

Online Tailor-Made Training Course in Innovative Tools in Plant Breeding for Climate Smart Agriculture for Improved Food Security in Tunisia

10 February to 8 April 2021

Course framework

Wageningen University & Research (WUR)-Plant breeding (The Netherlands) in Collaboration with the Regional Field Crops Research Centre of Beja (CRRGC) in Tunisia, organize an online training course and have the pleasure to announce the implementation of the above-mentioned tailor-made course. The course is funded by the Orange knowledge programme (OKP) of **NUFFIC**, The Netherlands and the CRRGC in Tunisia.

Objectives of the course

- Upgrading skills and know-how on plant breeding for biotic stress factors
- Staff members with the new development and innovative technology in plant breeding and biotechnology.

Contents of the course

The training courses consists of two modules as described below whereby : Module one covers aspects of plant breeding for biotic stress factors while Module two deals with the application of molecular markers in plant breeding.

Module 1: Plant breeding for biotic stress factors

- Mechanism of defence in plants and types of resistance
- Type of host resistance.
- Quantitative and qualitative aspects of resistance.
- Components of resistance and how to select for it?
- Changes in pathogens populations and increased number of virulence factors
- Selection methods.
- Which selection procedure to follow? And in which stage to

concern ?

- Pedigree methods, backcrossing and recurrent selection.
- Local knowledge in plant breeding.
- Case study of success stories in plant breeding and lessons learned.
- The way towards resistant cultivars.
- Where to find resistance ?.
- How to test plants for resistance ?.

Module 2. Use and application of molecular markers in plant breeding

- New developments in sequencing, genotyping, phenotyping,
- Molecular markers and their applications in breeding.
- Advances in genomics and their applications in breeding
- QTLs Analysis.
- Bi-parental and genome wide association mapping.
- Difficulties in use of molecular tools and how to go about it.
- Marker-assisted breeding and genomic selection.
- Design plant breeding program.
- Case studies for most important economic crops.
- Sharing local knowledge and Lessons learned in breeding for biotic stress factors.

Approach

The online training course is self-study course whereby the teaching materials are made available online to the participants. In addition, teaching materials are complemented with assignments, literature, case studies, videos and interactive sessions. The selected participants will be able login with a personal account and subsequently can follow the course at their available time as mentioned in the above-mentioned period. After completing the course, evaluation is carried out and certificate of participation is issued.

Target audience

The target audience is consisting of plant breeders, researchers,

doctors, agronomists, plant pathologists, biotechnologists at BSc, MSc and PhD level whom are working and involved with the above-mentioned topics.

Commencement of the course : The online training course will be given in English language and will start from February 08 to April 10, 2021

Application and admission to the course

Interested applicants are requested to apply to the course by using the attached application form. **Deadline for submitting the application form expires on 30th of November 2020.** Please send your application to: angela.machacilla@wur.nl with copy to daniel.danial@wur.nl and sarrah_bm@msn.com

Course coordinators and contact information

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