



# FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCES







# Institute of Plant Breeding & Biotechnology



# FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCES

The Faculty of Agriculture and Environmental Sciences was established in 2015 as the first faculty in MNS-University of Agriculture, Multan. The faculty has energetic team of 69 full time faculty members (52 PhD and 17 Non PhD) with diverse background and academic experiences at top universities in Australia, China, Germany, Korea, Singapore, UK, USA etc. The faculty members have published more than 670 research papers and won more than 50

projects from national and international funding agencies like Higher Education Commission, Punjab Agriculture Research Board, Agricultural Linkages Program, Punjab Skill Development Fund, Prime Minister Youth Development Fund,

USAID, Australian Centre for International Agricultural Research (ACIAR), DAAD Germany. Currently, there are 56 students enrolled in Ph.D., 448 in M.Sc. (Hons.) and 1786 in B.Sc. (Hons.) Agriculture.

It has following institutes/departments offering postgraduate programs

## 1. Institute of Plant Breeding and Biotechnology:

- ✓ Plant Breeding and Genetics
- ✓ Seed Science and Technology
- ✓ Biotechnology

## 2. Institute of Plant Protection with following chairs:

- ✓ Entomology
- ✓ Plant Pathology
- 3. Department of Agronomy
- 4. Department of Food Sciences and Technology
- 5. Department of Horticulture
- 6. Department of Soil and Environmental Sciences

The faculty is also offering postgraduate courses in majority of the subjects and also intends to start new major subjects



## Mission

Our mission is to achieve excellence in academia, research and extension in agricultural sector.



## Vision

The faculty of agriculture and environmental sciences is striving to be a dynamic center of excellence in research, innovation and creativity dedicated to teaching, extension, entrepreneurship and collaboration with the national and international partners, ultimately benefitting the farming community of Pakistan.



# INSTITUTE OF PLANT BREEDING AND BIOTECHNOLOGY

The Institute of Plant Breeding and Biotechnology at MNS-UAM offers postgraduate degree programs in the subjects of Plant Breeding and Genetics, Seed Science and Technology, and Biotechnology. The institute has qualified faculty actively involved in developing latest curriculum and promoting effective research and development activities in the University. The institute was established with the aim of developing improved crop varieties and improving seed systems through the integration of conventional plant breeding techniques with modern biotechnological tools. The institute is running number of research projects funded

by national and international funding agencies including Agricultural Development Program (ADP), Govt. of the Punjab, Punjab Agricultural Research Board (PARB), Higher Education Commission (HEC), Agricultural Linkages Program (ALP), DFID, ACIAR and USAID. The institute has also initiated outreach program for establishing linkages between the farming community, industry and the researchers to solve the problems of the stakeholders. The institute arranges seminars, conferences and workshops to discuss burning issues of agriculture and also to bring new research ideas for the young faculty and post graduate students.



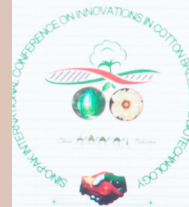
## Mission

Improvement in Plant Breeding System through integrating conventional plant breeding techniques and modern biotechnological tools, Seed Production and Supply System, and good agriculture practices at farmers field to obtain high yield of better quality produce to ensure food security.



## Vision

To produce skilled human resource in conventional and advanced techniques of plant breeding, seed science and biotechnology to meet the needs of breeding systems, seed industry, and farming community.



## The 3<sup>rd</sup> Sino-Pak International Conference on Innovations in Cotton Breeding & Biotechnology

### Hosts:

-  Biotechnology Research Institute, CAAS
-  MNS-University of Agriculture, Multan
-  Bahauddin Zakariya University
-  Western Agricultural University

### Sponsors:

-  Xinjiang Luthai Harvest Cotton Co., Ltd
-  Guoxin Seeds Industry Co., Ltd







# INSTITUTE OF PLANT PROTECTION



# INSTITUTE OF PLANT PROTECTION (IP2)

Due to the COVID-19 pandemic, all the educational institutions in the country have been shifted to online learning tools. Keeping in view the need of time, IPP has also started online classes using learning management system (LMS) without compromising the standards of teaching.

In future, the institute will offer various courses which will be taught online completely and hybrid courses with blended learning along with face-face teaching to meet the standards of international institutions.

The faculty from the institute is also

leading the University in organizing seminars about COVID-19 pandemic and creating awareness among the society especially farming communities through literature and other possible means. Moreover, the institute is also actively engaged in developing a biological control

of locust which poses a threat to the cultivation of various crops in Southern Punjab. Similarly, the farming community of the region also getting benefits from the institute in the form of diagnostic facilities of weeds and diseases along with the best possible solution for their management.



