

New generation greenhouse to help save up to 90% of irrigation water

The Ministry of Environment and Water (MOEW) of the UAE, Food and Agriculture Organization of the United Nations (FAO), the International Center for Biosaline Agriculture (ICBA), the International Center for Agricultural Research in the Dry Areas (ICARDA) and the research group Watergy at the Technical University of Berlin (TUB) have joined forces to develop a prototype of a new generation of greenhouses (NGGH) at the Agricultural Innovation Center, Al Dhaid, Sharjah, the UAE. The new generation of greenhouses will help to save up to 90% of irrigation water and cut considerably on energy consumption. These benefits will serve to promote key protected agriculture solutions adapted to desert conditions and boost protected agriculture in the UAE and Gulf Cooperation Council countries.

The significant amount of water savings in this type of greenhouse can have additional advantages such as: productivity is five times higher than that in the open; pest, diseases and weed control considerably more effective than in the open; and zero pollution of groundwater compared with the open.

Considering that protected agriculture is a major source of food supply in the Middle East, new principles of evapo-condensation applied in this type of greenhouse will greatly boost productivity and water use efficiency across the region. This technology also offers excellent potential for using unconventional water sources like saline water and treated greywater. Thus, greenhouse production of both vegetable crops and fresh water is becoming a reality. This initiative is hoped to pave the way for much broader cooperation across the Middle East in this field.

The partnership between FAO, ICBA, ICARDA, and TUB will support the MOEW in unlocking the potential of protected agriculture using innovative technology and developing a complete business and environmental case on costs and benefits.

Experts from Oman, Bahrain, Kuwait, Qatar, Saudi Arabia, Jordan, Egypt and the UAE will meet to discuss the progress and feasibility of this new generation of greenhouses. The main international partners involved in this project are FAO, ICBA, ICARDA and TUB. The meeting will take place at the ICBA head office at Academic City in Dubai, the UAE, on 14-15 September 2015.