

ICBA launches new AI-powered mobile app for crop disorder detection

Dubai, UAE, 12 December 2022 – A new AI-powered mobile application for detecting crop disorders was unveiled today by H.E. Mariam bint Mohammed Almheiri, Minister of Climate Change and Environment of the UAE, during a ceremony at the headquarters of the [International Center for Biosaline Agriculture](#) (ICBA).

Called Dr. Nabat, the application is a result of collaboration between ICBA and the University of Barcelona, Spain, under a project titled “Developing a user-friendly mobile application for smallholder farmers to detect plant disorders”.

Created with the support of local partners in Egypt, Tunisia, and the UAE, the application is designed to aid smallholder farmers and extension specialists in spotting crop disorders at early stages, and thus minimizing yield losses and improving incomes. It can identify 18 different common disorders affecting tomato, capsicum, and cucumber. These cash crops are considered important for smallholder farmers who practice protected agriculture.

H.E. Mariam bint Mohammed Almheiri, Minister of Climate Change and Environment of the UAE, said: “This app is a prime example of how we can harness the power of technology to address pressing concerns. In the face of ever-rising challenges, with climate change at the forefront, we believe that technological interventions will optimize agricultural practices, enhance harvest quality and quantity, and notably improve the lives of farmers. We are confident the app will prove to be a game changer for smallholder farmers, providing them with early diagnosis at the click of a button and helping them save their crops.”

Dr. Tarifa Alzaabi, Director General of ICBA, said: “Smallholder farmers are on the frontlines of food security. They are the backbone of many agricultural economies, yet they often lack access to information about pests and diseases. We have developed this mobile application to help bridge this gap and put knowledge in their hands.”

As part of the project, ICBA collected raw data from the three countries for training the AI model which was developed by the University of Barcelona. The application was field-tested, and 414 smallholder farmers and extension specialists were trained and provided their feedback on the beta version from 2020 to 2022.

Dr. Jose Luis Araus, a professor of plant physiology at the University of Barcelona, said: “The future of more efficient and eco-friendly agriculture lies in technology and innovation. So, we hope to see this application taken up by smallholder farmers and other agricultural users across the region.”

Dr. Henda Mahmoudi, a plant physiologist and project lead at ICBA, said: “Crop disorders and pests pose a major challenge to smallholder farmers in the Middle East and North Africa. Intelligent systems such as this application can play a crucial role in making prompt diagnoses and taking an effective and timely action.”

According to the Food and Agriculture Organization of the United Nations, the annual loss in crop production due to pests and diseases ranges between 20 and 40 percent globally. Each year plant diseases cost the world’s economy around 220 billion USD, and invasive insects around 70 billion USD.

Currently, the application is customized for Egypt, Tunisia, and the UAE. But there are plans to upgrade and roll out the application in other countries in the future.

Provided in three languages - Arabic, English, and French – the application offers recommendations for dealing with each disorder. It is available for download on Google Play and a web-based version can be accessed at: <https://drnabat.biosaline.org>.

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About ICBA

The International Center for Biosaline Agriculture (ICBA) is a unique applied agricultural research center in the world with a focus on marginal areas where an estimated 1.7 billion people live. It identifies, tests, and introduces resource-efficient, climate-smart crops and technologies that are best suited to different regions affected by salinity, water scarcity, and drought. Through its work, ICBA helps to improve food security and livelihoods for some of the poorest rural communities around the world.

www.biosaline.org

About University of Barcelona

Closely linked to Barcelona and Catalonia, the University of Barcelona combines traditional values with innovation, quality, and inclusion.

The university is ranked as the top Spanish university and among the best 200 globally. It has sixteen faculties, ten affiliated centers and a doctoral school through which all its academic programs are run. It also has a Science Park, a Science and Technology Center service, seventeen research institutes, over five hundred research groups and nearly six thousand researchers.

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