## Mission



## Vision

Developing an integrated system of research and outreach for plant protection.

Uplifting agricultural community through enhancing agricultural productivity by minimizing losses caused by insect pest complex and diseases using modern and environmental friendly measures, stabilizing natural ecosystem.

Currently following chairs are present in the Institute:

### 1. Chair Entomology

It comprises the former Department of Entomology. The faculty members of this chair are highly qualified and take pride in their teaching responsibilities. Majority of the faculty members are PhD having foreign teaching / research experience. The Department strength is teaching, research and outreach activities. The faculty devotion for research is apparent from the publication of over 270 research and review articles and book chapters in well-reputed national and international journals.

The following thematic groups are doing research and development activities under this Chair are: insect biodiversity and taxonomy, insect ecology and behavior, integrated pest management, insecticide toxicology, insecticide resistance, Bt resistance, biological control of insects, plant-pollinators interactions towards yield enhancement, vector entomology, forensic entomology, urban entomology, stored product pest management and vertebrate pest management.

### 2. Chair Plant Pathology

The faculty at this chair is actively involved in unique blend of quality teaching and research activities in the different discipline of Plant Pathology like Virology, Bacteriology, Mycology, Nematology, Epidemiology and fungicide resistance. The research revolves around induced plant diseases, mechanisms involved in disease development, forecasting and their control employing modern and conventional research approaches. The faculty commitment for research is ostensible from the publication of over 125 research articles and book chapters in well-reputed national and international journals.





# Department of Agronomy



# DEPARTMENT OF AGRONOMY

The Department of Agronomy is striving hard to earn repute of excellence in agronomic education with focus on problem-oriented research related to crop production and soil management. A dedicated and highly qualified faculty, having hands on experience in agronomic teaching and research at national and international institutes, makes it one of the most accomplished departments in the University. So far, the Department of Agronomy at MNS-University of Agriculture, Multan has published 150 international papers in referred journals, won eight research projects and submitted several others for competitive

grants. The Department also organizes seminars and workshops on contemporary issues of agriculture. Advisory services to farmers are also being provided. The department has all the basic facilities like lecture rooms, well-equipped research laboratories, text books and reference materials for

undergraduate and postgraduate degree programs. The students are blessed with diverse learning facilities ranging from lectures to interactive tutorials, brain storming sessions and field workshops involving advance audio visual aids.



## Mission

- To produce technically trained human resource in the field of agronomy
- To generate, integrate and apply knowledge about crop plants that are grown for food, feed, fiber and general benefit of mankind.
- To promote research work to ensure that agricultural systems and products are able to meet rapidly-changing current needs and those of future generations.
- To cope crop production under dwindling natural resource, climate change and adaptation and mitigation strategies development for sustainable production under changing climate scenarios.
- To find and denominate answer to problems through the integration of teaching, research and extension/outreach efforts, disseminate answers to problems.



## Vision

To provide leadership in agronomic education with focus on problem oriented research related to crop production and soil management







## Department of Food Science & Technology



# DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Keeping in view the current scenario of the world and our country's food safety and food security, the Department is aimed to produce well trained human resource to cope emerging needs of the community and food industry as well. The major focus of the Department is utilization of basic principles of Food Science and Technology for processing and preservation of food commodities to meet the challenges of burgeoning population and fastest growing food industry in the

country. There has been a significant increase in the establishment of food industry during the last two decades and consequently the demand for Food Technology graduates has increased tremendously at national and international level. South Punjab is the hub for agricultural production and a lot of food industries are working here to enhance the quality of food products. Hence, there is a great demand of Food Technologists to cope needs of the area in terms of

employment in industry and academia. The present faculty is practically involved in the capacity building of the students through effective teaching and training programs. Concerning the most important issues including malnutrition and unavailability of safe food of South Punjab community, these issues have been taken up as challenge and Department of FST shared significant contribution in promotion of food preservation and hygienic practices. In this perspective, the

Department is aiming to provide all possible facilities in collaboration with different food industries and other neighboring institutes to train the graduates with skills and futuristic vision. The students of Food Science and Technology involved in different research institutes and food industries to meet the challenges of corporate sector through their practical knowledge.



## Mission



## Vision

Vision to enhance the learning capabilities of the graduates through advanced techniques, practical knowledge and internship training programs.

To equip and prepare young minds for meeting challenges of global food safety and food security situations.







