Training Workshop

Developing a user-friendly application for smallholder farmers for detection of plant disorders

Date: **29-31 March 2022**

Venue: **Tunis City, Tunisia**

Highlights

Annual crop losses due to pests and diseases range between 20% and 40%, undermining rural livelihoods, national economies, and food security. Intelligent systems can help farmers make prompt *in-situ* diagnoses and facilitate effective response to plant diseases and pest attacks in their early stages.

The International Center for Biosaline Agriculture (ICBA), in partnership with the University of Barcelona (UB), are developing a user-friendly application for smartphones that smallholder farmers can use to identify and address diseases and nutritional disorders in their crops, and thus minimize losses in their yields. The project targets farmers in four countries of the Middle East and North Africa (MENA) region where ICBA has ongoing projects, including Egypt, Morocco, Tunisia, and the United Arab Emirates (UAE). Subsequently, the application will be rolled out in other countries where ICBA operates and beyond.

This training workshop will give insights and hands-on training on the application targeting farmers, experts and extension staff in the United Arab Emirates.

By the end of the training workshop, participants will be able to:

1. Learn about the role of innovation & technology in achieving global food security.
2. Understand the role of artificial intelligence in crop management and protection from diseases and insects infections.
3. Learn about the best control of diseases and pests under different farming systems.
4. Practice the use of a prototype of the application in the field.

Organizer

International Center for Biosaline Agriculture (ICBA), Dubai, United Arab Emirates

Partner

Faculty of Biology, Barcelona University (UB), Barcelona, Spain

Host

National Agronomic Institute of Tunisia (INAT)

Guests of Honor

Prof. Dr. Faysal Ben Jeddi , Director General, INAT

Prof. Dr. Chedly Abdelly, Director General, ANPR

Trainers

Dr. Henda Mahmoudi, Plant Physiologist, ICBA, UAE

Prof. Dr. Jose Luis Araus, Plant Physiology, Section of Plant Physiology, Faculty of Biology, UB, Spain

Prof. Dr. Shawn C. Kefauver, Co-Chair IEEE GRSS IDEA Committee, UB, Faculty of Biology, Dept. BEECA, Plant Physiology Section, Spain

Dr. Zied Hammami, Halophyte Agronomist, ICBA, UAE

Dr. Jose Armando Fernández G., Plant Physiology, Section of Plant Physiology, Faculty of Biology, UB, Spain

Coordinators and Trainers

Mr. Ghazi Al-Jabri, Capacity Development Specialist, ICBA, UAE

Dr. Marwa Hassine, National Agronomic Institute of Tunisia (INAT), Tunisia

Agenda

Tuesday 29 March 2022

08:30-09:00	Registration
09:00-10:00	**Inaugural Session**
	Welcome address, **Prof. Dr. Faysal Ben Jeddi,** Director General, INAT
	*Speech of Guest of Honor***, Prof. Dr. Chedly Abdelly**, Director General, ANPR
	Speech of ICBA Project coordinador, **Dr. Henda Mahmoudi**
	Speech of **Prof. Jose Luis Araus**, Project team lead, UB
	Introduction of trainers and participants
	Presentation on the "The role of capacity development in achieving global food security: Success stories from the field", **Ghazi Al Jabri**, Capacity Development Specialist, ICBA
10:00-10:30	Group photo and coffee break
10:30-11:00	*Introduction of the project and the related activities,* **Henda Mahmoudi**
11:00-11:30	*Best control of diseases and pests under different farming systems: Relationship good farming, irrifation management and diseases control for each croping system,* **Zied Hammami**
11:30-12:00	*Artificial Intelligence Overview and Workflow, ODK and ODK Downloader App*, **Shawn C. Kefauver**
12:00-12:30	*AI Applications for Crop Management,* **Jose Luis Araus**
12:30-13:00	*Importance of the Smart App for the Tunisian farmers and their willingness to utilize it*, **Marwa Hassine**
13:00-14:00	Prayer break
14:00-14:30	*AI Software for Disease Detection*, **José Armando Fernandez-Gallego**
14:30-16:00	*World Café seminars*
	Importance of the App for Farmers, Facilitators: **Ghazi Al-Jabri, Marwa Hassine, Shawn C. Kefauver**
	Importance of the App for Extension service and researchers, Facilitators: **Jose Luis Araus, Zied Hammami**
16:00—16:30	*Closing Remarks and groups distribution,* **Henda Mahmoudi**

Wednesday 30 March 2022

08:00-15:00	Field practice on the applications—Group 1, **All trainers**
15:00-15:30	Course Evaluation, **Ghazi Al-Jabri**

Thursday 31 March 2022

08:00-15:00	Field practice on the applications—Group 2, **All trainers**
15:00-15:30	Course Evaluation, **Ghazi Al-Jabri**