



Imperial County

Agricultural Briefs



University of California
Agriculture and Natural Resources

Features from your Advisors

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ASSOCIATE VICE PRESIDENT FOR ANR AND VICE PROVOST FOR UCCE VISIT LOCAL RESEARCH FACILITIES

Pratap Devkota, Weed Science Advisor, UCCE Imperial County
Mary J Welch-Bezemek, Nutrition Program Coordinator, UCCE Imperial County
Oli Bachie, Agronomy Advisor, Director UCCE Imperial County

On January 25, 2017, Wendy Powers, the new Associate Vice President of the University of California, Division of Agriculture and Natural Resources (ANR) made her first visit to Imperial County. She was accompanied by Chris Greer, Vice Provost for the University of California Cooperative Extension system.

The day started with a light breakfast and introductions of the University of California Cooperative Extension (UCCE) staff and the University of California Desert Research and Extension (DREC) staff. After introductory presentations from Oli Bachie (UCCE Imperial County Director) and Jairo Diaz (UC DREC Director), Powers spoke to the group. She talked about her journey through college and how she got into the agriculture industry, and her passion for her work. She expressed appreciation for UC staffs' work, and offered support and encouragement to continue to fill the needs of Imperial County. Following breakfast, Powers and Greer were accompanied by some of our staff for a tour of the farm and the immediate area.



Figure 1: At UCCE Imperial County Office (top left & right); David illustrating water filter plant for DREC (bottom left); DREC office (bottom right).

They toured CE and DREC offices, laboratory facilities and the water treatment plant, DREC feedlot research and DREC projects in the field. During this tour, Bachie and Diaz highlighted the various agronomy, pest management, irrigation management, variety trials and biochar research projects being conducted at the Desert Research and Extension Center. Dr. Richard Zinn provided highlights of his research on nutrition, health and

management of feedlot cattle. Powers and Greer also spent some time interacting with the staffs of UCCE and DREC. The tour provided an excellent opportunity to showcase the research and extension activities of both UCCE and DREC. The briefings also highlighted some of the constraints of implementing research and extension programs to the attention of the AVP and the VP for their future consideration.

Following the tour, lunch was served at the granary of the Farm Smart Center at DREC. Together with Imperial County Board of Supervisor member, Ray Castillo, District 5 (to which our office belongs), growers, allied industries and other stakeholders, Powers had the chance to interact with the visitors, staff and invited guests. During lunch, Powers spoke to the crowd about the UC ANR mission and five-year strategic plan for research and extension. She also highlighted the recently signed Memorandum of Understanding between UC ANR and the Mexico Government of Baja California to extend the 4-H Youth Development program into Mexicali and to look

for ways to collaborate on future agricultural developments and issues. Among the special invited guests were Supervisor Castillo, officials from the government of Baja California and Universidad Autonoma de Baja California (UABC), and members of the Imperial Irrigation District, Farm Bureau, Imperial Valley Vegetable Growers Association, USDA, Rubin Seeds, El Toro LLC, Imperial Valley College and local growers.

Along with Bachie, Diaz and new low desert weed science advisor, Pratap Devkota, Powers and Greer started the afternoon by visiting a nearby organic grower's field, surrounding feedlots and a hay press. Organic farmer, Scott Howington gave them a tour of his farm and provided detailed information on organic farming and harvesting issues. He also remarked that the UCCE and local growers work closely together to enhance agricultural productivity in Imperial County. Jeff Plourd of El Toro LLC and president of the Imperial County Farm Bureau, briefed the group about El Toro's feedlot facility, and hay processing and pressing facilities. El Toro LLC presses hay into high density bales for shipment to China, Korea and Japan.



Figure 2: Imperial County Board of Supervisor Ray Castillo (top left); Wendy's update to the guests at the luncheon (bottom left); visit to wetlands restoration project (top & bottom right).

