PATRON-IN CHIEF

Dr. Raja Ali Raza Anwar, HI, SI, PoP
CS/Chairman PAEC

PATRON

Dr. Shakeel Abbas Rofi CS/Member (Science), PAEC
Dr. M. Yussouf Saleem, CS/DG (A&B), PAEC

ORGANIZING COMMITTEE

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Prof. Dr. M. Kashif Riaz Khan, DCS/Head PBGD
Prof. Dr. M. Jawad Asghar, PS, PBGD (Organizer)
Dr. M. Azeem Asad, PS, PBGD (Co-Organizer)
Mr. Muhammad Arfan Tahir, Head Admin
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Dr. M. Azeem Asad, PS, PBGD
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Application form can be downloaded from Web: http://www.niab.org.pk

1st TRAINING COURSE ON

"The Use of Mutation Breeding Techniques for the Improvement of Crops Architecture"

(November 05-06, 2025)

NUCLEAR INSTITUTE FOR AGRICULTURE AND BIOLOGY (NIAB), FAISALABAD PAKISTAN

(PAKISTAN ATOMIC ENERGY COMMISSION)

ABOUT NIAB

The Nuclear Institute for Agriculture and Biology (NIAB), a center of Pakistan Atomic Energy Commission (PAEC), stands as a leading premier institute for mission-driven research in the fields of agriculture and biological sciences. The institute is staffed with a distinguished team of 75 scientists, among whom 52 hold doctoral degrees across a broad spectrum of scientific disciplines, reflecting NIAB's strength in multidisciplinary expertise and innovation.

Mutations are vital for crop improvement as they create genetic variability, enabling the development of superior traits like higher yield, disease resistance, and stress tolerance. Induced mutations accelerate breeding programs by introducing novel characteristics, helping scientists develop improved crop varieties that adapt better to changing environmental conditions and agricultural demands.

This training course on mutation induction in crops is essential for the development of climate-smart varieties. It equips researchers, breeders, and students with the tools to enhance crop resilience to environmental stresses such as drought and heat, thereby improving yield stability and facilitating the creation of crops adapted to changing climatic conditions, which contribute to global food security and agricultural sustainability.

COURSE DESCRIPTION

Lectures

- Introduction to mutation induction in pulses
- Principles of mutation induction and types of mutagenic agents (physical, chemical, and biological)
- Selection of mutagenic agents for mungbean and lentil and methods of treatment (e.g., seed irradiation, chemical mutagens)
- Techniques for phenotypic and genotypic screening and Identifying traits relevant to climate resilience
- Importance of climate-smart traits for sustainable agriculture
- Breeding methods used in post-mutation induction
- Evaluation of mutant lines
- Challenges in mutation breeding for climate adaptation
- Integration of mutation induction in breeding program
- Data interpretation and research publication techniques
- Future prospects and innovation in mutation breeding

SCHEDULE

Time and venue:

November 05-06, 2025

Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad, Pakistan

Receipt of application:

Duly filled Application form along with the copy of CNIC and a passport size photograph must reach the organizer by **October 31, 2025.** Application form can be downloaded from NIAB website (www.niab.org.pk). Advance copy of application as scan can be sent by email (drmjasghar@niab.org.pk, drmjasghar@gmail.com)

Registration Fee:

Professionals: Rs. **3000/-**

Students: **1500/-**

Award of certificates:

Certificates will be awarded to all participants.

Travel & accommodation:

The nominating institutions/participants themselves shall arrange and bear the cost of travel and stay. Working lunch will be available at NIAB Officers cafeteria.