANDRY & DAIRYING  
GOVERNMENT OF INDIA

D.O. No. 15772/MIN(FAH&D)/2021-22

19 DEC 2022



**MESSAGE**

I am glad to know that Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya (Uttar Pradesh) is organizing 24<sup>th</sup> Convocation on 16<sup>th</sup> January, 2023 and also bringing out souvenir on this occasion.

Acharya Narendra Deva University of Agriculture & Technology is playing a decisive role in making the state of Uttar Pradesh and whole nation self-reliant on food bowl front. I am confident that the University will continue to strive in the field of agriculture and allied sectors to meet the challenges of sustainable agriculture, food security and climatic concerns.

I extend my good wishes to all degree holders and wish them success in life. I also wish convocation a grand success.

  
(Parshottam Rupala)





कैलाश चौधरी  
KAILASH CHOUDHARY



कृषि एवं किसान कल्याण  
राज्य मंत्री  
भारत सरकार  
MINISTER OF STATE FOR AGRICULTURE  
& FARMERS WELFARE  
GOVERNMENT OF INDIA

I am delighted to know that Acharya Narendra Deva University of Agriculture and Technology, Kumarganj is organizing its 24<sup>th</sup> Convocation on the 16<sup>th</sup> January 2023. On this occasion, I congratulate students, their parents and teachers for all their hard work and perseverance.

Agricultural sector plays a strategic role in the process of economic development of a country. It is seen that increased agricultural output and productivity tend to contribute substantially to an overall economic development of the country. It will be rational and appropriate to place greater emphasis on further development of the agricultural sector. In this direction, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj is lending valuable contributions by developing high yielding and improved varieties of wheat, rice, fruits, vegetables and spices that will see India stronger on economic front.

Once again, I congratulate one and all and wish convocation a great success.

  
(Kailash Choudhary)

Dated 19.12.2022  
New Delhi







**डॉ० संजीव कुमार बालियान**  
**DR. SANJEEV KUMAR BALYAN**



**राज्य मंत्री**  
**मत्स्यपालन, पशुपालन एवं डेयरी मंत्रालय**  
**भारत सरकार**  
**कृषि भवन, नई दिल्ली-110001**  
**MINISTER OF STATE FOR FISHERIES,**  
**ANIMAL HUSBANDRY & DAIRYING**  
**GOVERNMENT OF INDIA**  
**KRISHI BHAWAN, NEW DELHI-110001**

### **MESSAGE**

I am glad to hear that 24<sup>th</sup> Convocation is being organized by Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya, Uttar Pradesh on 16<sup>th</sup> January, 2023 and also publishing a souvenir on this occasion.

The whole world is facing tremendous challenges of increasing food production to meet the demand of burgeoning human population. Agriculture universities are playing vital role in addressing the problem of nutritional security by evolving novel technologies in the field of agriculture, animal husbandry and related sectors. I hope, Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya (Uttar Pradesh) has all the capabilities to stand upto the challenges and make India world leader.

I congratulate and wish all the medalists and degree holders, a bright future. I also wish convocation a grand success.

  
**(SANJEEV KUMAR BALYAN)**



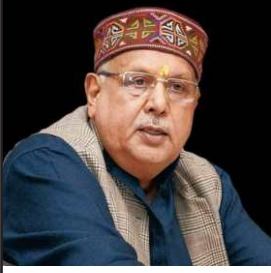


**सूर्य प्रताप शाही**  
मंत्री  
कृषि, कृषि शिक्षा एवं  
कृषि अनुसंधान विभाग,  
उत्तर प्रदेश



कार्यालय, दूरभाष/फैक्स : 2239247  
सी.एच. : 2213256  
कार्यालय कक्ष संख्या 69-70  
मुख्य भवन

दिनांक : .....



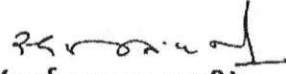
### संदेश

यह अत्यंत हर्ष का विषय है कि आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिकी विश्वविद्यालय, कुमारगंज, अयोध्या के 24 वें दीक्षांत समारोह का आयोजन दिनांक 16, जनवरी 2023 को होना सुनिश्चित हुआ है।

उत्तर प्रदेश के विकास में कृषि विश्वविद्यालय की अहम भूमिका है। विश्वविद्यालय की स्थापना से वर्तमान तक विभिन्न फसलों, फलों, सब्जियों की कुल 196 प्रजातियां विकसित कर प्रदेश उद्यमियों को लाभान्वित किया है। विश्वविद्यालय कृषि, कृषि उद्यान एवं वानिकी, पशु चिकित्सा एवं पशुपालन, मात्स्यिकी, सामुदायिक विज्ञान और अभियांत्रिकी में शिक्षा प्रदान करने के साथ-साथ उन्नत तकनीकों को किसानों तक पहुंचाने का कार्य विभिन्न प्रसार माध्यमों द्वारा सफलतापूर्वक कर रहा है। कृषि शिक्षा एवं अनुसंधान के क्षेत्र में छात्र-छात्राओं को ज्ञान अर्जित कराकर उन्हें स्वावलम्बी बनाने के लिए यह विश्वविद्यालय निरंतर प्रयासरत् है। पूर्ण विश्वास है कि यह विश्वविद्यालय आने वाले समय में नित नये शोधों के माध्यम से कृषकों को संपन्नता प्रदान करने में सहायक सिद्ध होगा।

मैं उन सभी छात्र-छात्राओं को जिन्हें इस दीक्षांत समारोह के अवसर पर उपाधियां एवं पदक से सम्मानित किया जायेगा, बधाई देता हूँ और उनके उज्ज्वल भविष्य की कामना करता हूँ।

आपका,

  
(सूर्य प्रताप शाही)

श्री बिजेन्द्र सिंह जी  
कुलपति,  
आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिक विश्वविद्यालय,  
कुमारगंज, अयोध्या।





**बलदेव सिंह औलख**  
राज्य मंत्री  
कृषि, कृषि शिक्षा एवं अनुसंधान विभाग  
उत्तर प्रदेश



उत्तर प्रदेश सचिवालय  
8, नवीन भवन, लखनऊ  
दूरभाष : 0522-2238171 (का०)

दिनांक : .....



## MESSAGE

It gives me huge pleasure to know that Acharya Narendra Deva University of Agriculture and Technology, Ayodhya is organizing its 24<sup>th</sup> Convocation on 16<sup>th</sup> January 2023.

Over the years, this university has done great service to the agrarian community of Uttar Pradesh releasing numerous improved varieties of crops, fruits, pulses, vegetables and spices, which are acknowledged and acclaimed nationwide. I hope, the University will continue its glorious journey and come out with more novel technologies beneficial to farmers.

I extend my warmest blessings to all the degree recipients and urge them to serve the rural masses with all zeal and commitment.

I also wish convocation a great success.

(BALDEV SINGH AULAKH)





सत्यमेव जयते

**डॉ. हिमांशु पाठक**  
सचिव, एवं महानिदेशक

**Dr HIMANSHU PATHAK**  
SECRETARY (DARE) & DIRECTOR GENERAL (ICAR)



भारत सरकार  
कृषि अनुसंधान और शिक्षा विभाग एवं  
भारतीय कृषि अनुसंधान परिषद  
कृषि एवं किसान कल्याण मंत्रालय, कृषि भवन, नई दिल्ली 110 001  
GOVERNMENT OF INDIA  
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION (DARE)  
AND  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)  
MINISTRY OF AGRICULTURE AND FARMERS WELFARE  
KRISHI BHAVAN, NEW DELHI 110 001  
Tel.: 23382629; 23386711 Fax: 91-11-23384773  
E-mail: dg.icar@nic.in



### MESSAGE

I am happy to learn that Acharya Narendra Deva University of Agriculture and Technology (ANDUAT), Kumarganj, Ayodhya is organizing its 24<sup>th</sup> Convocation on 16<sup>th</sup> January, 2023.

ANDUAT was established in the year 1975 to cater to the needs of location specific research, higher agricultural education and extension education and frontline farmers outreach needs of the eastern districts of Uttar Pradesh. It performed with all round development during the last 47 years of its establishment. The university has also excelled well in many aspects of academic activity and produced several dynamic graduates, post graduates and doctorate students with total number counting over 5000 graduates. The excellence in research in crops and development of a number of varieties of field and horticultural crops, natural resources and input management, farm implements, livestock and fisheries has contributed in the transformation of the agriculture-food systems and socio-economic development of the farmers in the region. The farmers outreach, technology dissemination, capacity development of farmers and trainers and extension personnel undertaken by 25 KVKs have been remarkable contribution to the farming community of Eastern Uttar Pradesh.

Today agriculture is facing formidable challenges of climate change and sustainability of natural resources, unattractiveness of agriculture as means of livelihood for rural youth, uneconomic landholdings, etc. These needs to be addressed through appropriate policy reorientation, investment and incentivization of innovations, technologies, inputs and institutional reforms. The agricultural higher education has much greater role to play in this transformation towards precision agriculture with greater interface of digital technologies. The young graduates and post graduates who have been awarded the degrees in this convocation have to shoulder greater responsibility of making agriculture profitable and attractive for the farmers and the rural youths.

I extend my heartiest congratulations to students awarded with degrees as well as faculty members and staff on this occasion.

I wish the Convocation a great success.

(Himanshu Pathak)

16<sup>th</sup> December, 2022  
New Delhi







**डा. राकेश चन्द्र अग्रवाल**  
उप महानिदेशक (कृषि शिक्षा)  
**Dr. Rakesh Chandra Agrawal**  
Deputy Director General (Agril. Edn.)

**भारतीय कृषि अनुसंधान परिषद**  
कृषि अनुसंधान भवन-II, नई दिल्ली-110012  
**INDIAN COUNCIL OF AGRICULTURAL RESEARCH**  
KRISHI ANUSANDHAN BHAVAN-II, PUSA, NEW DELHI-110012  
Phone : +91-11-25841760  
Email: ddg.edu@icar.gov.in, ddgedn@gmail.com, nd.nahep@icar.gov.in



### **MESSAGE**

Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya is going to organize its 24<sup>th</sup> Convocation on 16<sup>th</sup> January 2023. This is really a great moment for all the students and teachers of the university.

It is among the leading agricultural universities in the country formed with the objective to develop in each student the mastery of fundamentals, the versatility of mind, and motivation for learning, creating a talented pool of trained scientists who could contribute towards the agricultural research and social development of the country. Since its inception, the university remains the torch bearer for the advancement of knowledge, in agricultural science and technology, in this enchanting U.P.

On the eve of convocation, I extend my heartiest congratulations and greetings to the students, teachers and all others associated with the University.

I wish the convocation a great success.

(R. C. Agrawal)





**दुर्गा शंकर मिश्र**  
मुख्य सचिव  
**Durga Shanker Mishra**  
Chief Secretary

**75**  
आज़ादी का  
अमृत महोत्सव  
हर घर तिरंगा - 15 अगस्त 2022



उत्तर प्रदेश शासन  
लोक भवन, लखनऊ-226001  
Government of Uttar Pradesh  
Lok Bhawan, Lucknow-260001



Dated : 27 December, 2022

### Message

I am delighted that Acharya Narendra Deva University of Agriculture and Technology, Ayodhya is organizing its 24th Convocation on 16th January, 2022 and a souvenir would also be published on this occasion.

2. Acharya Narendra Deva University of Agriculture and Technology named after Acharya Narendra Deva, a great educationist and social reformer is contributing immensely in upliftment of rural community of Eastern Uttar Pradesh. Since the establishment, the university is well recognized in nation building for its outstanding contribution in teaching, research and extension services in the field of agriculture and allied sectors.

3. The university has to its credit a large number of improved varieties of different crops viz. rice, wheat, oil seeds, pulses, aonla, bael and vegetables. Not only has this, university also has a galaxy of renowned personalities as its alumni.

4. I wish the 24th Convocation a grand success and heartily congratulate the recipients of degrees as well as medals and wish success in their life.

( Durga Shanker Mishra )





**Dr. Devesh Chaturvedi**  
I.A.S.  
Additional Chief Secretary



D. O. No. : 2571/2022-कृषि-67-400(L)/15

Agriculture, Agriculture Education and Research,  
Agriculture Marketing, Agriculture Foreign Trade Department,  
Government of Uttar Pradesh

25, Naveen Bhawan, U.P. Secretariat, Lucknow.

☎ Off. : 0522 - 2237617

Fax : 0522 - 2235488

Email : psup.agri@gmail.com

Date : 28.12.2022...



### Message

Convocation is a great moment in the life of students, teachers and guardians. It is the time, when students steps into the world of responsibility towards their family, society and nation. So, it gives me immense happiness and sense of joy that Acharya Narendra Deva University of Agriculture and Technology, Kumarganj is organizing its 24<sup>th</sup> convocation on the 16<sup>th</sup> January 2023 .

The university has a major role in nation-building by enriching agricultural science and technology and by providing value-based education to students to make them leaders in specific fields . The university should continue to make efforts to provide instruction to its students which are relevant to the changing nature of agriculture while focussing on research that can provide solutions peculiar to the agricultural problems of the state. No doubt, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj is playing great role in imparting teaching, research and extension education to the masses of Uttar Pradesh and making them lead a self - reliant and respectful life and hope it continues to make tireless efforts in this direction.

On the occasion of convocation ceremony, I shower blessings to degree and medal recipients and wish everyone great success.