## Department of Horticulture



# DEPARTMENT OF HORTICULTURE

Department comprises of young, energetic and motivated faculty, staff as well as research team having diverse experience and strong commitment towards teaching, research and outreach. The departmental faculty consists of a professor, five assistant professors and a lecturer; all having rich teaching experience together with numerous publications in national and international peer review journals and conferences proceedings.

The department offers degree programs in BSc (Hons), MSc (Hons) and PhD with specialization in horticulture subject. Curriculum of these degree programs is reviewed and revised keeping in view needs of horticultural community and recent developments in horticulture industry of Pakistan and the world through statutory bodies. The department was established during 2015; and upto 2019, sixty two (62) undergraduate and three (03) master level students have received their degrees from department. Currently, five (05) PhD, thirty seven (37) master and forty seven (47) undergraduate students are enrolled.

As far as R&D is concerned various projects of worth Rs. 26.5 million are

under progress including, Supply chain management of minor fruits like Ber, Mulberry, Grapes, Phalsa, Litchi, Pomegranate and Jaman as targeted crops and is funded by HEC; Postharvest management of strawberry funded by Pakistan Agriculture Research Board (PARB-CAS); Vegetable grafting and Awareness regarding insect repellent plants funded by HEC; while projects worth Rs. 1.5 million have been completed.

Considering geographical location of MNS-UAM in main mango growing area of Pakistan the department emphasizes on creating awareness, branding and networking in mango production, supply and value chains. In this regard, the department has a pride to organize an annual mango festival in Multan to provide a platform to mango stakeholders including growers, exporters, processors, nursery owners, fertilizer companies/dealers, pesticide companies, banks and several other organizations/firms etc. These opportunities provide them a platform to display their products on stalls that attract the national and international businessmen.

In addition, the department also arranges

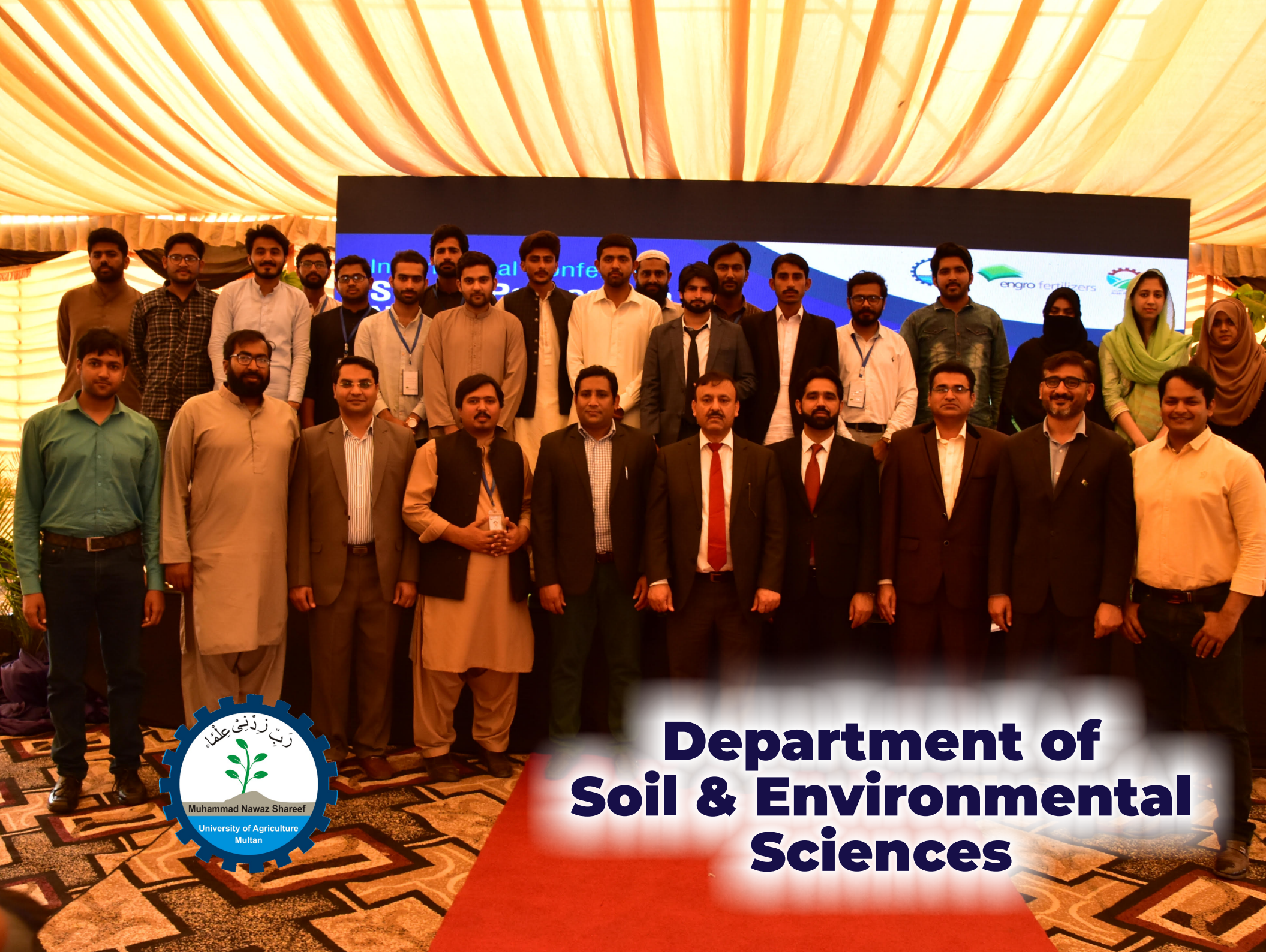
regular seminar and workshops to disseminate information related to international compliances on mango quality and safety through consultancies to facilitate and trains the growers to grow export quality mangoes. Recent organization of training course on Ultra-High Density Plantations of Mango Orchard is a new international activity introduced by the department to create awareness in mango industry and develop technical capacity to get higher mango yields through small trees system (STS). Dr. Steven A. Oosthuysen from South Africa was resource person and the training was attended by 150 growers/stakeholders belonging to different areas of Pakistan.