Late in the afternoon, David Bradshaw of the Imperial Irrigation District (IID) provided a snapshot of the Imperial wetlands restoration project; a collaborative effort among Federal, State, and local partners to restore the Salton Sea; problems associated with the Salton Sea, including the playa exposure and its impact on the health of residents of the Imperial and Coachella Valleys. The tour concluded with a visit to a playa where the New River enters into the Salton Sea.

Powers and Greer wrapped up their visit with the Associate Vice President promising to return in the hot summer months of July or August.

**UNIVERSITY OF CALIFORNIA AGRICULTURE & NATURAL RESOURCES AND THE
SECRETARY OF AGRICULTURAL DEVELOPMENT IN BAJA, MEXICO, SIGN MEMORANDUM
OF UNDERSTANDING**

*Shanna M Abatti, 4-H Community Education Specialist, UCCE Imperial County
Oli Bachie, Agronomy Advisor, Director UCCE Imperial County*

On Friday, January 20, 2017 University of California Agriculture and Natural Resources (UCANR) Vice President, Glenda Humiston and secretary of the Mexican government's agricultural development program in Baja California, Manuel Valladolid Seamanduras, finalized and signed a Memorandum of Understanding at the Secretaria de Fomento Agropecuario de Baja California (Secretary of Agriculture Development) in Ejido Sinaloa of the city of Mexicali, Mexico. The document lays out a plan for UC Cooperative Extension, the parent organization of 4-H Youth Development, to share resources and expertise to start a program like 4-H in Mexico.

University of California Cooperative Extension – Imperial County (UCCE-Imperial County) Director, Oli Bachie, UCCE-Imperial County 4-H Community Education Specialist, Shanna Abatti, UC Desert Research and Extension Director, Jairo Diaz-Ramirez, UCANR Diversity in Youth Development Committee member, Carlos Orozco, along with various other UCANR staff representatives joined Humiston in Mexicali. The day provided, not only a formal understanding between the University and Baja, but also a much-needed opportunity to enrich the lives of youth in this community. UCANR will support the efforts in Mexicali to further grow and implement a sustainable 4-H program by working closely with staff. UCANR will provide guidance and invite Mexicali staff to learn from the successful 4-H programs in Imperial County.

The UCANR 4-H Youth Development Program over the last 100 years has provided youth members a supportive learning environment to help them reach their fullest potential as capable, caring and competent individuals. 4-H offers many opportunities for youth between the ages of five and nineteen, including membership in a community 4-H Club, special interest group, school enrichment, summer camp and much more. Through the program areas of STEM (Science, Technology, Engineering, and Math), healthy living and citizenship, 4-H provides hands on projects where youth learn by doing in fun, safe environments. This hands-on learning and positive youth-adult partnerships, help youth develop skills they need to succeed in life. As of January 20, 2017

these same opportunities will now be available to youth in Mexicali through the Secretaria de Fomento Agropecuario de Baja California. This program will be a model for the rest of Baja California to implement.

The new club in the Mexicali community of Sinaloa will have access to two greenhouses that belong to the Secretary of Agricultural Development in Baja, Mexico, where they will grow cucumbers and tomatoes while they learn about soil science, irrigation, nutrition education and other components of agricultural science.

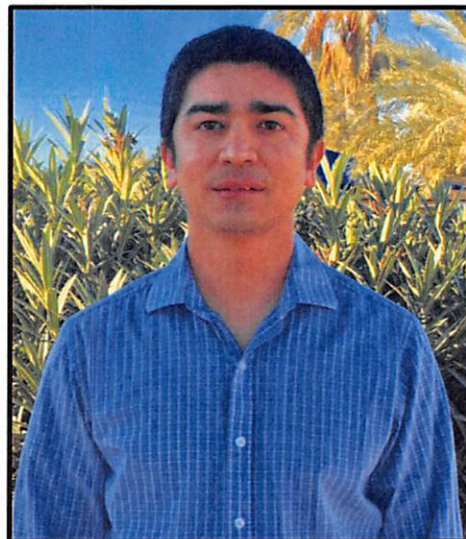
The children will also learn leadership skills by taking up new roles in their communities, running in club elections, speaking in public and reporting on their work. The children's parents will also be encouraged to serve as volunteer leaders, mentors and educators.