( Dr. Devesh Chaturvedi )  
Additional Chief Secretary





## COLLEGE OF AGRICULTURE

Prof. Ved Prakash, Dean



The College of Agriculture was established in February 1977 as the first College of the University to cater the needs of agricultural education and research. An undergraduate teaching programme with 24 students was started in October 1978. The Postgraduate programmes in four disciplines *viz.*, Agronomy, Genetics & Plant Breeding, Horticulture and Vegetable Science were started in 1981-82 with an intake capacity of 28 students. Later, some more disciplines were added. The doctoral programme was brought up in Agronomy, Genetics and Plant Breeding, Horticulture and Agricultural Economics disciplines from the second semester of the 1982-83 session with ten students. Currently, the university has thirteen departments in addition to a section for seed science and technology.

### Mandate

Impart education, conduct research in various fields of specialization in agriculture and agriculturally important technologies, and extension of these technologies, products and resources for the benefit of farmers.

### Objectives

1. Impart education in various fields of specialization in agriculture and applied

agriculturally important technologies to train and enrich the skills of U.G., P.G. and Ph.D. students for the growth and advancements in the agriculture sector and for the service of the farming community.

2. Provide necessary exposure to the students through visits to farmers' fields to better understand the practical aspects of Agriculture and troubleshoot of varied field-level issues through interventions of available agricultural technologies.
3. Train them as competent extension personnel to disseminate various Technologies for the benefit of Farmers and Agricultural products related businesses.

### Academics

The College offers an undergraduate programme for B.Sc. (Hons.) Agriculture and postgraduate programme for M.Sc. (Ag.) as well as Ph.D., degrees in thirteen departments and one section *viz.*, Agronomy, Plant Molecular Biology and Genetic Engineering, Crop Physiology, Entomology, Agriculture Biochemistry, Extension Education, Genetics and Breeding, Agricultural Meteorology, Plant Pathology, Soil



Science and Agricultural Chemistry, Agricultural Statistics and Agricultural Economic, Agribusiness Management and section of Seed Science & Technology.

The undergraduate course curriculum is being followed in accordance with the recommendation of the ICAR 5<sup>th</sup> Deans' Committee. The postgraduate and Ph.D., programmes course curriculum is being followed as per the new BSMA report (Broad Subject Matter Area) of ICAR 2021 and adopted from the academic session 2022-23. Admission to all the course programmes of the college is done through the UP-CATET and ICAR examinations.

### Student Strength

In the 2022-23 academic session, 130 students in B.Sc. (Hons.) in Agriculture, 168 students in M.Sc. (Ag.) and 44 students in Ph.D., programmes were admitted. For session 2021-22, 111 in B.Sc. (Hons.) Agriculture, 132 in M.Sc. (Ag.), and 53 in Ph.D., degrees have passed out.

### Students Activities

The Rural Agricultural Work Experience & Agro-Industrial Attachment (RAWA & AIA) as a key component of the undergraduate programme for imparting rigorous orientation and familiarization of various issues and problems at the farmer's fields and village have been carried out with utmost sincerity. The study



**Kisan Gosthi conducted under RAWA and AIA Program**



### Activities of students in ELP programmes

tour of students is also conducted for providing them with exposure to renowned Institutes/ Universities. Some other cultural and scientific activities/ programmes such as Fresher's welcome, Parthenium week, Swachata Abhiyan, Plantation Programme, etc., were also part of the student activity held from time to time.

### Infrastructure

The College has one Instructional Farm of 30 acres with all required facilities for conducting the Practical Crop Production course and thesis research experiments of M.Sc. (Ag.) & Ph.D., students. Additionally, the Main Experiment Station, Agronomy, and Department of Genetics & Plant Breeding research farms are used to support student instruction and research. For the benefit of the students, each department at the college contains two excellent well-equipped undergraduate and one or more postgraduate laboratories, two PG lecture halls and one seminar room with audio-visual amenities. The college has ten U.G. lecture rooms/ Examination halls and five smart classrooms.

### Research

In order to address the location-specific issues affecting agricultural yield and farmer welfare, 25 research projects funded by the state, national, and international funding organizations are now being conducted by the College. The information about the ongoing research projects is presented below.





S. No.	Name of the Project/ Scheme	Year of Start
<b>A. All India Co-Ordinated Research Projects (75% ICAR share and 25% State share)</b>		
1.	AICRP on Rice Improvement	1976
2.	AICRP on Wheat & Barley Improvement	1987
3.	AICRP on MULLaRP Crops	2001
4.	AICRP on Chickpea	2001
5.	AICRP on forage Crops Improvement	2001
6.	AICRP on Potential Crops	1995
7.	National Seed Project (Crops)- 1. Seed Technology Research 2. Breeder Seed production	1978
8.	AICRP on Irrigation Water management	1980
9.	AICRP on Integrated Farming System	1976
10.	AICRP on Agro -meteorology	1990
<b>B. Scheme 100% Financed by ICAR</b>		
1.	NICRA (Agro-meteorology)	2010 to cont.
<b>C. Research Projects Financed by International Agencies</b>		
1.	Accelerated Genetic Gain in Rice (AGGRi -Alliance)- Marginal Improvement (IRRI)	2019-20
<b>D. Research Projects Financed by Other National/ State Agencies</b>		
1.	Gramin Krishi Mausam Seva (i) Head Quarter, Kumarganj <b>Ministry of Earth Science (IAAS)</b> (ii) Bahraich	1993
2.	Forecasting Agricultural output using space , agro -meteorology and land - based observations (FASAL) <b>Ministry of Earth Science (Govt. of India)</b>	2010
3.	Centre of Excellence in Rice ( <b>State Govt.</b> )	2018-19
4.	Germplasm characterization and trait discovery in wheat Using genomic approaches and its integration for improving climate resilience, productivity and nutrition quality. <b>Sub Project:</b> Characterization and evaluation of wheat germplasm lines for biotic stress resistance (DBT, Govt.).	2020-21
<b>E. Research Projects Financed by UPCAR</b>		
1.	Genetic enhancement for terminal heat tolerance in bread wheat ( <i>Triticum aestivum</i> L.) with conventional and molecular breeding approaches.	2020-21
2.	Value Chains of major Agricultural Commodities: A lucrative approach for improving livelihood status of farmer's in Uttar Pradesh	2022-23
3.	Improving livelihood status in eastern Uttar Pradesh through assessment of average farmer's: An income enhancement approach.	2022-23



<b>F. Non - Plan Projects 100% Financed by State Govt</b>		
1.	Oil Seed Project	
2.	Pulses Project	
3.	Research on Crop Physiology	
4.	Foundation and breeder seed production unit and strengthening of seed testing lab.	
<b>G Research Projects Financed by R.K.V.Y .</b>		
5.	DRONE An Imperative tool for Pest Surveillance and Management in Crops	
6.	Preserving Adulterated seed and planting material by DNA finger printing technique for increasing the income of farmers.	
7.	Enhancement of pulses and oilseed production, productivity and income of Eastern Uttar Pradesh farmers by upgrading seed production farm.	

### Linkages Established:

- MOU signed with IISR-Indian Institute of Sugarcane Research (Lucknow, U.P.,

India) for facilitating inter-institutional scientific collaboration, students' training and post-graduate research activities.

### Crop Varieties Notified:

<b>Characteristics</b>	<b>Crop</b>
<p><b>Wheat: 7008 (Released from SVRC)</b></p> <ul style="list-style-type: none"> <li>➤ For Rain-fed</li> <li>➤ Average Yield: 23 -25 q/ha.</li> <li>➤ Duration: 125-130 days</li> <li>➤ Plant Height: 95 cm.</li> <li>➤ Resistant to all three types of rust, highly resistant to shattering and lodging.</li> </ul>	
<p><b>Fodder Oat: NDO-1101 (Notified)</b></p> <ul style="list-style-type: none"> <li>➤ Quick regeneration capacity</li> <li>➤ High tillering ability</li> <li>➤ Average Yield: Green fodder yield 317.93 q/ha and grain yield 12.33 q/ha</li> <li>➤ Duration: 130-140 days</li> <li>➤ Plant Height: 130-145 cm.</li> <li>➤ Moderately resistant to major diseases/ insect pests and tolerant to salt-affected soils</li> </ul>	



### Extension Activities:

College scientists offer farm consulting services to farmers through field trips, field exhibits and demonstrations, Kisan-gosthi, and farmer training programmes. Developed/popular/newly released varieties of different crops, benefits of the super seeder, use of biocontrol agents, safe use of pesticides, resource conservation technology, integrated farming system etc., are displayed during the Kisan Melas

organized by the university as well as other organizations for the benefit of farmers.

### Student Accomplishments:

Total 51 students have been placed in different fields as SMS in KVKs, 12 as Assistant Professor under UPHEC, 01 as Entomologist, Directorate of Horticulture, UP Government (UPPSC), 23 as STA in UPPSC, 01 as AFO and 01 as AFO (Central Bank of India)

### Glimpses on College Activities



**Demonstration on Spray using Drone Technology at Students' Instructional Farm of ANDUAT in the presence of Hon'ble Minister Shri Surya Pratap Sahi, Minister of Agriculture, Agriculture Education and Research and Hon'ble Vice-Chancellor Dr. Bijendra Singh**



**“Har Ghar Tiranga” program organized at University Adopted Village, Dobhiyara in the presence of Hon'ble Vice-Chancellor Dr. Bijendra Singh and University Scientists**



**Farmer Awareness Programme**



## COLLEGE OF HORTICULTURE AND FORESTRY

Prof. Sanjay Pathak, Dean



### Brief History:

The College of Horticulture and Forestry (CHF) is located on the main campus of A.N.D.U.A.T., Kumarganj, Ayodhya (U.P.). The geographical area under the jurisdiction of the college is spread over three zones namely, North Eastern Plain Zone, Eastern Plain Zone and Vindhyan Zone comprising 27 districts of Uttar Pradesh and extension programmes.

Initially, the Department of Horticulture was initiated in the year, 1977 and the work on Horticultural crops were started at the Crop Research Station, Masodha and shifted to the main campus of the University at Kumarganj. In the beginning, all the branches viz., Fruit Science, Vegetable Science, Ornamental Horticulture and Post-Harvest Technology were included in the Department of Horticulture. Later on, in the year, 1980 a separate department of Vegetable Science was established. The postgraduate programmes were started in the year 1981 in the College of

Agriculture in the disciplines of Horticulture and Vegetable Science. The Department of Forestry was established in the academic year 1987-88 and was divided into two departments namely: (i) Department of Agroforestry and (ii) Department of Forest Ecology and Environment with the establishment of the College. The College of Horticulture and Forestry was established in 2006 with six departments. (i) Fruit Science, (ii) Floriculture and Landscaping (iii) Post-harvest Technology (iv) Vegetable Science (v) Medicinal and Aromatic Plants (vi) Agroforestry.

The postgraduate degree was started in the discipline of agroforestry and Forest Ecology and environment in the years 2009 and 2010, respectively. The new building of the College of Horticulture and Forestry was constructed on the university main campus in 2009 and was inaugurated by Hon'ble Vice-Chancellor Dr. Basant Ram on 11-12-2009. Presently following degree programmes are running in college.



S.No.	Name of degree programme	Discipline
1.	B.Sc. (Hons.) Horticulture	Horticulture
2.	M.Sc. (Horticulture) Fruit Science	Fruit Science
3.	M.Sc. (Horticulture) Vegetable Science	Vegetable Science
4.	M.Sc. (Horticulture) Post Harvest Management	Post-Harvest Technology
5.	M.Sc. (Horticulture) Floriculture & Landscaping	Floriculture & Landscaping
6.	M.Sc. (Forestry) Silviculture and Agroforestry	Agroforestry
7.	Ph.D. (Horticulture) Fruit Science	Fruit Science
8.	Ph.D. (Horticulture) Vegetable Science	Vegetable Science
9.	Ph.D. (Forestry) Silviculture and Agroforestry	Agroforestry
10.	Ph.D. Forestry	Agroforestry

### Objectives:

- To provide a teaching environment and facilities to develop human resources, who can able to take the responsibility and challenges of horticulture.
- To teach and train the students to make them resourceful and entrepreneurial.
- To provide technical and practical end-to-end exposure to students in the field of horticulture for skill development related to production, value addition, management, marketing and self-employment.
- Establishment of a nursery of fruits, ornamental, medicinal and aromatic crops and supply to research institute and farmers.
- Landscaping and beautification of the main campus
- To collaborate with national and international institutions/ agencies involved in teaching, research and

developmental programs in the field of horticulture and forestry.

### Mandates:

- To provide quality education for rural people of Uttar Pradesh in different branches of Horticulture and Forestry.
- Development of cultivars of different Horticultural crops for eastern Uttar Pradesh.
- To provide good facilities for the research network
- To attain excellence in education, research and extension in the field of Horticulture
- To conduct location-specific and need-based research
- To generate technologies for improving the production and productivity of tropical crops
- To implement effective extension



programmes for the efficient transfer of technology

- To provide consultancy services in Horticulture

**Number of students (admitted & passed):**

Details of students who passed, ongoing and admitted during the session are given below:

Name of degree programme	No. of students passed
B.Sc. (Hons.) Horticulture	36
M.Sc. (Horticulture) Fruit Science	10
M.Sc. (Horticulture) Vegetable Science	12
Ph.D. (Horticulture) Fruit Science	4
Ph.D. (Horticulture) Vegetable Science	9
<b>Total</b>	<b>71</b>

Name of degree programme	No. of ongoing students
B.Sc. (Hons.) Horticulture	209
M.Sc. (Horticulture) Fruit Science	37
M.Sc. (Horticulture) Vegetable Science	26
M.Sc. (Forestry) Silviculture and Agroforestry	09
Ph.D. (Horticulture) Fruit Science	21
Ph.D. (Horticulture) Vegetable Science	15
Ph.D. (Forestry) Silviculture and Agroforestry	06
Ph.D. Forestry	02
<b>Total</b>	<b>325</b>

Name of degree programme	No. of students admitted (2022-23)
B.Sc. (Hons.) Horticulture	70
M.Sc. (Horticulture) Fruit Science	13



M.Sc. (Horticulture) Vegetable Science	13
M.Sc. (Forestry) Silviculture and Agroforestry	06
Ph.D. (Horticulture) Fruit Science	06
Ph.D. (Horticulture) Vegetable Science	06
Ph.D. (Forestry) Silviculture and Agroforestry	02
<b>Total</b>	<b>116</b>

### Academic Excellence

Student's performance in competitive examinations

S.N.	Exam	Students Qualified (2021-22)
1.	ICAR-JRF	07
2.	Admission to premier Institute	04

### Placements of Students:

23 (Assistant Professor in University-8, SMS-4, STA-6, Private University-5).