Additionally, department also organized Sino-Pak Horticultural Conference, flower show, seminar on strawberry and pomegranate production and postharvest management and social awareness about insect repellent plants. Moreover, department is a leader in the production of different disease and pesticides free vegetables like tomato, bell pepper, cucumber grown under hydroponic system.

To develop social skills and integration in students, department arranges study

tours including visits to progressive farms, markets and botanical gardens. These activities help students to share their interest and expand their network for finding career opportunities after graduation. Moreover department arranges annual cultural functions to build relationship with fellow students. Special emphasis is given to paid internship and hands on training on private and public farms for practical grooming of students. In case of extracurricular activities department motivates the students to participate in various clubs (Qirrat and naat club, debating club, dramatic club, literary club, media club, women society, agriculture volunteer club, sport society, plant for life society) and events organized by department to make them well-rounded individual. Department also offer scholarships including university merit scholarship, HEC need based scholarship, Punjab education endowment fund, Prime ministers fee reimbursement scheme for less developed areas (South Punjab) to meet educational expenses for ensuring world class education within the reach of deserving students.





# Department of Soil & Environmental Sciences



# DEPARTMENT OF SOIL AND ENVIRONMENTAL SCIENCES

Healthy soils and clean environment are indispensable for all life forms on earth due to their tremendous role in food security and human health. Therefore, MNS University of Agriculture Multan established its Department of Soil and Environmental Sciences in year 2012. The department houses distinguished faculty with vast teaching and research experience in various domains such as Saline Agriculture, Soil Microbiology and Biochemistry, Soil Fertility and Plant Nutrition, Soil and Environmental

Chemistry, Soil Physics, and Climate Change. The departmental labs are equipped with state of the art equipment for research. Therefore, two M.Sc. (Hons.) programs are offered in the subject of "Soil Science" and "Climate Change". The Climate Change degree program is a joint venture with different departments of the university. However, PhD is offered only in the subject of "Soil Science". Faculty comprises HEC approved supervisors which are competent and open minded to make

collaborations, take initiatives, establish industry academia linkages and perform outreach activities.

Postgraduate programs of the department prepare the students to address agricultural and environmental challenges keeping in view the local and global perspectives. Research in the department drives innovation and new technologies for problem solving to pave the way for knowledge economy. After graduation, the trained students serve in Public and Private sectors such as Universities,

Research Institutes, Soil and Water Testing Laboratories, Fertilizer and Pesticide Companies and leading NGOs.

Currently, 10 national and international funded research projects are going on in the department. Moreover, gatherings of scientific community in the form of seminars, conferences and workshops are regularly held to provoke the scientific thoughts in students and to establish linkages with potential stakeholders



## Mission

To produce graduates having strong problem solving skills by effective learning through efficient teaching, training and outreach activities for improving soil and crop health in changing climate.



## Vision

To contribute in national growth and development by producing technical manpower and productive research.