The UCCE-Imperial County Office is very excited to help support and guide Mexicali as it continues to build their 4-H program. If you have questions or would like more information on the 4-H program in Mexicali or programs offered in Imperial County, please contact our office at 760-352-9474.

GREETINGS FROM THE NEW WEED SCIENCE ADVISOR FOR IMPERIAL AND RIVERSIDE COUNTIES

Hello Everyone,

I am Pratap Devkota, a newly hired Weed Science Advisor with UC Cooperative Extension serving Imperial and Riverside Counties. I am stationed at the UCCE Imperial County, Holtville, CA and will work closely with growers, pest control advisors (PCA), crop advisors, allied industries, university academic and extension personnel, agricultural organizations, USDA, commodity groups and other stakeholders for addressing the weed management challenges in the Imperial, Coachella, and Palo Verde valleys. I received a PhD degree from Purdue University in Weed Science. During this study period, I focused on the research to optimize spray water quality and maximize herbicide efficacy for controlling problematic weed species. This research project gave me an opportunity to gain knowledge in optimizing herbicide spray solution with consideration to water pH, hardness, temperature, foliar fertilizers, and water conditioning adjuvants for greater weed control. My MS degree is from University of Arkansas and the research project was focused on evaluation of efficacy and economics of herbicides and soil fumigants as alternatives to methyl bromide for weed management in plasticulture tomato and bell pepper production.



During my graduate years, I have also worked with growers and presented research findings at the Certified Crop Advisors (CCA) meetings, growers meetings, and organized field days. I could see the value of research and extension to bring positive outcomes to the farm community. Therefore, I chose a career where I can work closely with crop producers and continue to make positive contributions through research, extension, and education programs.

As a Weed Science Advisor, I will work hand in hand with the growers of this region. I am new to the region; however, I'm looking forward to meeting as many growers, PCAs, CCAs, agricultural industries, and all others personnel interested in weed management for potential discussion and gathering of interests so that I can prioritize my upcoming research and extension work. I will be delighted to get out and meet growers at their

farms, scout weeds, and talk about weed problems and weed management issues. I strongly believe that such communication would provide me an upfront understanding of the issues that are being faced by the growers in this region. This will also give me the opportunity to learn the diverse crops grown in this region and the specific weeds associated in these crop systems. My goal as a Weed Science Advisor will be to develop an applied research, extension, and education program to address the short- and long-term weed management challenges in Imperial and Riverside Counties. My program will focus on implementing the integrated weed management approach for research and extension.

I am looking forward to working with the great people of this region. Please, feel free to contact me at any of the contact information listed below so that I can get the opportunity to visit your farm, discuss on weed issues on a one-to-one basis, and seek answer to some of the questions you may have.

Thank you so much

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SUGARCANE APHID AND SUDANGRASS

Eric T. Natwick, Entomology Advisor, UCCE Imperial County

I have received many calls concerning the sugarcane aphid (SCA) since it first appeared in the Imperial Valley last fall. Most of the calls are concerning planting of sudangrass. My job as the UC ANR Cooperative Extension Advisor specializing in entomology is not to tell growers what to plant or what not to plant, but part of my job is to warn growers and their licensed pest control advisors of new invasive insect pests such as the sugarcane aphid, *Melanaphis sacchari* and of the potential for serious crop damage or loss resulting from new invasive pest species.

Because I take my job very seriously, I first reported on the potential threat to the Imperial Valley sudangrass industry at the September, 2016 Imperial County Farm Bureau meeting after learning that SCA had arrived in Central Arizona and Central California only three years after it first became a pest of sorghum crops in Louisiana and Texas. Sudangrass is a sorghum hybrid so I had to assume that it would be susceptible to the new invasive SCA.