### Research Accomplishments

#### Bottle Gourd Hybrid

##### NDBGH-14-10:

The main characters are attractive cylindrical, light green colour fruit with good palatability and tolerance to major diseases. Its yield potential is 728 q/ha and the average yield is 539 q/ha.



#### Anola

##### Narendra Aonla-25:

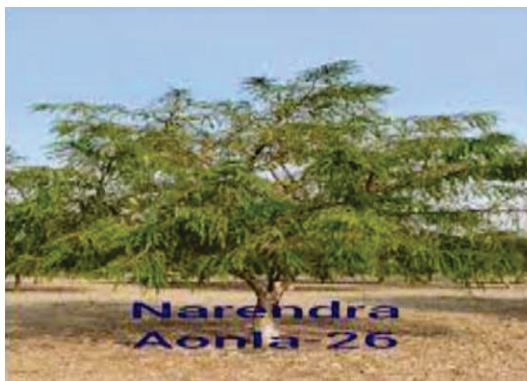
Early flowering (starts from the last week of February), Start bearing the in 4<sup>th</sup> year, It is suitable to grow under a sub-tropical ecosystem. Early ripening (November) and earliest among the released varieties. The attractive creamy yellow colour of the pulp of completely ripened fruit. Flattened round fruit shape, fruit yield per plant is about 80-85 kg/plant. The average fruit weight is 80-85g. The TSS value is 11.5° Brix, acidity is 0.89% and Vitamin C content is 545.93 mg/100 g pulp.





### **Narendra Aonla-26:**

Early flowering (starts from the last week of February), Start bearing the in 4<sup>th</sup> year, It is suitable to grow under a sub-tropical ecosystem. Full ripening in the month of December. The attractive bright green-yellow colour of fruits with a smooth thin skin of completely ripened fruit. Flattened round fruit shape fruit yield per plant is about 90-100 kg/plant. The average fruit weight is 45.68 g. The TSS value is 10.85° Brix, acidity is 1.10% and Vitamin C content is 483.68 mg/100 g pulp.



among the released varieties. Compact foliage, less fruit to sunscald and very less thorns under subtropical-arid environment and starts bearing in 4<sup>th</sup> year. It is suitable for growing in sub-tropical ecosystems. Drought tolerant, luxuriant growth and higher fruit yield under less precipitation and high temperature. The attractive light-yellow colour of the pulp of completely ripened fruit. Fruit weight 1.75-2.00kg/fruit, yield 95-105kg/plant. It is highly suitable for powder and RTS owing to its attractive pulp colour and fibre content.



### **Bael**

#### **Narendra Bael-8:**

Fruit yield (kg)/plant is 108.89 kg, fruit weight 1.23 kg, shell thickness is 2.21 mm, the total number of seeds 109-130, locules arrangement is scattered, mucilage is very less, TSS pulp 38.770B, acidity is 0.36% and vitamin-C is 19.91 mg/100g pulp, the pulp is sweet and pale-yellow colour.



#### **Narendra Bael-11:**

The main features are elliptical fruit shape; the fruit yield is 99.6 kg per tree and fruit weight is 1.87 to 2.0 kg per fruit. The shell thickness is 2.58 mm, the total number of seeds is 130-140 and locules are cross sections 13-14. Whitish yellow pulp colour with TSS of pulp is 33.98° Brix and Vitamin – C content is about 35 mg per 100 g pulp.



#### **Narendra Bael-10:**

Early ripening (March) and earliest





<b>Research project running in the college</b>	
Number of projects running	16
ICAR-All India Coordinated Research Project	06
State: Non-plan (100% funded by UP state govt.)	02
MIDH	01
Adhoc project running	01
Adhoc projects sanctioned	04
Collaborative research work with other organizations	03

### **ICAR–AICRP projects running in the college**

1. All India Coordinated Research project on Medicinal, Aromatic Plants and Beetle Vine
2. All India Coordinated Research Project on Arid Zone Fruits
3. All India Coordinated Research Project on Agroforestry
4. All India coordinated research Project on Potato
5. All India Coordinated Research Project on Spices
6. All India Coordinated Research Project on Vegetable Crops

**State: Non-plan (100% funded by UP state govt.): 02**

1. Production and processing of fruits in usar wasteland scheme
2. Vegetable Research

### **MIDH**

1. MIDH (Mission for Integrated Development of Horticulture) is 100% funded by ICAR

ADHOC Projects: 01

### **Sanctioned ad-hoc research projects**

1. Demonstration of drip irrigation/ fustigation under diversified cropping system - **(Sanctioned) (R.K.V.Y.)**
2. Renovation and establishment of New Polycarbonate greenhouse and net house for nursery production and cultivation. - **Sanctioned under R.K.V.Y.**
3. Strengthening of Horticulture & Vegetable Experiment Stations from protection of stray Cattles.- **Sanctioned under process- R.K.V.Y.**
4. Establishment of Hi-Tech Floriculture Centre for Strengthening of Research and Development of Entrepreneurship Model, Funding Agency, RKVY.

### **Collaboration of research work with other organizations**

1. Evaluation of Nano-DAP in potato.2021. IFCO Ltd.
2. Innovation of Innovative products on vegetable crops 2021-21, Fertis India Ltd
3. Products evaluation Universal speciality chemicals ltd Mumbai in watermelon and cucumber



## Germplasm availability

S.No.	Name of Crop	No. of available germplasm	No. of promising germplasm
1.	Ber	52	10
2.	Bael	27	23
3.	Aonla	21	08
4.	Jamun	09	07
5.	Turmeric	180	07
6.	Ginger	63	03
7.	Coriander	200	05
8.	Fenugreek	204	05
9.	Fennel	168	05
10.	Black Cumin	37	03
11.	Carom (Bishops) seed	44	04
12.	Medicinal & Aromatic plants	188	3
13.	Agroforestry	15	2
14.	Pumkin	20	2
15.	Bottle gourd	25	3
16.	Ridge gourd	01	1
17.	Tomato	20	2
18.	Brinjal	25	1
19.	Green Mustard	01	1
20.	Chinese Cabbage	01	1
21.	Pointed gourd	10	1
22.	Okra	01	1
23.	Drum Stick	15	2



### Extension activities

- Distribution of Seedlings namely mango, aonla, teak, etc., Turmeric seed, wheat and paddy seed varieties to the SC farmers of Meen nagar village panchayat, Dariabad block during the period.
- Delivered lecture/training by Dr. H.K. Singh on dated January 05, 2022 at Tulsi Sadan Hadilal Sadar, Pratapgarh U.P. government for skill up gradation on “Krishak prashichan me Aonle ke bag me uttapann hone wali samaswaeon ke nidan” on date 05/01/2022.
- Delivered lecture by Dr. H.K. Singh for awareness of farmers on the topic “Rog Prabhandhan me Mausam Purwanuman ki Bhumica” on date 23/03/2022.

### Training Organized

1. Masala Yum Sagandh paudh me Udamita Vikas at Urua Vaish, Harintanganj, Ayodhya, U.P. on 3<sup>rd</sup> March 2022.
2. Masala evam sagandh paudh ki vaigyanik kheti at Shadipur, Musafirkhana district-Amethi on 7<sup>th</sup> December, 2022.
3. Masala evam sagandh paudh ki vaigyanik kheti at Tetarpur, Jagdishpur district-Amethi on 14<sup>th</sup> December, 2022.
4. One Day Training organised entitled “Medon par vrikshropan” on 31.03.2022 for the farmers of Jorium Village, Amaniganj, Ayodhya (U.P.) funded by AICRP (AF), CAFRI, Jhansi.

### Gosthi conducted

1. Anusuchit jati ke kisano ko paudh vitran evam Jagrookta Gosthi at govindpur, Baldiray district- Sultanpur on 7<sup>th</sup> September 2022

### Faculty achievement

Awards	-	04
Publications (NAAS rating 4 and above)	-	45

Books	-	03
Book chapter	-	09
Articles	-	11
Extension folder	-	07
Radio talk	-	04
TV talk	-	01

### Event and activities

- Dr. Sanjay Pathak and Dr. H.K. Singh (2022) Organised and Attended 26<sup>th</sup> Research Workers Annual Meet from April, 28-30, 2022 and also worked as rapporteur in the Session –X on dated 30/04/2022 at ANDUAT, Kumarganj, Ayodhya.
- XXXIII Annual Group Meeting of ICAR-AICRP on Spices was organised successfully by Dr. Sanjay Pathak and Dr. Pradip Kumar at CHF, ANDUAT, Kumarganj, Ayodhya during 13-15 October, 2022.
- District level Seminar held on 11-12 August, 2021 on मसाला एवं सगंध पौध में उद्यमिता विकास की संभावना एवं चुनौतियाँ organized by Dr R.S. Mishra and Dr O.P. Rao at ANDUAT, Kumarganj Ayodhya, U.P.

### Technology recommended

- Based on the last 16 years' pooled data on epidemiological studies of aonla rust, it is concluded that the initiation of rust disease in aonla took place during temperature (26.41°C – 33°C), relative humidity (87.01% to 69.81%), rainfall (30.50 mm), sunshine per day (5.94 hrs.) during 3 Sept. to 16 Sept found favourable for the initiation of the disease.
- Clone PS-52 of Shisham has been found under eastern UP conditions. This clone has better plant height, collar diameter,



number of branches and crown spread.

**Name of promising genotypes in pipelines:**

- **Bottle gourd-** NDBG-24 and 28
- **Pumpkin-** NDPK-73-1 and NDPK-25
- **Brinjal-** NDB-Sel-1
- **Turmeric-** NDH-11, NDH-53, NDH-49, NDH-50, NDH-85, NDH-88, NDH-92
- **Ginger-** NDG-55, NDG-6, NDG-23

- **Coriander-** ND Cor-22, ND Cor-32, ND Cor-64, ND Cor-11, ND Cor-12
- **Fenugreek-** NDM-119, NDM-137, NDM-36, NDM-49, NDM-45
- **Fennel-** NDF-59, NDF-6, NDF-46, NDF-45, NDF-52
- **Ajwain-** NDAJ-21, NDAJ-34, NDAJ-30, NDAJ-20
- **Black Cumin-** NDBC-20, NDBC-7, NDBC-31



**Dr. G.C. Yadav received an award for excellent teaching work from the Hon'ble Agriculture Minister of Uttar Pradesh**



**AICRP on Arid Zone Fruits received the "Best Centre Awarded by the ICAR-CIAH, Bikaner, Rajasthan" to the ANDUAT, Ayodhya Centre**



**Hon'ble Governor Smt. Anandiben Patel visited the stall of the university on 4-6 March 2022 at Rajbhawan Campus, Lucknow**



**Team visited on Spices trial**



# COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY

Prof. P.S. Pramanik, Dean



The College of Veterinary Science & Animal Husbandry came into existence on 26<sup>th</sup> March 1999. The first batch of students were admitted in the session of 1999-2000. Since then, the College is tirelessly working for the betterment of the livestock sector by providing quality education and catering to the needs of farmers in the field of animal production, by providing its technical expertise for the genetic improvement of livestock and poultry, better animal health and treatment etc., and thus, college is playing a pivotal role in upgrading the livelihood of the farmers of the Eastern Uttar Pradesh.

## Mandate

Impart education in the field of Veterinary Science and Animal Husbandry and health services to livestock and pet owners.

## Objectives

1. Impart education in the field of Veterinary Science and Animal Husbandry enriching their skills in the treatment of animals, management of livestock and poultry industry for better production.
2. Train them as competent extension

personnel to disseminate various production technologies to the beneficiaries of the Animal Husbandry industry.

3. Provide the necessary exposure to the students of recent developments in the field of Veterinary Science in various agro-climatic zones at State and National levels through State and All India educational tours and visits.

## Academics

College follows the minimum standards set by the Veterinary Council of India for B.V. Sc. & A.H. education as it is mandatory for a Veterinary College to maintain equality and standard of curriculum across India. The departmental setup of the college comprises 17 departments including one instructional livestock farm complex (dairy farm) and one veterinary clinical complex (Veterinary polyclinic). The core faculty of the college consists of a total of 25 Assistant Professors, 8 Associate Professors and 13 Professors. These well-learned and up-to-date faculties shape the budding veterinarians of the college by providing the best quality teaching and



counselling. The academics of the college are also supported by 107 non-teaching personnel.

