THE UNIVERSITY OF ARIZONA
Yuma Center of Excellence for Desert Agriculture

"Solutions to Desert Agriculture's Pressing Problems"
Quarterly Update | Spring 2020

Fusarium Wilt of Lettuce Field Trials

Dr. Stephanie Slinski, YCEDA Associate Director of Applied Research and Development, is working with growers and research scientists to lessen the impact of Fusarium wilt of lettuce on the desert Ag industry and advance disease management tools.

Her 2019 field trials integrated improved evaluation methods by adding a disease severity rating, included evaluations of the soil populations of Fusarium oxysporum f.sp. lactucae, the causal agent of Fusarium wilt of lettuce, to corroborate disease severity ratings, and assessed new cultural methods for disease control. At the conclusion of the trials, information was disseminated at a field day and the YCEDA booth at the 2020 Southwest Ag Summit.

The field day field talks, held at the Yuma Ag Center, were recorded and are archived on our website. You can view the field talks on our project webpage using the following link: *https://desertagsolutions.org/project/advancing-disease-management-tools-fusarium-wilt-lettuce*

Thanks to all who supported the field trials and attended the related events.

It was a packed house for the Fusarium wilt of lettuce field day talks.

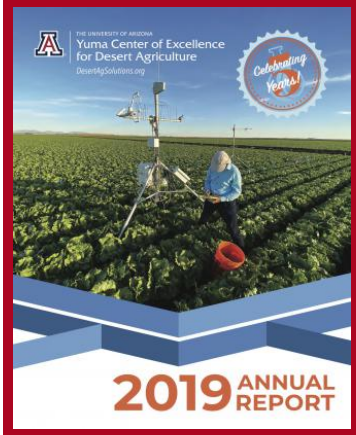
Dr. Slinski discusses symptoms of Fusarium wilt of lettuce at the field day.

Participants of the Fusarium Wilt of Lettuce Field Day look at the variety field trial.

Irrigation & Soil Salinity Management

Year 4 of the irrigation and soil salinity management project is ongoing. Dr. Charles Sanchez and his research team have deployed eight Eddy Covariance (ECV) systems in fields all over Yuma County. Fifteen different crops have been studied, and we will include measurements for lemons and alfalfa in 2020. Satellite imaging is being ground-truthed using the field data. This unique dataset is being used to update crop coefficients and develop an irrigation/soil salinity management tool.

2019 Annual Report



Launched as an innovative public-private partnership just 5 years ago, the Yuma Center of Excellence for Desert Agriculture (YCEDA) has been uniquely impactful. Read our 2019 annual report on our website to find out how! We are excited about the future as we move forward with developing new tools and engaging more scientific researchers to find solutions to the pressing problems and challenges of arid-land crop production.

Planting the Year 3 melon variety trial.

Soil moisture sensors in the field

Dr. Slinski shows Dr. Duke Pauli and his team the impact of Fusarium wilt of lettuce.

More Highlights

- **YCEDA hosted a Yuma Ag Tour for University of Arizona business officers and Systems & Industrial Engineering researchers to help them better understand desert agriculture operations and research opportunities.**
- **Paul Brierley, YCEDA Executive Director, testified on rural broadband needs to the Arizona House of Representatives Technology Committee.**
- **YCEDA participated at the Cats at the Capitol event sharing information on current research projects and priority issues.**

COVID-19

THANK YOU! We know this pandemic environment has been tough and salute your efforts to keep families fed. We continue to work for you during the COVID-19 outbreak. Although we are largely working from home, we have secured university waivers to allow our field research projects to continue.

Stay Informed!

Website: DesertAgSolutions.org **Twitter:** @YCEDA_DesertAg
Facebook: @YCEDA **YouTube:** Yceda

Soil Moisture Sensor Field Evaluation

Various soil moisture sensor technologies were tested in a commercial lettuce field during the Yuma winter produce season. Data collection for the Soil Moisture Sensor Technology Field Evaluation co-sponsored by YCEDA and Western Growers concluded at the end of the growing season. At this time, Dr. Charles Sanchez and Dr. Mazin Saber are analyzing data and compiling a comparison report on the participating sensors. When finished, the report will be distributed to the Arizona and California produce industry and posted on our website, DesertAgSolutions.org.

Table to Farm: A sustainable systems-based approach for a safer and healthier melon supply chain in the U.S.

YCEDA is part of a four year, multi-million dollar project, led by researchers at Texas A&M University, to develop melon varieties that minimize food safety risks yet still appeal to consumers. Our role is to grow test varieties at the Yuma Ag Center to evaluate which cultivars are best suited for Arizona and collect samples of melons along with air, water, and soil samples from commercial fields for lab analysis. Year 3 is currently underway!

YCEDA Drone Program

Our drone team has been assisting Dr. Duke Pauli, University of Arizona School of Plant Sciences, collecting thermal data on Fusarium wilt of lettuce fields. Recently, members of his team traveled to Yuma and conducted two additional drone flights to collect thermal data and standard RGB (color) imagery. We hope this results in significant temperature differences between diseased and healthy lettuce plants to assist with early detection.

Additional projects in development to address near-term research needs for the date and citrus industries, including citrus work which will evaluate the use of UAS technology to help monitor and manage Citrus Brown Rot.

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