The SCA first arrived in the south eastern U.S. in the mid-1970s but was only a pest on sugarcane, mostly in Florida. It was not a pest on other crops until 2013 when large populations of SCA developed on sorghum plants in northeast Texas and Louisiana. The new aphid pest rapidly spread, infesting grain sorghum, sweet sorghum and forage sorghum crops in south and east Texas, southern Oklahoma, eastern Mississippi, northeastern Mexico, and central, northeast, and southwest Louisiana. The new pest produced such large amounts of honeydew in infested grain sorghum fields that it choked combines, causing a loss of up to 50 percent of grain yield in many of the fields during 2013. The SCA aphid didn't only reduce grain sorghum yields, but also caused serious losses of sorghum grown for forage by stunting plants, thereby reducing yields, clogging harvest equipment and reducing forage quality with the sooty molds growing on the honeydew.

In September I attended the International Congress of Entomology (ICE) in Florida. While at the ICE meeting, I attended several presentations from entomologist colleagues from the southern states infested with the new sorghum loving invasive SCA. I learned from the University and USDA ARS entomologists that only two insecticides were efficacious enough against the new aphid pest to seek 24c special local needs labels, section 18 emergency exemption labels and 2ee federal EPA supplemental labels. The two insecticides efficacious against the new invasive SAC were Sivanto 200SL, now Sivanto Prime and Transform 50W. Sivanto Prime is a

formulation of flupyradifurone under development by Bayer CropSciences for markets in the U.S. and Transform 50W is a formulation of sulfoxaflor under development by Dow AgriScience for markets in the U.S.

In addition to the ICE meeting talks, I attended an insecticide evaluations for SAC control. As the Editor-in-Chief of the Entomological Society of America's journal, *Arthropod Management Tests*, I've read many scientific manuscripts written by University and USDA scientists and all agree that Transform 50W and Sivanto are the two most efficacious insecticides that have been evaluated for SAC management. Under the cereal grains - foliar label, it appears that Sivanto Prime may be used in California for aphid control on sorghum, not including sweet sorghum grown for syrup, but including sudangrass harvested for hay or forage under the crop group 16 when applied at a rate between 7.0 – 14.0 fl oz/acre with a Pre-Harvest Interval (PHI) of 7 days. Flupyradifurone, the active ingredient (a.i.) in Sivanto Prime, cannot be applied more than 0.365 lb (28.0 fl oz of Sivanto Prime) per acre per calendar year on cereal grains, regardless of product or formulation. Although Transform 50W has a Section 18 Label for application to Sorghum in 19 states (AL; AR; AZ; CO; GA; IL; KS; KY; LA; MO; MS; NC; NE; NM; OK; SC; TN; TX; VA) it is not labeled for use in California by CA DPR at the time this newsletter article was written.

I have been asked if any neonicotinoid insecticides can be used on sudangrass for control of aphids. I would need to refer those questions to the Imperial County Agriculture Commissioner to interpret if the use would include sudangrass for any neonicotinoid insecticide labels that may allow a use on sorghum. The neonicotinoid, imidacloprid is the a.i. in GAUCHO 600 Flowable that may be applied as a seed treatment on sorghum, but this may or may not be allowed on sudangrass seed so seek clarification from the Imperial County Agriculture Commissioner and/or CDPR.