**The college got accredited by the National Agricultural Education Board of ICAR in its 24<sup>th</sup> meeting held on 17<sup>th</sup> September 2020. The college was rated 2.93 overall, the highest among the colleges of the university.**

B.V.Sc. & A. H., Degree program of the college is run as per the norms set by the Veterinary Council of India. The postgraduate degree programme is running in 12 departments of the college with Ph.D., degree programme in 10 departments. The overall strength of students is as follows:

Degree Program	Year	Students
B.V.Sc & AH	I	75
	II	83
	III	50
	IV (2018 Batch)	53
	IV (2019 batch)	50
	V	39
M.V.Sc.	I	00
	II	13
Ph.D.	I	04
	II	05
	III	04

All the boys' students reside in Kalindi, Varuna and Achravati hostels and girls' students are provided comfortable stay in Gomti hostel.

The college has lecture theatres equipped

with the latest audio-visual aids to ensure efficient learning for the students. This session again witnessed an upliftment in the research facilities as many new sophisticated instruments were installed in the laboratories.

## Research

### Externally funded projects:

S. No.	Title of Project	Amount (Rs. Lacs)	Agency
1.	Detection status of Acaricide resistance, their mitigation with ethnobotanicals and managerial practices for control of tick- and tick -borne disease in eastern Uttar Pradesh	23.66	UPCAR
2.	Strengthening of parasitological laboratory with advanced diagnostic facilities for detection of parasitic diseases	Rs.92.77	RKVY



3.	Establishment of milk Processing plant	Rs.25.95	RKVY
4.	Production of elite -germplasm through embryo transfer technology in bovine	Rs.332.30	RKVY

The college has upgraded the facilities available at the Veterinary Clinical Complex providing one of the best diagnostic and treatment facilities for animal owners. Recently the college purchased various instruments under the RKVY project. They are

1. Automatic Milk Analyser- for analysis of milk like fat, SNF, protein etc.
2. Somatic Cell Counter- For the examination of mastitis milk by counting somatic cells present in milk
3. Microtome- for Histopathological Examination
4. Ophthalmic Surgical Microscope
5. Small Animal X-Ray machine
6. Ultra-Performance Thin Chromatography (UPLC)

New embryo transfer and renovated semen deep frozen semen lab (as per BSL-3 norms) was carried out under the RKVY project that was inaugurated by the Hon'ble Vice-Chancellor.



#### Oocytes and infrastructure in the ETT lab

The college has a well-established livestock centre (LFC) with cattle & buffalo, sheep & goat and poultry units. At present, there are 1444 cattle, 55 buffaloes including 07 breeding buffalo bulls, 27 sheep, 60 goats and 38 pigs. The cattle unit is working on the conservation of breeds of local indigenous cattle like Sahiwal and Tharparkar so that milk production, especially in eastern Uttar Pradesh can be enhanced. The buffalo unit is working on the conservation and propagation of the Murrah breed and upgrading the local buffalo breed with an artificial insemination programme. The college also developed a one of its own kind new integrated farming model named NSP –VI. Around six hectare wasteland emphasizing organic farming has been established.

**Total receipt from LFC during Jan-Dec 2022 is Rs.2639744.00 from the sale of milk, sheep, goat, pig etc.**

The students of this college are bringing laurels to the university through their hard work and a high degree of knowledge in various



institutions viz., Remount Veterinary Corps (RVC), Indian Forest Services, Animal Husbandry Department, Universities, Research Institute, Banks, Dairy Farms, Feed Processing Plants, Pharmaceuticals Companies, Vaccine Production Companies, meat and milk processing plant and poultry industries etc.

An orientation program was organized for first-year students, in which all the dignitaries including the Hon'ble Vice Chancellor briefed the students about the academic rules, clinical, extracurricular activities and other facilities /amenities discussed.

### Internship Program

Final year B.V.Sc. & A.H., students are required to undergo their 12 months compulsory internship program to obtain Bachelor of Veterinary Science and Animal Husbandry Degree. During these 360 days, they have to attend different phases namely vaccine production, zoo and wildlife management, clinical phase, poultry production and equine management as a part of practical hands-on training.

### Training organized

#### 1. Equine health management

Department of Veterinary Medicine organized training on Equine health management with emphasis on animal handling and welfare for 60 students in collaboration with Brooke India from 22 to 24 March 2022. Hands-on training camps were organized at Nidhaitiwarika

Purva Dobiwara, Arwal bazaar and village Bhakari near Arwal Bazaar where students were taken in batches and imparted training on equine handling, especially approaching a horse, lifting limbs and taking all basic parameters. Master trainers Dr Zaman, Head of Animal welfare and Dr. Meraj Ahmad Team Leader Extension and Training (TLET) from Brooke India gave lectures on important diseases of equines and welfare issues related to equines.

#### 2. Training cum workshop on An Introduction to Farriery

A Three days training cum workshop on “An Introduction to Farriery” organized by the Department of Veterinary Medicine in collaboration with Brooke India from 26<sup>th</sup> to 28<sup>th</sup> July 2022, under ICAR-NAHEP-Innovation Grant Project. A total of 72 students participated in the training. Dr Sarita Negi, Team Leader Extension and Training, Brooke India and Mr Rakesh, Master Trainer Farriery, Brooke India were invited as resource persons for this training.



#### 3. Training for MAITRI (Multipurpose Artificial Insemination Technician in rural India)

S. No.	Name of the activity	Date	Other details
1.	Training for MAITRI (Multipurpose Artificial Insemination Technician in rural India) under Rashtriya Gokul Mission	06.09.2022 to 05.10.2022	Mandate of training is to increase coverage of AI in Uttar Pradesh.
2.	Training for MAITRI (Multipurpose Artificial Insemination Technician in rural India) under Rashtriya Gokul Mission	12.12.2022 to 11.01.2023	Funding agency is UPLDB, Lucknow.





#### 4. **Feed Analytical Laboratory: Promoting opportunities to Agripreneurs**

Three days Hands on Training on “Feed Analytical Laboratory: Promoting opportunities to Agripreneurs” for farmers were organized by the Department of Animal Nutrition from 24 to 26 March 2022. There were 29 farmers trained to provide a balanced ration to their dairy animals. Balance feed of better qualities not only improves the performance of animals while increasing the income of farmers but also helps a cleaner and greener Environment. Moreover, feed analysis laboratories are essential for ensuring accurate information on the composition of feed ingredients and determining the level of desirable and undesirable substances for production of balanced ration.



#### 5. **Cattle Health Management**

For the Eastern Plain Zone of Uttar



Pradesh, dairy farmers and disabled women, the Department of Animal Genetics and Breeding hosted a five-day training session on December 19, 2022.



**Training of farmers on cattle health management**

#### **Seminar and Symposium organised**

##### 1. **National Seminar on “Innovative Biotechnological Approaches for Enhancing Fertility, Health and Productivity of Livestock to Boost the Farmers Economy”**

A two-day National Seminar on “Innovative Biotechnological Approaches for Enhancing Fertility, Health and Productivity of Livestock to Boost the Farmers Economy” and “VIII Annual Convention of the Society for Veterinary Science & Biotechnology (SVSBT)”, Indore, was hosted under the aegis of NAHEP-ICAR by the College of



Veterinary Science & Animal Husbandry, Acharya Narendra Deva University of Agriculture and Technology (ANDUA & T), Kumarganj, Ayodhya (UP) on 17-18 December, 2021. A total of 182 delegates were registered including 82 from states other than Uttar Pradesh.



## 2. National Symposium on “Innovations in Veterinary Medicine: Present status and futuristic implications”

The College of Veterinary Sciences and Animal husbandry organized the 2<sup>nd</sup> Annual Convention of the Veterinary Internal and Preventive Medicine society and the National Symposium on “Innovations in Veterinary Medicine: Present status and futuristic implications” on 6<sup>th</sup> and 7<sup>th</sup> of May 2022”. A total of 167 delegates attended the symposium. It was emphasized upon increasing the use of the latest diagnostic interventions for prompt diagnosis and treatment to exploit the production potential of animals. The increasing threat of antibiotic resistance

was discussed and it was stressed upon for judicious use of antibiotics. New alternate therapeutic modules and their applications in the field were discussed and it was emphasized to exploit the alternate therapeutic modules. The threat of emerging diseases was also discussed and the “One Health” approach was emphasized.



## 3. Webinar on International day for women and girls in science

International day for women and girls in science was celebrated on 11<sup>th</sup> February 2022 with a webinar on “Role of women in the agriculture sector for making India “Self Reliant”. The Guest Speaker Padma Sree Dr. Sosamma Iype, Former Director of CAS, Animal Genetics and Breeding, Kerela pressed upon the conservation of indigenous breeds and asked girl students to come forward to overcome all inhibitions. Dr. Alka Goel, Professor and Dean, College of Home Science, GBPUAT briefed about the scope of community science in building a nation. An awareness Campaign was also organized at PG Girls College Dehli Bazaar to promote more and more participation of girls in science in which Dr. Namita Joshi, Dr. Satyavrat Singh, Dr Naveen Kumar Singh and Dr. Vibha Yadav interacted with the girl students of science background, briefed them about the women who have brought laurels for



the country in science and urged to take science stream as their profession.

#### 4. Students participation in conference

Nine undergraduate students participated in the International Conference on Advancing Veterinary Dermatology Practice, Education, and Research in Developing countries and the Inaugural convention and satellite symposium of the Association of Veterinary Dermatology, India



& Dermatology Case conferences for students and practitioners on 9-11 June 2022 is being organized by Department of Veterinary Clinical Medicine, Madras Veterinary College, Tamil Nadu Veterinary and Animal Sciences University and presented the case studies on dermatology. The college of veterinary science Ayodhya got an appreciation award for promoting students to present their cases in International Conference.

#### Awards

- **Dr. A.K. Gangwar**, Professor and Head, Department of Veterinary Surgery and Radiology; Dean College of Fisheries received the **Associate Fellow** award from the prestigious academy, **National Academy of Veterinary Sciences (India)** in the XX convocation – cum – scientific convention on '**Restructuring veterinary education, research & extension for enhancing livestock & poultry production to boost the GDP**' jointly organized by NAVS (I), New Delhi, Maharashtra Animal & Fishery Sciences University, Nagpur & Nagpur Veterinary College, Nagpur on June 20 – 21, 2022.
- **Dr J.P. Singh and Dr Satyavrat Singh**, Associate Professors Department of Veterinary Medicine were conferred with **Dr B P Joshi recognition award** by Veterinary Internal and Preventive Medicine Society.
- **Dr. V.K. Pal**, Department of Veterinary Parasitology, C. V. Sc. & A. H. ANDUAT has received "SMT SARASWATHI ANANDAN BEST PhD THESIS AWARD" -2021-22 on the occasion of 31<sup>st</sup> NCVP-IAAVP, Bhubaneswar Odisha.
- **Dr. Debasish Niyogi**, Professor and Head, Veterinary Pathology was awarded as Saga of 75 Veterinarians Transforming India conferred by Pashudhan Samridhhi.
- The Indian Association of Veterinary Pathologists conferred **Dr. Debasish Niyogi** as IAVP – Best Farm Animals Pathologist Award, 2021 during the Virtual International Veterinary Pathology Congress held at RAJUVAS, Bikaner, Rajasthan on 17-19 December 2021.



## Extension Activities

### 1. Lumpy Skin Disease Awareness Programme

The Department of Veterinary & Animal Extension Education organized the “Lumpy Skin Awareness programme” under the guidance of Dean, C.V.Sc. & A.H., the adjacent area of ANDUAT Campus at Bawa, Jorium and Akama to be aware and protect against this disease in cattle in Kumarganj, Ayodhya.



### 2. Clinical camps

#### Clinical Activity/ Treatment of Cases at Veterinary Clinical Complex

This college has treated a total of 3864 cases at the Veterinary Clinical Complex.



Field Visit for Diagnosis of Disease Outbreak

### 3. Clinical Camp on Development and Prevention of Production Diseases

The Department of Veterinary Medicine organized a clinical camp at Deogaon,

Ayodhya on 13.07.21 to educate farmers on the “Development and prevention of production diseases” and conducted field tests on the urine of milch animals to detect ketosis.



## Events Celebration

### 1. Foundation Day

The college celebrated its 23<sup>rd</sup> foundation day on 26<sup>th</sup> March 2022 with different programs organized from 23 to 26 March such as vets corner, essay writing competition (English and Hindi) extempore, quiz competition, rangoli making, and painting competition. A vets fair was organized to inculcate entrepreneurial skills. On a cultural night on March 26, students had the chance to show off their skills, get over their stage fright, and perform with confidence. Certificates of appreciation were given to all the winners.





## 2. World Veterinary Day

College of veterinary science and animal husbandry Kumarganj Ayodhya celebrated world veterinary day with the theme “Strengthening Veterinary Resilience” on 30.04.2022. The students organized an awareness drive to draw



attention to the welfare issues of animals. Summer caps and bags were also distributed among students by VIRBAC pharmaceuticals.

## 3. World Egg Day

On the occasion of World Egg Day, the college organized an egg painting competition on the topic "Role of eggs in nutritional security" on 14.10.2022. Various activities were conducted at the college level and student Sushmita Anand of IV year got the first prize.

### Other activities

The college celebrated other remarkable days such as Teacher's Day on 5<sup>th</sup> September, an awareness campaign at schools in nearby villages to promote education in children especially girl students and the birth anniversary of Sardar Vallabh Bhai Patel on 30<sup>th</sup> October 2022.

### Publication

A total of 62 publications including the research paper, articles, books have been published in 2022.



## COLLEGE OF COMMUNITY SCIENCE

Prof. Namita Joshi, Dean



College of Community Science is located on the main campus of ANDUAT, Kumarganj, Ayodhya (U.P.). The College of Home Science was first established as a Department of Home science, and it became a full-fledged college in 1992. As this course is devoted to the welfare of the community, the college was renamed "College of Community Science" in 2020 after the recommendations of the Fifth Dean Committee.

