



# **Regional Training Course on Accelerated Breeding Techniques for the Development of Crop Tolerance to Abiotic Stress**

**Hosted by**

The Government of Türkiye

**through the**

Field Crops Central Research Institute, General Directorate of Agricultural  
Research and Policies, Ministry of Agriculture and Forestry

Ankara, Türkiye

06 - 17 November 2023

**Ref. No.: TN-RER5024-2201833**

## **Information Sheet**

### **Purpose**

The purpose of the event is to train the participants on mutation breeding and related biotechnologies, such as development of genetically stable lines to shorten breeding cycles of tolerant crop varieties for abiotic stresses.

### **Working Language(s)**

The working language(s) of the event will be English.

### **Deadline for Nominations**

Nominations received after 25 August 2023 will not be considered.

## **Project Background**

The project RER5024 is aimed at supporting the production of major food crops with higher yields, improved quality, and better resilience to climate change through mutation breeding and combined biotechnologies to contribute to food security in Europe and Central Asia. Nuclear technology will be used for generating new beneficial mutations followed by mutation breeding to develop improved lines and varieties. Increasing drought and salt tolerance is the target of the project, together with increase of productivity and other traits available.

The overall objective of the project is to support the production of major food crops with higher yields, improved quality and better resilience to climate change through mutation breeding and combined biotechnologies to contribute to food security in Europe and Central Asia. The expected outcome is the enhanced productivity and resilience to climate change of major food crops in the region.

## **Scope and Nature**

This training will provide practical/theoretical knowledge related to mutation breeding and related biotechnologies that to develop genetically stable lines to shorten breeding cycles to development of tolerant crop varieties for abiotic stresses to contribute food security. The training course will cover the following topics:

- Accelerated breeding techniques such as double haploids, embryo culture, rapid cycling methods, shuttle breeding to develop better-performing mutant crop varieties
- Phenotyping methods for breeding abiotic stress tolerance
- Accelerated plant mutation breeding using molecular markers
- Marker assisted Breeding for Abiotic stress tolerance in crop development via mutation breeding

## **Participation**

The event is open to up to 25 participants with qualification/experience corresponding to the requirements described under “Participants’ Qualifications and Experience” from the Member States participating in the TC Project RER5024.

The IAEA encourages female researchers and young researchers to apply for this training.

## **Participants’ Qualifications and Experience**

The participants of the training course should be currently engaged in mutation breeding and have basic knowledge in application of tissue culture and molecular techniques. Participants should have a strong affinity and interest in modern plant breeding methods involving, induced mutation, mutation screening.

Nominated candidates should be plant breeders, agronomists, or biologists currently involved in the use of tissue culture and/or molecular techniques in conjunction to mutation breeding.

# Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (<https://intouchplus.iaea.org>) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (<https://websso.iaea.org/IM/UserRegistrationPage.aspx>) before proceeding with the event application process below.
2. On the InTouch + platform, the candidate must:
  - a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
  - b. Download and complete the [Designation of Beneficiary and Emergency Contact Form](#), and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step; and
  - c. Search for the relevant technical cooperation event (EVT2201833) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

**NOTE:** Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline.

For additional support on how to apply for an event, please refer to the [InTouch+ Help page](#). Any issues or queries related to InTouch+ can be addressed to [InTouchPlus.Contact-Point@iaea.org](mailto:InTouchPlus.Contact-Point@iaea.org).

Should online application submission not be possible, candidates may download the nomination form for the training course from the [IAEA website](#).

**NOTE:** A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

## **Administrative and Financial Arrangements**

Nominating authorities will be informed in due course of the names of the candidates who have been selected, and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency AX Travel Management, or a travel allowance, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

## **Disclaimer of Liability**

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

## **Note for female participants**

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

## IAEA Contacts

Programme Management Officer (responsible for substantive matters):

Ms Meng Li  
Division for Europe  
Department of Technical Cooperation  
International Atomic Energy Agency  
Vienna International Centre  
PO Box 100  
1400 VIENNA  
AUSTRIA  
Tel.: +43 1 2600 26442  
Fax: +43 1 26007  
Email: [Me.Li@iaea.org](mailto:Me.Li@iaea.org)

Administrative Contact (responsible for administrative matters):

Ms Dragana Rainer  
Division for Europe  
Department of Technical Cooperation  
International Atomic Energy Agency  
Vienna International Centre  
PO Box 100  
1400 VIENNA  
AUSTRIA  
Tel.: +43 1 2600 25987  
Fax: +43 1 26007  
Email: [D.Rainer@iaea.org](mailto:D.Rainer@iaea.org)