The most important question concerning sudangrass and SCA first is crop susceptibility. It appears that sudangrass, being a sorghum hybrid is very susceptible to SCA infestation. Sudangrass was highly infested in Central Arizona last August – October even when ambient air temperatures reach nearly 120F. The SCA has been easily found by myself and others on sudangrass stubble and regrowth since its first detection in Imperial County in November, 2016. Another important question is who will monitor and make decisions when to treat sudangrass, if and when, the 2017 crop becomes infested? Most, if not all sudangrass growers, do not hire a licensed PCA to scout and make recommendations for treatment of sudangrass because of the cost versus benefit. Also, sudangrass is not often treated for insect pests because it again is a matter of cost versus benefit. Sivanto Prime is not an inexpensive insecticide product to purchase and apply and neither is Transform 50W an inexpensive product. Should California sudangrass growers be granted a Section 18 emergency exemption label? The decision to plant

or not plant sudangrass in Imperial County, CA during 2017 is that of the individual growers. My job is to keep you informed of the risks of new pests and to give you the best information available for combatting the insect pests.

Another frequently asked question concerning the SCA is the susceptibility of other crops grown in Imperial County, CA. I've been told by several University and USDA entomologists from SCA-infested states, that we do not need to be concerned about corn crops, including sweetcorn nor should we be concerned about other forage grasses such as bermudagrass or kinegrass. The SCA is only a serious pest of sorghum crops although it will also infest sugarcane and may require insecticide intervention. If you have any questions concerning SCA, feel free to call my office at (760) 352-9474.



Sudangrass from Holtville, CA infested sugarcane aphid, *Melanaphis sacchari*. (photo by E. T. Natwick)

CIMIS REPORT AND UC DROUGHT RESOURCES

*Khaled M. Bali, Irrigation Water Mgmt Specialist, Kearney Ag Research & Extension
Sharon Sparks*, Imperial Irrigation District*

California Irrigation Management Information System (CIMIS) is a statewide network operated by California Department of Water Resources. Estimates of the daily reference evapotranspiration (ET_o) for the period of February 1 to April 30 for three locations in the Imperial County are presented in Table 1. ET of a particular crop can be estimated by multiplying ET_o by crop coefficients. For more information about ET and crop coefficients, contact the UC Imperial County Cooperative Extension Office (352-9474) or the IID, Ag Water Science Unit (339-9082). Please feel free to call us if you need additional weather information, or check the latest weather data on the worldwide web (Google CIMIS for the current link to CIMIS site).

Table 1. Estimates of daily Evapotranspiration (ET_o) in inches per day

| Station | February | | March | | April | |
|----------------------|----------|-------|-------|-------|-------|-------|
| | 1-15 | 16-29 | 1-15 | 15-31 | 1-15 | 16-30 |
| Calipatria | 0.12 | 0.14 | 0.18 | 0.22 | 0.26 | 0.29 |
| El Centro (Seeley) | 0.12 | 0.14 | 0.16 | 0.20 | 0.24 | 0.28 |
| Holtville (Meloland) | 0.12 | 0.14 | 0.17 | 0.21 | 0.25 | 0.28 |

* Ag Water Science Unit, Imperial Irrigation District.

Water and Drought Online Seminar Series

The latest research-based advice on weathering a drought is now available free online. The UC Division of Agriculture and Natural Resources is working to help farmers cope with the unwelcome outcome of historically low rainfall the last three years. UC scientists, with support from the California Department of Water Resources, have recorded video presentations on high-priority drought webpages.

Each presentation is about one half hour in length and is available at the link below:

<http://ciwr.ucanr.edu/>

Then click on the drought resources link.

Save the Date!!!

When: TUESDAY, FEBRUARY 28, 2017

Time: 10:00 am—12:00 pm

**Where: DESERT RESEARCH EDUCATION CENTER
1004 E. Holton Road, Holtville**

Carrot Variety Trial Over 200 Varieties

Event includes Carrot testing and judging

WE WELCOME ANYONE INTERESTED

For more information, please contact.....

**Phil Simon - (608) 262-1248 or
philipp.simon@ars.usda.gov**

**Fernando Miramontes— (760) 356-3060 or
fmiramontes@ucanr.edu**

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University of California, Davis, Agriculture and Natural Resources, One Shields Avenue, Davis, CA 95616, (530) 752-1397.*