Training Workshop on

"ADVANCEMENTS IN BIOSALINE AGRICULTURE TECHNOLOGY FOR FOOD SECURITY IN PREVAILING CLIMATE CHANGE SCENARIO"

October 22-23, 2025

Organized by

Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad

Organizer

Dr. Abdul. Rasul Awan
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Introduction

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, ^{15}N analyser, UV and IR spectrophotometer, atomic absorption spectro-photometer, 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 center 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 phytoremediation of salt-affected and polluted soils. Saline Agriculture Group, S&ESD is hosting a two days workshop on "**Advancements in Bio-Saline Agriculture Technology for Food Security in Prevailing Climate Change Scenario"** *w.e.f.,* 22-23 October, 2025.

Objectives

The objective of the workshop is to disseminate the knowledge and to provide training to utilize different techniques and equipment for soil rehabilitation. This workshop will offer comprehensive modules on land restoration in marginal environments through Bio-saline agriculture. It will cover location-specific restoration techniques, the impacts of climate change on natural vegetation, crop biodiversity, integrated cropping systems, and sustainable land and water management. Participants will also explore the use of salt-tolerant crops and agroforestry systems for soil rehabilitation and salinity mitigation.

Eligibility

Young researchers, scientists and scholars in Soil and Environmental Sciences / Biological Sciences fields are encouraged to apply.

How to apply?

Please send the application form or your particulars mentioned in the form to the course organizer at 03007672875 (WhatsApp) and/or email at arawan77@yahoo.com by October 15, 2025 along with demand draft of the workshop fee in name of Head LAO, NIAB, Faisalabad.

Selection: The selected candidates will be informed by October 17, 2025.

Workshop Fee:

Professionals: PKR 3000/-

Students: PKR 1500/-

Accommodation

Participants of the workshop coming from outside Faisalabad will have to self-arrange their accommodation.

Outline of Program

This workshop will include the lectures as well as practical regarding advancement in Bio-Saline Agriculture.

Overview of Bio-Saline Agriculture

- Use of brackish water for enhanced production of timber, food, feed and vegetables.
- Screening of crop germplasm in saline conditions.
- Hands-on training: Measuring electrical conductivity (EC) and pH of saline soils and water samples. Analyzing soil characteristics: Physical, chemical, and biological properties under saline conditions.

Technological Advancements in Bio-Saline Agriculture

- Desalinization of brackish water using renewable energy resources.
- Demonstration of soil amendments in saline environments.
- Rearing of livestock in saline soils.
- Demonstration of Aqua culture.
- Identification of salt tolerant germplasm through PCR techniques.
- Use of R software for salt tolerant data interpretations.

Field Training

Screening plant performance in pots and lysimeters. Application of physiological and biochemical data to assess tolerance.

PATRON IN CHIEF

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

PATRON

Dr. Shakeel Abbas Rofi,
Member (Science), PAEC

Dr. M. Yussouf Saleem,
DG (A&B), PAEC

ORGANIZING COMMITTEE

Dr. Uzma Maqbool (DCS/ Director)
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Mr. Sajid Azmat (Head, LAO)

APPLICATION FORM

Photo

Name: ----------

Official Position: ----------

Organization: ----------

Address: ----------

Phone (Off.) ----------

Mob. No.: ----------

E-mail ----------

CNIC# ----------

Date of Birth: ----------

Academic Qualification: ----------

Research/Training Experience: ----------

Particular interest for workshop: ----------

(Signature of Applicant)