

Training Course
on
**“Management of Brackish Water for Plant
Production in Saline Areas”**
December 29-31, 2025
Organized by

Nuclear Institute for Agriculture and Biology
(NIAB), Faisalabad



Pakistan Atomic Energy Commission (PAEC)
NIAB IAEA-Collaboration Center



International Atomic Energy Agency (IAEA)

Course Organizer

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Introduction:

The Nuclear Institute for Agriculture and Biology (NIAB), an establishment of Pakistan Atomic Energy Commission (PAEC), is primarily a research institution involved in goal-oriented biological and agricultural research. NIAB was established in 1972. It has well-equipped laboratories and facilities such as Cobalt-60 irradiation Sources, radiation-measuring instruments, N-15 analyser, UV and IR spectrophotometer, Atomic absorption spectrophotometer, ICP, Porometer, pressure Chamber, Osmometer, GAS chromatograph, HPLC, Amino acid analyser, PCR, High speed electrophoresis, Photosynthesis measuring system (IRGA), Capillary electrophoresis, DNA sequences, Elisa readers, etc. A well-stocked Library is linked with National Library of Biological Sciences through wide-area network.

The research programs include: development of new gene pool and varieties of crops; crops protection through insect pest management and disease control; fertilizer and water management for major crops; abiotic stress management; sustainable use of salt-affected wastelands and saline water for crop production; improving health nutrition and reproduction of livestock.

NIAB has also been affiliated with PIEAS as NIAB-C since 2014 for M.Phil. and Ph.D. degree programmes in Biological Sciences. International Atomic Energy Agency (IAEA) has conferred NIAB the status of its collaborating centre owing to outstanding achievements of the institute.

Soil and Environmental Science Division (SESD) is committed to train human resource on sustainable use and conservation of natural resources for increased productivity and improved environment through selection for stress tolerant germplasm, efficient nutrient and water management and phyto-remediation of salt affected and polluted soils. Saline Agriculture Group, SESD is hosting a five days training course on **“Management of Brackish Water for Plant Production in Saline Areas”** w.e.f., 29-31 December, 2025 under the umbrella of NIAB IAEA-CC.

Objectives:

The objective of the course is to disseminate the knowledge and to provide training to utilize different techniques and equipment to estimate the salt tolerance in crop plants. The purpose of proposed training is to improve the scientific vision of young scientists, teachers and scholars. The training course will also provide a platform for enhancing interactions and sharing of experiences among relevant research institutes.

Eligibility:

Young researchers/scholars who are actively involved or opt for a career in Soil and Environmental Science/ Biological Sciences

How to apply?

Please send the application form or your particulars mentioned in the form to the course organizer at 03205362600 (WhatsApp) and/or

rizwansalfi@yahoo.com by December 22, 2025.

Course Fee:

Professionals: Rs. 3000/-

Students: Rs. 1500/-

Accommodation for participants from outside of Faisalabad have to arrange on self-basis

Outline of Training Program:

This course would include the lectures as well as practical regarding Management of Brackish Water for Plant Production in Saline Areas

A. Screening

- Screening of germplasm for salt tolerance in hydroponic and laboratory conditions.
- Salt stress tolerance indices e.g. K^+ : Na^+ ratio, germination, root and shoot biomass, cell membrane stability and physiological indices.
- Hand-on training: Identification of nutritive salt tolerant germplasm through nutrient analysis.
- Hands-on: Physio-chemical analysis of soil.

B. Biochemical and Molecular techniques

- Identification of salt tolerant germplasm through PCR based molecular marker techniques.
- Phylogenetic approaches for salt tolerance screening in plants.
- Antioxidant and non-antioxidants enzymes activities under saline conditions.

C. Field Training

- Demonstration/practical for screening in pots, lysimeter, and field conditions.
- Desalinization of brackish water using renewable energy resources.

PATRON IN CHIEF

Dr. Raja Ali Raza Anwar, *HI, SI, PoP*

Chairman, PAEC

PATRON

Dr. Shakeel Abbas Roofi Iqbal, *PoP*

Member (Science), PAEC

Dr. Youssouf Saleem, *DG (A&B), PAEC*

ORGANIZING COMMITTEE

Dr. Uzma Maqbool (*DCS/ Director NIAB*)

Dr. M. Akhtar, (*DCS/ Head, SESD*)

Dr. M. Rashid, *TLO, NIAB IAEA-CC*

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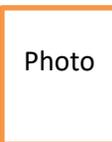
For Further Information

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Faisalabad

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Cell: 03205362600

APPLICATION FORM



Name:-----

Official Position:-----

Organization:-----

Address:-----

Phone (Off.)-----

(Res.)-----

Mob. No.:-----

E-mail-----

Date of birth:-----

CNIC#-----

Academic Qualification: -----

Research/Training Experience:-----

Particular interest for training:-----

(Signature of Applicant)
