May 2017

Kearney Research News

University of California Agriculture and Natural Resources



Research and Extension Center System

UC Kearney Agricultural Research and Extension Center website



Message from the director: Jeff Dahlberg

Talk about the difference a year makes! Last year we were talking about a little better rainfall and snowpack, but we were still concerned about whether or not we'd have enough water to get through the summer. This year the reservoirs are full, the Kings River is so high that they probably won't open it for summer folks to cool off in, and everyone seems to be getting full allocations of water for the first time in many years. On the Center, things were a bit behind because the farm was wet and we could not get equipment into the field for normal prep work. How times have changed.

Everyone is playing a bit of catch up in the fields, gearing up for field work and plantings. Though the "drought" is technically over, I will continue to work on drought tolerance in sorghum. Our field work from last year was extremely informative and I believe we can build really good and robust drought nurseries to study the impact of drought on gene expression. These discoveries will help us understand how plants respond to the lack of water and provide us the field level screening needed for gene discovery and utilization to help all plants better tolerate dry conditions. We will continue to use drones to take high resolution phenotypic data and monitor field moisture conditions, along with a lot of other interesting characteristics in sorghum. Our pathology and nematology people are working hard to get things in the ground for research projects, so things are moving along quite nicely on the Center right now.

We have a new person coming on board in June. His name is Houston Wilson. He is joining the Entomology Department at UC Riverside as a Tree Crop IPM Specialist, stationed here at KARE. He received his Ph.D. in 2014 from UC Berkeley Department of Environmental Science Policy and Management. For the past three years he has been developing an area-wide IPM program and release of parasitoids for control of the Virginia creeper leafhopper in North Coast vineyards and determining the vectors involved in grapevine red blotch-associated virus. We look forward to having him here at KARE. In other personnel news, Dr. Pete Goodell is retiring at the end of June after a fabulous career with UC IPM. Pete will be sorely missed around here, with his broad range of expertise in IPM, especially in row crops. Quoting from Pete, he felt "it was time to hang up the bug net." I know he is looking forward to hiking and camping in the Sierras and I'm hoping he will continue to stick around as an emeritus to pass on his accumulated knowledge to the next IPM person here at the Center. Happy hiking Pete!

We continue to work on getting new equipment and update and upgrade our facilities. We are working to get wifi in our research fields so that we can do real

time monitoring of fields and we continue to work on getting new farm equipment and machinery to replace our older equipment.

Summertime is always a time of growth. If you are inspired, you can help us financially and allow us to expand our research efforts so that we can continue to research sustainable solutions to the variety of problems that face our farmers and our food systems through our "<u>Make a Gift</u>" on-line donation button. If you feel the need to talk, feel free to contact me at <u>jadahlberg@ucanr.edu</u>, through our Facebook page, <u>blog</u>, or at our <u>website</u>.

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The <u>Citrus Research Board</u> and UC Agriculture and Natural resources have partnered to present a sprayer calibration and coverage training for improved California red scale control in citrus. The training will be at Lindcove Research and Extension Center (<u>LREC</u>) Tuesday, June 13, 2017, 7:30 am - 1pm. Four hours of continuing education hours have been requested. <u>Read more</u>.

To register, please contact the Citrus Research Board at 559-738-0246 or <u>register</u> <u>online</u> by June 6th. The cost is \$30 per person, and seats are limited to 80 people.

KARE works with 300 Tulare County fourth graders at 2017 AgVentures Day.

KARE outreach and education leader, Laura Van Der Staay, along with UCD Cooperative Extension Cropping Systems Specialist, Jeff Mitchell, had their hands full with over 300 enthusiastic Tulare County 4th graders as part of the 2017 halfday AgVentures extravaganza that was held at the International Ag Center on May 12. This is the third time the two of them have taken part in this activity that is always a big hit with the kids, teachers and parents. Students learned about soil science and research that is underway at the KARE Center related to soil function and management and also had a chance to see up close and personal how soils can change if they are managed using conservation agriculture practices. <u>Read more</u>



Two drone workshops were held at Kearney April 13th and April 14th 2017.

The goals of these workshops were to provide an overview of unmanned aerial systems (UAS) technology and best practices for data collection, and an insight of drone regulations and data processing to affiliates of the University of California Division of Agriculture and Natural Resources (UC ANR), as well as public and private resource professionals. <u>Read more</u>.







UC ANR Kearney Agricultural Research and Extension Center helps students and teachers explore healthy food choices and learn how food is grown.

In March, Kings County has Farm Day and Fresno County has Farm and Nutrition Day where students and teachers explore healthy food choices, learn how food is grown, interact with farm animals, and build an increased awareness of how agriculture helps our local community and economy. The respective farm bureaus, education departments, and fairgrounds work together to provide a venue for interactive presentations. With the generous donations from The Plant Food People, <u>Greenheart Farms</u>, and awesome volunteers, KARE provided all attendees with short presentations on what it takes to be a healthy plant and what it takes to be a healthy person, followed immediately by workshops where attendees planted leaf lettuce transplants to take home and enjoy. Read more.

National Poison Prevention Week was March 19-25, 2017.

According to the Centers for Disease Control and Prevention (CDC), poisoning is the number one cause of injury-related death in the United States. In 2014, 1073 people in California were poisoned by pesticides. Each year since 1962, National Poison Prevention Week has taken place during the third week of March, to raise awareness about avoiding these tragedies. No one wants their workers or family members to experience illness or death from pesticide exposure, so the UC IPM Pesticide Safety Education Program (PSEP) would like to bring special attention to preventing pesticide poisoning this week. The program also published a new edition of <u>The Safe and Effective Use of Pesticides</u> in 2016, which contains a wealth of pesticide safety and hazard prevention information for people who work with pesticides. <u>Read more</u>.

Drones are used for research and land management; do you want to learn how to use drones?

Jeffery Dahlberg, director of UC ANR Kearney Agricultural Research & Extension Center (KARE), specializing in plant breeding and genetics, is working with drones to collect data for one of his sorghum programs. Work will continue the development of field scale drought nurseries at both KARE and West Side Research & Extension Center (WSREC) under a DOE ARPA-e funded project that utilizes drone technology to phenotype sorghum lines on a weekly basis as they are stressed under pre- and post-flowering drought stress.

If you are interested in learning how to use drones for research and land management, you may want to explore attending the <u>UCANR Informatics and GIS</u> <u>Program's Dronecamp</u> July 25-27, 2017 at UCANR in Davis, Calif. <u>Read more</u>.

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