The college has five departments namely

1. Food Science and Nutrition
2. Human Development and Family Studies
3. Family Resource Management and Consumer Science
4. Textile and Apparel Designing
5. Extension Education and Communication Management

The college initially began with a graduate degree programme; afterwards, post-graduate and doctoral degree programmes were launched.

### Objectives

1. To impart job-oriented entrepreneurial skills to the students to develop them as young professionals.
2. To conduct need-based, action-oriented research on various areas of Community Science which will serve the community with a positive impact.
3. To aware the community of the latest developments in the area of Community Science.
4. To inculcate knowledge regarding clinical nutrition, therapeutic nutrition, value addition, fashion designing, dyeing and printing techniques, interior decoration, etc. to the common people through training programmes.

### Mission

To fulfil the vision through the development of a need-based curriculum that would enable the graduates of community science to become active partners in the economic growth



and development of the community - be it the family, local society, nation or world.

### Mandate

- To impart knowledge and skills to graduates of Community Science in order

to empower them as young entrepreneurs.

- To develop students as individuals who can serve the community and able to manage the available resources to improve their quality of life.

### Students' details (2022-23)

S. No.	Degree programme	No. of students registered in 2022-23		Total no. of students	No. of students passed in 2021-22
1.	B.Sc.	05		47	06
2.	M.Sc.	Human Development and Family Studies	02	03	02
		Family Resource Management	01		
3.	Ph.D.	Family Resource Management	01	07	Nil
		Food and Nutrition	01		

### Academic Excellence

Alumni of the college are serving the U.P. government in various fields as

- Nine alumni are presently working as Assistant Professor in Govt. Degree College who were selected through UPPSC.
- 11 of our alumni are employed as assistant professors in a variety of colleges and universities, with 9 of them working at state agricultural universities, one at Siddharth University in Kapilvastu, Uttar Pradesh, and one at DDU Gorakhpur.
- At the Sardar Vallabhbhai Patel University of Agriculture & Technology in Meerut, and the Banda University of Agriculture and Technology in Banda, Uttar Pradesh, two of our alumni are employed as subject matter specialists.
- 10 alumni are working as Assistant Teachers in the Basic Education Department at the U.P.

### Faculty Achievements

- Dr. Abha Singh received the "Best Teacher Award" from the Hon'ble Vice Chancellor on 5<sup>th</sup> September 2022.

### Publication

- Research papers: 10
- Book Chapter: 04
- Book: 01
- Ongoing Projects: 01 (UPCAR project entitled "Development of Value-Added Products from Paddy Straw to Minimize Pollution")

### Extra-curricular activities

#### Celebration of Earth Day

Earth Day was celebrated in the college on 22<sup>nd</sup> April 2022 under the theme "Invest in Our Planet". Students were motivated to work for the betterment of our environment and to serve mother earth in a sustainable manner. During the celebration, the Dean and all the faculty members of the College of Community Science were present.



### **Celebration of World Environment Day**

On 5<sup>th</sup> June 2022, World Environment Day was celebrated in the college. Awareness sessions were held during the celebration to create awareness among students about the environment. The students also created slogans and posters. The Dean of the College of Community Science and other faculty members planted the sapling in the university primulas.

### **Training on Traditional Embroideries**

On the occasion of Children's Day, 14 November 2022, a short training programme was organised by Dr Vibha Parihar and Dr Manpreet Kalsy, Dept. of Textile Science and Design, College of Community Science in DAV Public School, Kumarganj. The training was conducted for girls in classes 6 to 9<sup>th</sup>. During the training session, the girls were trained about different types of traditional embroideries in India.



**Demonstration of embroidery to the students during training programme**

### **Bal Diwas Celebration**

Bal diwas was organised by the Department of Human Development and Family Studies of the College of Community Science on 14<sup>th</sup> Nov 2022 in the adopted village *gorium*. In cooperation with the school teachers, the final-year students (2019 batch) organised a number of competitions for primary school students. Sweets were presented to all the children and teachers, and awards were awarded to the winners.

### **Poshan Maah Celebration**

A seven-day training programme was held

from September 23 to September 29 in the nearby schools and villages ("jorrium" and "bawan") for women and teenage girls to learn about nutrition, various common nutritional deficiencies, menstrual hygiene, beneficial foods for lactating and pregnant mothers, etc. The department of Food Science and Nutrition was in charge of planning the event.

### **Educational Tour**

An educational trip was organised for undergraduate students of the college of Community Science by the Dept. of Textile Science and Design in collaboration with MEDHA organization to impart knowledge regarding traditional textiles, weaving and handicraft. The students had been taken to "Deen Dayal hasthkala Sankul," Varanasi U.P. on 14<sup>th</sup> Dec. 2022. During the trip Dr Sarita Shrivastava, Dr Manpreet Kalsy, Dr Zeba Jamal and Mr Rajat Srivastava were present

### **Inauguration of Poshan Vatika**

Poshan Vatika was Inaugurated by Dr Mangala Rai. Ex-DG ICAR and Secretary DARE and Dr. Bijendra Singh, Hon'ble Vice-Chancellor of A.N.D.U.A&T on 21.12.2021.



### **Infrastructure**

The college has well-equipped laboratories, a library, a language lab, an exhibition hall, well-maintained classrooms for UG, PG and Ph.D. students, a committee room and an auditorium with a capacity of about 200 people. Recently, a new Ergonomic Laboratory has been established in the department of Family Resource Management & Consumer Science..





## COLLEGE OF FISHERIES

### Prof. Anil Kumar Gangwar



#### Overview

The College of Fisheries was established in the academic year 2006-07. At present, the College offers a four-year professional degree programme in Bachelor of Fisheries Science (B.F.Sc.) and two years degree programme in Master of Fisheries Science (M.F.Sc.) in the Department of Aquaculture and Fisheries Resource Management (FRM). The basic qualification for taking admission to the B.F.Sc. program is Intermediate (10+2) with Agriculture/PCB/PCMB as basic subjects. The students get admission through the merit list of the Uttar Pradesh Combined Agriculture and Technology Entrance Test (UPCATET) conducted by State Agriculture Universities of Uttar Pradesh alternative years. The prerequisite for admission to an M.F.Sc. programme is a B.F.Sc. At present, the following seven Departments are existing in the College:

S.No.	Department
1.	Aquaculture
2.	Fisheries Resource Management
3.	Aquatic Animal Health Management
4.	Aquatic Environment Management

5.	Fish Processing Technology
6.	Fisheries Engineering
7.	Fisheries Extension, Economics and Statistics

#### Mandate

- To conduct education programmes leading to undergraduate (B.F.Sc.), post-graduate (M.F.Sc.) and doctoral (Ph.D.) degrees.
- To conduct research in basic and applied frontier areas of fisheries science with an emphasis on inland fisheries and aquaculture.
- To carry out fisheries extension programmes through training, farm advisory and technical services including organizing goshthies for farmers.

#### Objective

- To provide quality education in various fields of specialization in fisheries to transform students into trained human resources with high professional ethics.
- To contribute to the sustainable



development of fisheries of the state and country.

- To develop as a Centre of Excellence in the field of fisheries at a national level.
- To develop environmentally sustainable, economically viable and socially acceptable freshwater aquaculture technologies to provide livelihood security to fish farmers and upliftment their economic status.

## Academics

### Bachelor Degree Programme

The College offers a four-year degree programme in fisheries science called the B.F.Sc., with a current enrollment limit of 31 students. The College has adopted the fifth Deans committee syllabus pattern for B.F.Sc. degree programme. The programme has 180 (84+96) total credits. The semester system is followed during the degree programme. An enrolled student shall have to score a minimum Overall Grade Point (OGPA) of 5.5 out of 10.0 for the award of B.F.Sc. degree.

The students undergo Student READY Programme (SRP) in the fourth year of their degree programme. In the SRP module, the students are attached to various aquaculture farms, seed production units, feed processing mills and fish processing industries in various states such as Maharashtra, Gujarat, Haryana and Madhya Pradesh to learn the technologies and packages of practices.

### Master Degree Programme

Master of Fisheries Science (M.F.Sc.) is

two years post-graduate degree programme offered in two disciplines, namely Aquaculture and Fisheries Resource Management. There are 3 seats in M.F.Sc. (Aquaculture) and 4 seats in M.F.Sc. (FRM). The candidates possessing B.F.Sc. degree are eligible for admission through the UPCATET entrance test. Presently, Broad Subject Matter Area (BSMA) syllabus is being adopted for M.F.Sc. programme.

### Student Strength of the college

Degree Programmes	Intake Capacity	Admission in 2022-23	Successfully Completed in 2022-23
B.F.Sc.	31	21	16
M.F.Sc.	7	7	4

### Academic excellence

- The selection of Dr. Munish Gangwar, Mr. Rahul Pal, and Mr. Deepanshu Singh as Assistant Director of Fisheries for the Government of Uttar Pradesh is a source of great pride for the College of Fisheries.
- Students Dr. Shashank Singh, Dr. Jyoti Saroj, Mr. Pradeep Maurya and Dr. Munish Kumar have been selected as Assistant Professors at the College of Fisheries, ANDUAT, Ayodhya.
- Some graduate alumni students have started entrepreneurship in fish and shrimp farming practices.
- Dr. Dinesh Kumar, Asstt. Prof. was awarded Best Teacher Award-2022 by A.N.D.U.A&T, Kumarganj, Ayodhya (U.P.).



## Research

### Ongoing projects

S. No.	Title of the Project	Funding agency	Budget (₹ in lakh)	Principal Investigator/ Co-PI
1.	Development of suitable model to harvest the optimum potential of fish production in sodic soil of Uttar Pradesh	UPCAR, Lucknow	18.86	Dr Laxmi Prasad, Dr Dinesh Kumar and Mr. Sunil Kant Verma
2.	Strengthening and Modernization of Instructional Fish Farm at College of Fisheries, A.N.D.U.A. &T., Kumarganj, Ayodhya	RKVY	337.80	Mr. Sunil Kant Verma, Dr. Laxmi Prasad and Dr. Dinesh Kumar

### Extension activities

The college faculty frequently gives radio talks, takes part in Kisan Mela and Kishan Ghosti, and gives TV talks to raise awareness among fish farmers. To effectively disseminate information about fish culture technology, the College also



Published leaflet on Fish Cutlet and Paneer preparation



Demonstration of preparing Fish Cutlet on the occasion of National Women's Day

publishes leaflets, articles, training manuals, and booklets. Training in the creation of value-added fish products like fish cutlets and Paneer was provided to rural unemployed women and youth.



National Women's Day celebration on 13 Feb 2022

### Facilities and Infrastructure

#### College

The college has four undergraduate and seven graduate classrooms, as well as committee rooms, exam halls, two central laboratories, six research laboratories, an ornamental fish breeding unit, and two wet laboratories. A Computer lab facility is also available for students and faculty. The lab gives students a space to learn about technology from online resources and to finish their homework and projects. The College has a well-maintained library with the newest



publications in fisheries and related fields, including books, magazines, and manuals. A museum having specimens of common freshwater and marine fish species is also established.



### **Instructional fish farm**

The instructional fish farm has a total area of 4.0 ha, which is made up of nursery, raising, and grow-out ponds with a significant population of Indian and exotic big carps. A total of twenty-four smaller ponds are constructed as experimental trial units to support the research activities of post-graduate students and various projects. On the farm, a demonstration model for integrated paddy-cum fish farming is being created for use by local farmers and visitors. Two earthen ponds are also constructed to store the wastewater from the hostels as well as from the dairy farm and trials on wastewater utilization for fish are undergoing. Vegetable-cum fish culture unit and Makhana unit were established for the exploration of cultural possibilities of Makhana in the eastern Uttar Pradesh region.



An Eco- carp hatchery with cemented nursery tanks, also constructed under the 'Mega Seed Project' at the instructional fish farm is being currently used for practical and commercial seed production purposes. The fish harvest of the farm is being used for different practical and breeding purposes for students. The rest of the fish are sold from time to time. As a means of revenue generation for the University.

A total of 24 earthen ponds of 8x8 meter dimensions have been constructed at the instructional fish farm. These small sodic soil earthen pond units are used for conducting research trials of M.F.Sc. students and for other research purposes.

### **Events and activities**

The College hosts a variety of significant events and activities that are held both nationally and regionally. National Women's Day, National Fish Farmers Day, and World Fisheries Day are some of the important events celebrated by the College.

- National Women's Day was celebrated in college with the rural women of the adopted village on 13<sup>th</sup> February 2022. As part of the programme, a women's awareness programme was organized. On the same day, the women were also motivated to prepare value-added fish products (Fish cutlet) and paneer to promote a healthy diet in their families.
- National Fish Farmers Day was celebrated on 10<sup>th</sup> July 2022 and River ranching was done by the Hon'ble Vice Chancellor in Gomti river.
- On the occasion of Friendship Day on 7<sup>th</sup> August and Azadi ka Amrit Mahotsav week was celebrated by the distribution of drumstick plants and by organizing an awareness rally in the adopted village Gadauli. In the same week, Har Ghar Tiranga Abhiyan and Swachta Abhiyan were also successfully conducted with the participation of students and villagers in



the same village.

- On the occasion of World Fisheries Day on the 21<sup>st</sup> of November 2022, fish seeds were also stocked in the ponds of Gadauli



village.

- Since co-curricular activities play an important role in the overall growth of a student, various literary and cultural activities are organized in the College every year. A quiz, rangoli, debate, extempore and singing competition were organized on 19.11.2021 at the college level and a photography and poster competition at the university level.
- Certificates to the winners of the competition were distributed on the occasion of the student's fresher's party on 25<sup>th</sup> November 2022.



