



THE UNIVERSITY OF ARIZONA

Yuma Center of Excellence  
for Desert Agriculture

## 2018 Annual Report

**“A Sustainable, Systems-Based Approach for a Safer and Healthier Melon Supply Chain in the U.S.”**

### Objectives:

The objectives for the Yuma Center of Excellence for Desert Agriculture (YCEDA) were to grow experimental and commercial melon varieties at the University of Arizona Experiment Station in Yuma, AZ. In addition, to hold a field day which would include the head researchers of the project and producers from the area at the agricultural center. Samples from the varieties provided, including one commercial variety, were to be collected and shipped to Texas A&M for consumer acceptance testing and to the University of Arizona for food safety testing. A second round of sampling was to be done in the fall of 2018 consisting of only commercial varieties of melons and corresponding environmental samples from commercial fields to be delivered to the University of Arizona for food safety testing.

### Crop Management Outcomes:

Martin Porchas was hired as a Research Assistant to oversee melon production and sampling. The six experimental varieties provided by Texas A&M were successfully grown and harvested at the University of Arizona Yuma Experiment Station between March and June 2018. From those melons that were harvested twenty-five of each variety, including twenty-five of a commercial variety, were shipped overnight to Texas A&M for consumer acceptance testing. Production results were documented with photographs and data such as planting, irrigation and harvest dates, daily weather data (humidity, precipitation, temperature, solar radiation, wind speed), and fertilization and crop protection application dates, types, amounts and purpose.

### Food Safety Outcomes:

Twenty-five samples of each experimental and commercial variety were transported to the University of Arizona for food safety testing. An additional three-hundred melons were collected from five commercial farm sites during the fall growing season and were shipped to the University of Arizona for food safety testing. Corresponding environmental samples (air, soil, water and rhizosphere) were also collected and shipped to the University of Arizona for processing and analysis.



This study was supported by United States Department of Agriculture-NIFA-SCRI-2017-51181-26834 through National Center of Excellence for Melon at the Vegetable and Fruit Improvement Center of Texas A&M University.



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### Outreach Outcomes:

For outreach, a field day was conducted on June 19<sup>th</sup>, 2018 at the University of Arizona Yuma Experiment Station. Attendance at the event included lead researchers of the melon project, producers from Arizona and California, as well as seed suppliers. One purpose of the field day was to have the researchers inform the producers about the objectives of the melon project and in return have the producers provide feedback on the project goals and methodology. Producers were also recruited to participate in the project, and everyone got to observe and sample the melons firsthand in the field.

### Impacts:

Growing the varieties sent from Texas A&M at the University of Arizona Yuma Experiment Station allowed assessment of each variety's suitability for production in Arizona and the U.S. southwest desert climate. In addition, a large selection of experimental and commercial varieties were provided for testing, and a more noteworthy impact was engaging the grower community in the research project. This allowed the grower community to provide feedback on the project's objectives as well as a commitment to participate in the project by providing the necessary samples for testing.

### Plan for 2019:

Growing experimental varieties will follow similar protocols from the previous year. Melons will be grown using Arizona commercial methods which will include drip irrigation not only during the germination stage but from planting to harvesting. Experimental and commercial samples will be shipped for testing to Texas A&M and the University of Arizona. Additionally, YCEDA looks to enhance the involvement of the grower community in the project through greater extension and outreach.



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