## COLLEGE OF AGRICULTURE CAMPUS, KOTWA, AZAMGARH

Prof. D.K. Singh, Associate Dean



### Brief History:

College of Agriculture Campus, Azamgarh is the constituent college of Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya. The foundation stone was laid on 04<sup>th</sup> March 2014 by the Hon'ble Chief Minister of Uttar Pradesh, Shri Akhilesh Yadav in Azamgarh. On January 4, 2018, Shri Yogi Adityanath, the Hon'ble Chief Minister of Uttar Pradesh, India, formally unveiled the campus with the goal of enhancing the standard of living for inhabitants of Eastern Uttar Pradesh, particularly farmers, who make up the majority of the population.

The College of Agriculture is located at 26°02'6.43" N Latitude and 83°14'0.99" E Longitude. This campus is laid on Azamgarh-Varanasi State Highway No. 66A. The college is located 3.1 kilometres from the Azamgarh Railway station and about three kilometres to the southeast of the city of Azamgarh.

During the academic year 2018–19, the Hon'ble Chief Guest presided over the launch of the agricultural education system on the college campus.

The incumbent Prof. Dharendra Kumar Singh, who was Professor and Head of the

Department of Vegetable Science at the G.B. Pant University of Agriculture and Technology, Pantnagar, is the college's first Associate Dean.

### Objective:

- To impart quality education in the field of Agricultural Sciences
- To conduct quality research in the field of Agriculture and Allied Sciences
- To undertake an extension education programme for the dissemination of advanced and sustainable technology

### Mandates:

- To serve as centre for academic excellence in the areas of graduate and human resources development in agricultural science for future needs and opportunities.
- Generate knowledge related to the processes of production and productivity of agricultural crops leading to the development of research philosophies, concepts, methodologies, materials and technologies.
- Pay a greater attention to the problems of



Agriculture under unfavourable conditions and to orphan commodities.

- Strengthen training for capacity building of rural youths, women and farming community to promote entrepreneurial skills and commercialization of Agriculture.

### Degree programmes

College of Agriculture Campus, Azamgarh provides excellent teaching opportunities to the Undergraduate -B.Sc. (Hons.) Agriculture students. The undergraduate programme on the campus is of four years duration which has adopted the semester system and each semester is 18 weeks duration. The academic syllabus is followed in college as per the recommendation of ICAR based on 5<sup>th</sup> Dean's committee.

### No. of students (Registered and passed out)

Degree programme	Year	Student strength	Student pass out in 2022-23
B.Sc. (Hons.) Agriculture	I	71	57
	II	43	
	III	46	
	IV	56	
<b>Total</b>		<b>216</b>	<b>57</b>

### Activities undertaken

- Our campus has adopted three villages (Aarajibagmati, Pachchupura, Bhadhuiyan) to aware the farmers about innovative agricultural techniques and extension work.
- Two students of B.Sc. (Hons) Ag final year with one faculty member has participated in two days workshop organized by state Agriculture Management Institute, Lucknow on 22-23 March, 2022.

### Programme organized

- College of Agriculture campus, Kotwa, Azamgarh has celebrated various events. Among them Ambedkar Jayanti, Hindi Divas, World Earth Day, World Environment Day, International Yoga Day, Independence Day, Gandhi and Shastri Jayanti, Acharya Narendra Dev Jayanti, Sardar Vallabhbbhai Patel Jayanti, Agriculture Education Day, Republic Day are momentous remarks in the college.
- It is exhilarating to mention that the first three university-rank holders of B.Sc. (Hons.) Agriculture for 2021-22 was raised from this campus.
- The college has organized a vote awareness campaign among voters from 27.02.2022 to 03.03.2022.
- Associate Dean, College of Agriculture, Azamgarh has joined as Officer In-charge of KVK-I Azamgarh and KVK-II Laduara on 14.03.2022.
- Dr. G.P. Singh, Regional Director, Integrated Pest Management (IPM), Lucknow visited the College of Agriculture, Azamgarh on 05.04.2022. He interacted with faculty members and final-year students of B.Sc. (Hons) Ag and the various aspect of IPM.
- The College of Agriculture, Azamgarh has celebrated its 75<sup>th</sup> Independence Day along with the Azamgarh unit of the Ministry of Information and Broadcasting, Govt. of India on the occasion of "Azadi Ka Amrit Mahotsav" on 15<sup>th</sup> August.
- College of Agriculture, Azamgarh has organized a Parthenium awareness week programme from 16-22 August 2022 with an aim to create Parthenium eradication awareness among the students, farmers



and rural people.

- One Day Gosthi programme was organized under the Rural Agricultural Work Experience and Agro-Industrial Attachment (RAW & AIA) programme on 29.09.2022.
- College of Agriculture, Azamgarh has organized a Tablet distribution programme under the “Swami Vivakanand Yuva Sashktikaran Yojana” Govt. of Uttar Pradesh for B.Sc. (Hons) Ag students (batch 2018 and 2019) in the Headship of Dean, college of Agriculture on 22.11 2022.



- Vermicompost production unit was established in the college campus under the guidance of the Dean with the objective of demonstration and awareness of the use of Vermicompost as a component of organic farming.
- B.Sc. (Hons) Ag 3<sup>rd</sup> year student learn about food processing under the course of “Post-harvest Management and Value Addition of Fruits and Vegetables” in Horticulture laboratory.

### **Awards and recognition**

- Renu Gangwar received Excellence Teaching Award for outstanding contribution in the field of agricultural extension education at the 5<sup>th</sup> international

conference on advances in smart agriculture and biodiversity conservation for sustainable development (SABCD-2022) held during 4-6.03.2022.

- Akanksha Tiwari received Excellence in Teaching Award on the occasion of the 5<sup>th</sup> International conference on “Advances in Smart Agriculture and Biodiversity Conservation for Sustainable Development” during 4-6.03.2022
- Renu Gangwar received the best teacher award on the occasion of teacher's day on 05.09.2022 by Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya.
- Dr. T. Pandiaraj was honoured with Young Teacher Award-2022 conferred by the Agricultural and Environmental Technology Development Society, Uttarakhand on the occasion of the 4<sup>th</sup> International Conference on “Global Efforts on Agriculture, Forestry, Environment and Food Security (Theme: Climate Change and Its Impact) (GAFEF-2022)” held at Institute of Forestry, Tribhuvan University, Pokhara Campus, Pokhara, Nepal on September 17-19, 2022.
- Dr. T. Pandiaraj was awarded the Best oral presentation award on the occasion of the 4<sup>th</sup> International Conference on “Global Efforts on Agriculture, Forestry, Environment and Food Security (Theme: Climate Change and Its Impact) (GAFEF-2022)” held at the Institute of Forestry, Tribhuvan University, Pokhara Campus Pokhara, Nepal on September 17-19, 2022.

### **Placement of the students**

Twelve students in the final year have been selected in Hi-field Ag Cam India Private Limited, Aurangabad, Maharashtra 2022





**Publications/training/summer/winter-school/conferences/symposia, etc.**

S.No.	Particulars	Numbers
1.	Research/review paper	07
2.	Popular article	13
3.	Books	02
4.	Practical Manuals	21
5.	Abstracts	09
6.	Training /summer / winter-school	10
7.	Webinars/conferences/ symposia /workshops	15

**Important visitors with relevant photographs**

- Hon'ble Vice-Chancellor Dr. Bijendra Singh visited College of Agriculture, Azamgarh on 06.06.2022 for review meeting, Hon'ble Vice-Chancellor has discussed about quality as well as vocational teaching, and he also motivated faculties towards regularity of teaching.
- Hon'ble Vice-Chancellor of Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar Dr. Krishna Kumar visited College of Agriculture, Azamgarh on

07.07.2022. He appreciated the teaching quality, campus cleaning, extension work, etc.

- Dr Anurag Yadav, Secretary, Agriculture Education and Research, Uttar Pradesh visited college campus on 15.10.2022. At this moment, Dean briefly introduces about college and interacted with faculty members of college.

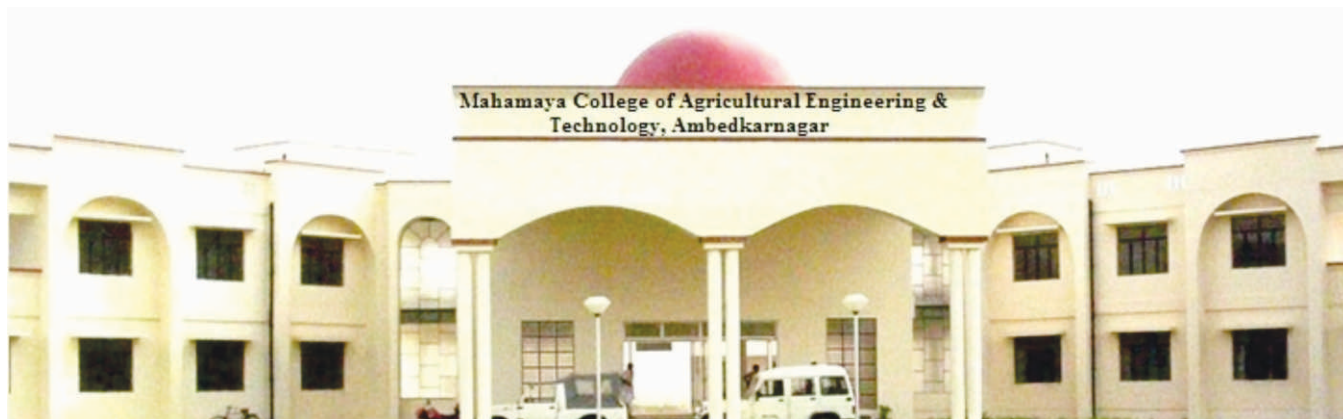


- Dr US Gautam, Director, ATARI (Agricultural Technology Application Research Institute-ICAR) Kanpur visited college campus on 08.11.2022. He interacted with faculty members and discussed about quality education and resolves the local Agricultural problems through innovative research & technology.



# MAHAMAYA COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY, AMBEDKAR NAGAR

Prof. R.K. Mehta, Dean



## Overview

The College of Agricultural Engineering and Technology, Ambedkar Nagar was established during the year 2002-03 under Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya (U.P.). The foundation stone of the college was laid down by Sushri Mayawati, then Hon'able Chief Minister of Uttar Pradesh on 30 October 2002 and inaugurated by Hon'ble Sri Mulayam Singh Yadav, the then Chief Minister of Uttar Pradesh on 04.02.2005. The B.Tech. degree programme in Agricultural Engineering was started in the academic year 2003-04 with an intake of 30 students.

The academic and residential campus of the college is spread over an area of about 7.0 acres. The construction of the Workshop, Academic Building, Library, Girls & Boys hostels one each, and 79 residential quarters for the Dean, faculty members and other staff are well furnished. Since its inception, the institution has had a very progressive stance and provided students with all facilities necessary for a better education and extracurricular activities.

The College has the following six departments:

1. Department of Irrigation and Drainage Engineering.
2. Department of Soil and Water Conservation Engineering.
3. Department of Renewable Energy Engineering.
4. Department of Farm Machinery and Power Engineering.
5. Department of Processing and Food Engineering.
6. Department of Basic Engineering and Applied Sciences.

## Mandate

- To make provision for quality education of rural people of Uttar Pradesh in different branches of agricultural engineering, basic engineering and allied technologies.
- To provide good facilities for research work.
- To liaison with international organizations for making overall excellence.
- Dissemination of technologies through



various innovative ideas.

- Systematic review and management of problems of agricultural engineering and technology.

### Objectives

- To teach and equip the students to become qualified engineers/scientists.
- To undertake basic and applied research in different aspects of agricultural engineering covering production, protection, value addition, marketing, and management.
- To disseminate proven technologies in the field of agricultural engineering for the benefit of the farming community.
- To develop technology suitable for the region in the field of farm power and agro-energy, farm machinery and equipment, soil and water conservation engineering, post-harvest and process engineering, food and dairy engineering, and other related areas.
- To organize programmes related to the transfer of technologies for agriculture and rural development in the region.
- To collaborate with other agencies involved in teaching, research and developmental programs in the field of agricultural engineering at the national and international levels.
- To provide consultancy services to farmers and other entities engaged in agricultural and rural development, particularly in the application of engineering principles and practices.
- To provide the students with necessary exposure to the recent developments in the field of agricultural engineering and

technology and other disciplines related to various agro-climatic zones through both state and all India educational tours and visits.

### Academics

#### Degree Programmes

The college offers the following degree programmes:

- B. Tech. (Agricultural Engineering)
- B. Tech. (Mechanical Engineering)
- B. Tech. (Computer Science and Engineering)
- M. Tech. (Agricultural Engineering)

#### Courses Offered

- For the Session 2021–22, 54 courses totaling 177 credits were offered in the first semester of the UG programme, and 54 courses totaling 160 credits were offered in the second semester.
- For the PG Program, 24 courses totaling 70 credit hours were offered in the first semester, and 13 courses totaling 50 hours were provided in the second semester for the academic year 2021–2022. Classes were regularly held in accordance with university standards.

#### Number of students (admitted and passed)

There were 8 students admitted to the B.Tech. in Agricultural Engineering, 10 to the B.Tech. in Computer Science & Engineering, 1 to the B.Tech. in Mechanical Engineering, and 7 to the M.Tech. in Agricultural Engineering. While this year witnessed the graduation of 31 students with B.Techs in Agricultural Engineering, 7 B.Techs in Computer Science & Engineering, 9 B.Techs in Mechanical Engineering, and 1 M.Tech in Agricultural Engineering.



## Students Performance in National Examinations

S. No.	Name of Examination	Number of Students qualified
1	ICAR JRF	05
2	GATE	03
3	Govt. Sector	04

## Placement

Many students have been hired by reputable companies including banks (PSUs), tractor and irrigation equipment manufacturers, ordnance factories, software firms, etc. Additionally, many students have chosen to pursue higher education, such as M.Tech. programmes at reputable institutions across India. Following are the placement specifics:

### Placement of Student during (2021-22)

Area of Placement	Percentage (Approx.)
Tractor Industries	45
Irrigation Industries	10
Bank and Financial Institutions	04
Other Private Industries	25

### Project proposal Submitted to RKVY by Faculty of MCAET, Ambedkar Nagar

S. No.	Title of project	Name of PI	Cost of Project (Rs. in Lac)
1	Establishment of Computer-Aided Manufacture (Production of Agricultural Machinery) Center for Farmers and Entrepreneurs.	Dr. Pramod Kumar Mishra, Dr. SK Pandey, Dr. Rajat Kumar Mehta	450.00

## Research

### Student Thesis

The Students of final year B.Tech. (Agricultural Engineering/Mechanical Engineering/Computer Science & Engineering) and student of M.Tech. (Agricultural Engineering) have submitted the project reports in Session 2021-22.

S. No.	Discipline	No. of thesis submitted
1	B.Tech. (Agricultural Engineering)	20
2	B.Tech. (Computer Science and Engineering)	7
3	B.Tech. (Mechanical Engineering)	9
4	M.Tech. (Agricultural Engineering)	1

### Publication

Research Article: 20

Abstract Seminar/Conference: 03

### Research Project Submitted

Three research projects were submitted to RKVY and NABARD in total throughout the years 2021–2022.



### Project proposal submitted to NABARD, Govt. of India.

S. No.	Title of project	Name of PI	Cost of Project (Rs. in Lac)
1	Popularization of Different Crop Residue Management Practices under Climate Change Scenario at Ayodhya Mandal (UP)	Dr. Pramod Kumar Mishra	25.00
2	Development of Energy Efficient Model using Agri-Voltaic System under Climate Change Scenario at Ayodhya (UP)	Dr. Pramod Kumar Mishra	25.00

### Ongoing Research Projects

S. No.	Title of project	Name of PI	Funding Agency	Cost of Project (Rs. in Lac)
1	Establishment of Solar Park and Solar Tree for promoting Farmers/Small Entrepreneurs	Dr. Pramod Kumar Mishra	RKVY	400.00
2	Development of Different Crop Residue Management Practices	Dr. Pramod Kumar Mishra	RKVY	320.00
3	Cleaning system for small scale solar PV system	Dr. Pramod Kumar Mishra	UPCAR	21.05

### Extension activities

Scientists of MCAET actively participated in Kisan Melas at Main Campus Kumarganj and also participated in different Gosthi organized at block levels of Distt. Ambedkar Nagar.

### Facilities and infrastructure

The college is well-equipped with amenities including a library, workshop, laboratories, hostels, etc. The classroom is well-equipped with an interactive board, a computer-based interactive display, a digital teaching tool, a document camera, and other amenities.

### Events and activities

The college honoured a range of

occasions and cultural pursuits. Yoga Day, Teacher's Day, Engineer's Day, Acharya Narendra Dev Jayanti, Azadi ka Amrit Mahotsav, and other occasions stand out among them.





## DIRECTORATE OF RESEARCH

**Dr. Bijendra Singh, Director**

The Directorate of Research with its headquarter at Kumarganj (Ayodhya) governs the research activities in 26 districts belonging to seven revenue divisions viz., Ayodhya, Basti, Devipatan, Gorakhpur, Varanasi, Azamgarh and Vindhyachal Dham of eastern U.P. under three agro-climatic zones i.e., North Eastern Plain Zone (NEPZ), Eastern Plain Zone (EPZ) and Vindhyan Zone (VZ). The university has seven research stations in different agro-climatic zones under its jurisdiction. The research stations are NDUAT Main Campus Kumarganj, (Ayodhya), Crop Research Station (CRS), Masodha, (Ayodhya), Zonal Agricultural Research Station (ZARS), Basuli (Mahrajganj), Zonal Agricultural Research Sub-Station (ZARSS), Baribagh (Ghazipur), CRS, Bahraich, CRS, Ghaghraghat (Bahraich) and ZARS, Tisuhi (Mirzapur).

### Research Projects

Based on the vocational-specific problems affecting productivity and farmers' needs, the research programmes are formulated by the scientists concerned. At the moment, the university is home to 59 research projects and

schemes that have been funded by different national and international agencies.

### Varietal Improvement

The major research thrust in crop production has been to develop high-yielding varieties of all important crops resistant to biotic and abiotic stresses. The university, till date, has developed and released **196 varieties** at the central/state level by the central/ state Varietal Release Committee (CVRC/ SVRC), seven varieties have been released this year.

### Varieties Released this year

Name of Crop	Name of variety
Aonla	Narendra Aonla-25, Narendra Aonla-26
Bael	Narendra Bael-8, Narendra Bael-10, Narendra Bael-11
Bottle Gourd Hybrid	NDBGH-14-10
Oat	Narendra Jayee-1101

### Crop Varieties Developed by ANDUAT, Ayodhya

Crop	Name of varieties released/Identified	Total
Rice	Sarjoo-52, Narendra -1, Narendra -2, Narendra -80, Narendra -118, Narendra -97, Narendra -359, Jal Lahari, Jal Priya, Jal Nidhi, Barh Avrodhi, Narendra Usar Dhan -2, Narendra Usar Dhan-3, Narendra Sankar Dhan-2, Barani Deep, Narendra Sankar Usar Dhan -3, Narendra Dhan -8002, Narendra Dhan -2026 (Richa), Narendra Shushka Samrat (NDR -1045-2), Narendra Lalmati, NDR -2064, Narendra Narayani, Narandra Mayank, Narendra Jalpusp, Swarna Sub -1, Narendra Dhan - 3112-1, Narendra Usar Dhan 2008, NDR - 9930111, NDR - 9930077*, NDR - 9930017*, NDR -2065, NDR -6093, Narendra Usar Dhan 2009, NDGR-201, NDR-1055-6*, NDR -2101, NDR -370133, ND R-370134*, NDR -6244, NDR -4058-7*, Sambha Sub-1, NDR- 370135, NDR- 6330, IR-64 Sub-1, NDGR-702 (Jal Bhawani)	45
Maize	Shaktiman-1, UMH-8, UMC-10	3
Wheat	Narendra Wheat -1012, Narendra Wheat -1014, Narendra Wheat -1076, Narendra Wheat -2036, Narendra Wheat-1067, Narendra Wheat- 4018, NW-5054, NW-6046, NW-7008*	9



Barley	Narendra Barley -1, Narendra Barley -2, Narendra Barley -3, Narendra Barley -4, Narendra Barley -1173, NDB-943, NDB-1445, NDB-1465, NDB-1464*	9
Mung	Narendra Mung-1, Narendra Mung-2*	2
Urd	Narendra Urd-1, Narendra Urd-2*	2
Pigeon Pea	Narendra Arhar-1, Narendra Arhar-2, Narendra Arhar-3*	3
Field Pea	Narendra Matar-1	1
Chickpea	Narendra Chana-1	1
Lentil	Narendra Masoor-1, Narendra Masoor-2*	2
Mustard	Narendra Rai -1, Narendra Sarson -2, Narendra a Ageti Rai -4, Narendra Rai -8 (NDYR -8), NDYS -2018 (Jagrati), NDRE-07	6
Linseed	NDL- 2004-05, NDL-2002, Narendra Alsi-5*, Narendra Alsi-4	4
Cauliflower	Narendra Gobhi-1	1
Brinjal	Narendra Brinjal-1, Narendra Hybrid Brinjal-1, Narendra Hybrid Brinjal-2, Narendra Hybrid Brinjal-3, Narendra Brinjal-2, Narendra WhiteBrinjal-1, Narendra Brinjal-3	7
Tomato	Narendra Tomato-1, Narendra Tomato-2, Narendra Tomato-5, Narendra Tomato-6, Narendra Tomato-3, Narendra Tomato-4, Narendra Tomato-7, Narendra Tomato-8	8
Vegetable Pea	Narendra Sabji Matar-1, Narendra Sabji Matar-2, Narendra Sabji Matar-3, Narendra Sabji Matar-4, Narendra Sabji Matar-5, Narendra Sabji Matar-6	6
Muskmelon	Narendra Kharbuja-1, Narendra Kharbuja-2	2
Colocasia	Narendra Arvi-1, Narendra Arvi-2, PKS-1*	3
Pointed gourd	Narendra Parwal-260, Narendra Parwal-307, Narendra Parwal-604	3
Banda	Narendra Banda-1, Narendra Banda-3*	2
Pumpkin	Narendra Agrim, Narendra Amrit, Narendra Abhooshan (NPH -1), Narendra Upcar	4
Bottle gourd	Narendra Sankar Lauki-4, Narendra Rashmi, Narendra Shishir, Narendra Dharidar, NDBG -104, NDBG-132*, Narendra Madhuri, Narendra Shivani, NDBG&619, NDBG-10, NDBG-16*, NDBGH 14-10	12
Okra	NDO-10*	1
Bittergourd	Narendra Barahmasi-1, Narendra Barahmasi-2*, Narendra Suyog (White)	3
Cowpea	Narendra Lobia-1, Narendra Lobia-2	2
Sweet Potato	Narendra Shakarkand-9, NDSP-10*	2
Elephant Foot	Narendra Zimikand-5, Narendra Zimikand-9	2
Turmeric	Narendra Turmeric-1, Narendra Turmeric-2, Narendra Turmeric-3, NDH-98*, NDH-8, Narendra Turmeric-98	6
Coriander	Narendra Corinader-1, Narendra Corinader-2*	2
Fenugreek	Narendra Methi-1, Narendra Methi-2*, NDM-79*	3



Sauf	Narendra Sauf-1	1
Aonla	Narendra Aonla -4, Narendra Aonla -5, Narendra Aonla -6, Narendra Aonla -7, Narendra Aonla -10, Narendra Aonla-20, Narendra Aonla-25, Narendra Aonla-26	8
Bael	Narendra Bael-4, Narendra Bael-5, Narendra Bael-7, Narendra Bael-9, Narendra Bael-17*, Narendra Bael-16, Narendra Bael-10, Narendra Bael-8, Narendra Bael-11	9
Ber	Narendra Ber Selection-1, Narendra Ber Selection-2	2
Opium Poppy	Narendra Posta-1 (Kirtiman)	1
Mandookparni	Vallabh Medha	1
Babchi	IC-111226*	1
Lemongrass	NLG-84*	1
Jute	Reshma, NDC-9102, NDC-2008, NDC-2028, NDJC-2011, NDJC-2013	6
Crotolaria	Narendra Sanai-1	1
Bajra (Forage)	NDFB-2, NDFB-3, NDFB-5, NDFB-11	4
Oat	NDO-1, NDO-2, NDO-10, NDO-711, NDO-1101	5
<b>Total :</b>		<b>196</b>

\* Varieties identified in National Workshops/Group Meetings of AICRP's.

### Location Specific Production Technology

- On the basis of 3 years of pooled data, Oat variety RO-19 with three cuts + nitrogen application @ 40% basal + 30% at 1<sup>st</sup> cut + 30% at 2<sup>nd</sup> cut recorded maximum GFY (751.00), DFY (131.63), CPY (12.88), Gross return (115328 ), Net return (84180), B: C ratio (3.70), growth and quality parameters
- The deep water rice variety NDGR 706 (IET 26741) a derivative of the cross



(Pankaj x Jalnidhi) and entry NDGR 709 (IET 28319) a derivative of a cross (NDGR207 x IR49906-B-B-B-10-GHT-2) developed by the Centre has been found most promising. The entries are in the third year of testing in AICRIP deep water experiment in Kharif 2021 to confirm the results and its wider adaptability

- Multi-use of water by either renovating old ponds or constructing new ponds in the areas where water may be available either through canals and rains for pisi culture and on bunds of pond banana, vegetables and fuel trees may be grown. In such a pond areas command integrated farming systems including pisciculture, duckery and cropping systems should be adopted by farmers to achieve more net profit as compared to the cropping system of rice-wheat+rai.
- Improved water management practices in wheat (6 cm water, at CRI, late jointing and milking stages by check basin of





10x5m) should be practised in place of heavy irrigation through a plot-to-plot or field-to-field, wild irrigation method.

- Pigeon pea grown on a raised bed in paired rows at 50 cm spacing intercropped either with 5 rows of short duration rice (NDR - 97) in sunken beds or 3 rows of urd (blackgram) on raised beds should be practised by the farmers of canal command at the tail end during Kharif season for getting more profits.



- The integrated farming system with multiple uses of water (such as pisciculture and duckery) was more profitable as compared to the conventional cropping system. The highest benefit-cost ratio of 2.40 was observed in the integrated farming system as compared to Rice – Wheat + Rai system (B:C -1.60). The farmers of ORP area are very much convinced with this system.
- The water of Sharda Shayak Command has more silt load and it resulted in the accumulation of more silt in the field of farmers at the head section of the distributary as compared to the middle and tail ends. It was also observed in long-term experiments that the physical properties of sere also deteriorated such as texture and salinity.
- Intercropping of gram + mustard (4:2) was found more economical in rabi season under poor availability of canal water.



- Rice-potato-okra and maize-potato-okra were found most remunerative cropping systems under the head and tail end of the distributary, respectively. Okra crop is sown in summer needs more irrigation. It was also observed that okra should be sown on raised beds and 5-6 cm water should be given at 7 days intervals after the first irrigation (at 20 DAS).
- Drip irrigation @ 80% wetted surface with 75% N was found suitable for irrigation in Aonla orchard.



- Drip irrigation @ 80% of PE with 100% N was found suitable for sugarcane crop production being high yielding and more remunerative irrigation system.



- Drip irrigation @ 80% of PE every third day under rice straw mulch (5 t/ha) has been found high yielding and most remunerative irrigation system for zaid cowpea.
- 15-25 October has been found optimum period for planting rabi maize with 1.0 IW/CPE moisture regime for getting its maximum production and higher net return.
- Wheat crops should be sown latest by 25<sup>th</sup> December and irrigated at 1.0 IW/CPE schedule for high production of wheat under late sown conditions.
- Fertigation @ 60% of PE with 100% nitrogen application every 3<sup>rd</sup> day has been found high a yielding, efficient and economically viable irrigation system for tomato crop production.



- Fertigation @ 80% of PE with 100% nitrogen every 3<sup>rd</sup> day has also been found high yielding and most remunerative irrigation system for Zaid okra.
- As per organic fertilizers-based experimentation, the maximum grain yield of paddy var. Sarjoo-52 (2.21 t ha<sup>-1</sup>) has been obtained with the application of FYM 10 t ha<sup>-1</sup> under *C. equisetifolia*, while higher grain yield of wheat var. NW-5054 (2.18 t ha<sup>-1</sup>) was also recorded by the application of the same treatments *i.e.*, 10

t ha<sup>-1</sup> FYM under the same system *i.e.*, *C. equisetifolia*-based agri-silviculture system.

- In the *Dalbergia sissoo*-based Silvi-pastoral system, the maximum annual green fodder yield was found for *Pennisetum purpureum* (43.62 ha<sup>-1</sup>), followed by *Panicum maximum* (31.11 t ha<sup>-1</sup>) and *Brachia ramutica* (26.31 ha<sup>-1</sup>).

### AICRP on Deep Water Rice

- The water expense efficiency (WEE) was found to be highest at 6.42 kg/ha.mm at the head section followed by the middle and tail sections at which, it was 6.03 and 5.97 kg/ha.mm under improved water management practice, respectively. The water expense efficiency was quite low in the case of farmers' practices; in which, it was 3.51, 3.43 and 3.31 kg/ha.mm at the head, middle and tail sections of the distributary, respectively.
- A moisture regime of 6 cm water at 4 DADPW with chemical weeding (Bispyribac sodium 10% SC @ 200 ml/ha; post-emergence at 30 DAS) may be recommended for a higher yield of rice 50.20 q/ha with a net benefit of Rs.57770.00 per hectare in drum seeded rice.



### AICRP on Wheat & Barley Improvement

- Thirty-one promising entries of wheat were developed from ANDUAT, Ayodhya centre contributed to the constitution of



different NIVT, IPPSN, & SVT coordinated and state adoptive trials.

- Wheat variety NW-7008, a high yielding and resistant to rust (Stem, Leaf and Yellow) under rainfed/restricted irrigation conditions for the Eastern and Western Zone of Uttar Pradesh. Released in the meeting of State Seed Sub Committee on dated 22.03.2022 through Virtual mode in the chairmanship of Additional Chief Secretary, U.P., Lucknow.
- To strengthen genetic variability: A total of 1480 wheat germplasm (indigenous and exotic) including new introductions are being maintained for its further use in the crop improvement program.
- A total of 180 new crosses had been attempted to create the desired variability under salt tolerance conditions.
- Ninety single plant selection (SPS) and desired segregants (150F<sub>2</sub>, 90F<sub>3</sub>, 30F<sub>4</sub>, 26F<sub>5</sub>, 22F<sub>6</sub> and 18 advance bulk population) were generated under different situations i.e., rainfed, saline, sodic and waterlogging conditions. These segregating generations will be grown for evaluation of their promises for the further crop improvement program.
- Total of Seven entries under NIVT developed from ANDUA&T, Kumarganj contributed to NIVT Trials 2022-23.
- Total of eleven wheat entries have been contributed under state varietal trial during 2022-23.
- Twenty-five entries contributed for IPPSN during 2022-23 of Ayodhya centre.
- The equivalent wheat yield under intercropping of mustard with gram was found to be highest at 46.99 q/ha followed by a pure stand of gram and intercropping of mustard with lentil in which the equivalent wheat yield was 42.65 and 42.22 q/ha respectively. The intercropping of mustard with gam accrued the maximum net return of Rs. 66140.00 per hectare with the highest benefit-cost ratio of 3.59 followed by sole gram crop and intercropping of mustard with lentil which accrued the net benefit of Rs. 57660.00 and Rs. 56820.00 per hectare with a benefit-cost ratio of 3.26 and 3.23, respectively.

### Ongoing Research Projects 2022-23

S. No.	Name of Projects	No. of Projects
1.	All India Co-ordinated Research Projects (75% ICAR share and 25% State share)	18
2.	Scheme 100% Financed by ICAR	02
3.	Research Project Financed by International Agency	02
4.	Research Projects Financed by UPCAR	07
5.	Research Projects Financed by RKVY	05
6.	Research Projects Financed by other National/State Agencies	07
7.	Non-Plan Projects 100% Financed by State Govt.	18
<b>Total</b>		<b>59</b>



### A. All India Co-Ordinated Research Projects (75% ICAR share and 25% State share)

S. No	Name of the Project/ Scheme	Mobile No.	Name of PI	Year of Start
1.	AICRP on Rice Improvement (D.K. Dwivedi)	9415720287	OIC, CRS Masodha	1976
2.	AICRP on Deep Water Rice (Mahendra Singh)	9934318392	OIC, CRS Ghaghrahat	1976
3.	AICRP on Maize Improvement (Mahendra Singh)	9934318392	OIC, CRS Bahraich	1976
4.	AICRP on Wheat & Barley Improvement	9450882524	Dr. Vino d Singh	1987
5.	AICRP on MULLaRP	9452276217	Dr. Shiv Nath	2001
6.	AICRP on Chickpea	9452276217	Dr. Shiv Nath	2001
7.	AICRP on forage Crops Improvement	9450766603	Dr. Shambhoo Prasad	2001
8.	AICRP on Potential Crops	9451955851	Dr. S.C. Vimal HOD, GPB	1995
9.	National Seed Project (Crops)- 1- Seed Technology Research 2- Breeder Seed production	9451955851	Dr. S.C. Vimal	1978
10.	AICRP on Irrigation Water management	9450763877	Er. .R.C Tiwari	1980
11.	AICRP on Integrated Farming System	9450766594	Dr. A.K. Singh	1976
12.	AICRP on Vegetable Improvement	9450737300	Dr.G.C. Yadav	1980
13.	AICRP on Potato Improvement		Dr.C.N.Ram	1987
14.	AICRP on Spices	9415475037	Dr. Pradeep Kumar	1995
15.	AICRP on Arid Fruits	9415439398	Dr. Bhanu Pratap	1987
16.	AICRP on Medicinal & Aromatic Plants	9936888454	Dr.R.S. Mishra	1980
17.	AICRP on Agro-forestry	9454932174	Dr.S.K.Verma	1987
18.	AICRP on Agro-meteorology	9415720436	HOD, Agromet.	1990

### B. Scheme 100% Financed by ICAR

1.	National Initiative on climate resilient agriculture (NICRA) – Dryland Agriculture	9415720464	Dr H.C. Singh	2010 to contd.
2.	NICRA (Agro-meteorology)	9415720436	Dr. Sita Ram Mishra HOD, Agromet.	2010 to cont.

### C. Research Projects Financed by International Agencies

1.	Accelerated Genetic Gain in Rice (AGGRi-Alliance)-Marginal Environment (IRRI)		Dr. A.K. Singh	2019-20
2.	Enhancing and stabilizing the productivity of salt-affected areas by incorporating genes for tolerance to abiotic stresses in rice (EC-IFAD- IRRI)		Dr. A.K. Singh	2011



#### D. Research Projects Financed by UPCAR

S. No	Name of the Project/ Scheme	Mobile No.	Name of PI	Year of Start & Rs. In lacs
1.	Genetic enhancement for terminal heat tolerance in bread wheat ( <i>Triticum aestivum</i> L.) with conventional and molecular breeding approaches.	9450766603	Dr. Shambhoo Prasad	2020-21 Rs. 16.77
2.	Development of suitable model to harvest the optimum potential of fish production in sodic soil of Uttar Pradesh	9450796577	Dr. Laxmi Prasad	2020-21 Rs. 19.18
3.	Genetic Improvement of Kala Namak for productivity traits, biotic and abiotic stress tolerance, aroma and nutritional quality.	7992075842	Dr. Saurabh Dixit	2020-21 Rs. 14.40
4	Creating System for Small Scale Solar PV System	7814204593	Dr. P.K. Mishra	2022-23 6.61
5	Development of low-cost value-added products from paddy straw to minimize pollution	7800740160	Dr. Suman Maurya	2022-23 24.93
6	Value Chains of major Agricultural Commodities: A lucrative approach for improving livelihood status of farmer's in Uttar Pradesh	9565800912	Dr. Supriya	202-23 49.96
7	Improving livelihood status in eastern Uttar Pradesh through assessment of average farmer's : An income enhancement approach.	9565800912	Dr. Supriya	2022-23 24.90
8	Detection status of Acaricide resistance, their mitigation with ethnobotanicals and managerial practices for control of tick - and tick-borne disease in eastern Uttar Pradesh	7906387548	Dr Amit Singh	2022-23 23.66

#### E. Research Projects Financed under RKVY

S. No	Name of Project	Budget Allocation (Rs. Lac)
1.	Strengthening of Microbiological laboratory with advance diagnostic facilities for the detection of infectious diseases in particular reference to Eastern Uttar Pradesh.	172.50
2	Establishment and strengthening of Model Lab for testing of aquatic health disrupters and other parameters in the samples collected from natural and polluted fishery resources of Uttar Pradesh	138.00
3	Strengthening of University Goat Farm for livelihood security and socioeconomic upliftment of weaker section	183.31
4	Preserving Adulterated seed and planting material by DNA finger printing technique for increasing the income of farmers.	112.00
5	Enhancement of pulses and oilseed production, productivity and income of Eastern Uttar Pradesh farmers by upgrading seed production farm.	780.37
<b>Total Rs.</b>		<b>1386.18</b>



## F. Research Projects Financed by Other National/State Agencies

S. No.	Name of Project	Name of PI	Year of Start
1.	Mission Integrated Development of Horticulture (MIDH)	Dr. R.S. Mishra 9450045737	2005
2.	Gramin Krishi Mausam Seva (i) Head Quarter, Kumarganj Ministry of Earth Science (IAAS) (ii) Bahraich	Dr. A.N. Mishra 9450637552	1993
3	Forecasting Agricultural output using Space, agro-meteorology and land-based observations (FASAL) Ministry of Earth Science (Govt. of India)	Dr. A.N. Mishra 9450637552	2010
4	Centre of Excellence in Rice (State Govt.)	Dr. A.K. Singh	2018-19
5	Germplasm characterization and trait discovery in wheat using genomics approaches and its integration for improving climate resilience, productivity and nutrition quality. Sub Project: Characterization and evaluation of wheat germplasm lines for biotic stress resistance. (DBT, Govt.)	Dr. S.C. Vimal	2020-21 to 2024-25
6	Assessment of determinants of birds assemblages across rural urban gradient in and around some selected cities of Uttar Pradesh.	Dr. Ulman Yasmita Nitin 9871360055	Rs. 31.78 lakh 2022
7.	Radiation Induced mutagenesis for the improvement of highly aromatic premium rice variety kalanamak	Dr. Saurabh Dixit	Rs. 33.57 2022

## G - Non - Plan Projects 100% Financed by State Govt.

1.	Sodh Scheme (Rice, Masodha)	Dr. D.K. Dwivedi
2.	Oil Seed Project	HOD, GPB
3.	Pulses Project	Dr. R.M. Tripathi
4.	Research on Vegetable Crops	HOD, Veg. Science
5.	Research on Crop Physiology	Dr. R.K. Yadav
6.	NARP (Adjusted), Kumarganj, Faizabad	DAES
7.	NARP (Adjusted), Masodha, Faizabad	OIC, CRS, Masodha
8.	Foundation and breeder seed production unit and Strengthening of seed testing lab.	JD(S&F)
9.	NARP (Adjusted), (Tissuhi), Mirzapur	OIC ZARS Tissuhi
10.	Sodh Scheme, Tissuhi (Mirzapur)	OIC, CRS, Tissuhi
11.	Flood Rice Research Scheme: Ghaghrahat (Bahraich)	OIC, CRS, Ghaghrahat
12.	NARP (H.Q.), Ghaghrahat (Bahraich)	OIC, CRS, Ghaghrahat
13.	Jute Establishment Scheme: Bahraich	Dr. Mahendra Singh, OIC, CRS, Bahraich
14.	NARP Sub Station – Bahraich	OIC CRS, Bahraich
15.	NARP (Adjusted), Ghazipur	OIC ZARSS Ghazipur
16.	Sodh scheme, Ghazipur	Dr. Rajesh Chandra Verma 9411320383, 7017931375
17.	Production and processing of fruits in usar wasteland	HOD Fruit Science
18.	NARP adjusted Basuli	OIC, ZARS, Basuli





**Acharya Narendra Deva University of Agriculture & Technology,  
Kumarganj, Ayodhya - 224229 (U.P.) - India  
Website- [www.nduat.org](http://www.nduat.org)**