



Imperial County

Agricultural Briefs



University of California
Agriculture and Natural Resources

Features from your Advisors

July 2017

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LONG TIME ADVISOR RETIRES AFTER 36 YEARS OF SERVICE

Trish Burich-McNeece, Office Supervisor, UCCE Imperial County

After a long and distinguished career with the University of California Cooperative Extension office in Imperial County, entomologist Eric Natwick has decided to hang up his bug net. Natwick graduated from the University of Wyoming in 1980 and began work with the United States Department of Agriculture (USDA) in their insect lab in Tucson, AZ. On July 1, 1981 he moved to the Imperial Valley where he joined the UCCE-Imperial County office as the entomology advisor.

Since then he has been a critical resource for pest management needs in field crops, alfalfa and vegetables. Besides alfalfa, his main focus has been on cotton, cole crops, lettuce, melons, onions and bell peppers. His most recent work has been working to spot and send out important information to growers and pest control advisers (PCAs) on the potentially devastating sugarcane aphid. Some of his other important projects include whitefly host plant resistance in cotton, insecticidal control of cotton pests and whitefly control in melons, and the tomato yellow leaf curly virus, a disease that threatens both tomato production fields as well as home gardens.

Back in the 1990's, Natwick's work and research on the pink bollworm which was invading the region's cotton fields, was instrumental in changing growers' practices by restricting cotton planting and terminating dates. The pink bollworm is no longer as severe a pest as it once was.

He has also put in an enormous amount of work into combatting the sweetpotato whitefly for which he has been recognized locally, statewide and nationally. He worked on pesticide evaluations for short term control of the pest and tested alfalfa varieties for whitefly resistance. Natwick also helped develop an alfalfa irrigation management strategy to reduce whitefly numbers.

During his time at UCCE-Imperial County, Natwick's expertise in entomology was sought out all over the world. He has given presentations and provided consulting to more than 25 countries, including Australia, Saudi Arabia, Mexico and most recently Spain. In 1994, he received a distinguished service award as outstanding research advisor.

Former county director, Khaled Bali said, "Eric has always been a hard worker and is one of the top one percent of advisors in having achieved the highest step (Step 9) in the UC system six years ago."

Another former colleague, Michael Rethwisch of the University of Nebraska, Lincoln said, “It takes a special person to be a successful low desert cooperative extension entomology advisor. It takes grit, perseverance, self-motivation, leadership and an expert eye for new insect pests and resulting challenges when diseases are involved. Eric, you not only survived, but thrived!”

Current county director, Oli Bachie said, “Because of his great knowledge, Eric has been our “go-to” person for our new advisors when they had questions or needed ideas. I can say that Eric has been a great artist of research in the field of entomology whose position will not easily be filled.”

In addition to his research, Natwick also served two terms on the Holtville City Council and was mayor in 1988-89. He was also Cooperative Extension’s county director for five years. He has also done extensive mission work internationally.

Natwick was recently recognized at a retirement party in his honor. About 70 of his colleagues, friends and employees turned out to say thanks for his years of service. He and his wife, Lisa recently moved to Cedar City, UT where they plan to enjoy their “golden years”.

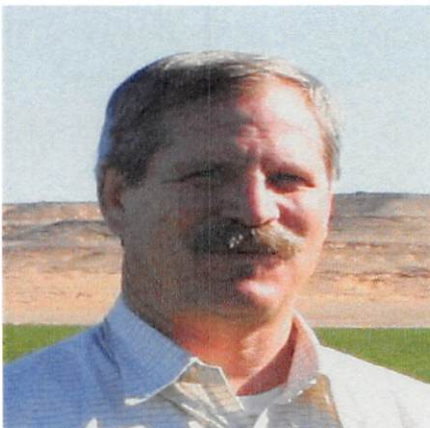


Figure 1 Eric Natwick



Figure 2 Oli Bachie presents plaque on behalf of UCCE



Figure 3 Carlos Ortiz, Ag Commissioner, presents plaque on behalf of the BOS

GREETINGS FROM THE NEW IRRIGATION AND WATER MANAGEMENT ADVISOR FOR IMPERIAL AND RIVERSIDE COUNTIES

Ali Montazar, Irrigation & Water Mgmt Advisor, UCCE Imperial & Riverside County

Hello Everyone,

I am Ali Montazar, a newly hired Irrigation and Water Management Advisor by the University of California Cooperative Extension serving Imperial and Riverside Counties. I grew up on a family farm in a semi-arid region and received all my college degrees in Irrigation and Drainage.

Prior to joining UC Cooperative Extension, I was working as a scientist with the Department of Plant Sciences and the Department of Land, Air and Water Resources (LAWR) at UC Davis for about six years. I was formerly an associate professor at the Department of Irrigation and Drainage Engineering at the University of Tehran, Iran. While I have more than 15 years of research, extension, teaching and technical consulting experience, I have served in several leadership positions in irrigation and water management and have contributed to the progress and completion of several projects in California and abroad.

At UC Davis, I have maintained connections with multiple research and outreach projects with specific areas of irrigation scheduling, crop water use measurements of several field and specialty crops, deficit irrigation strategies, and subsurface drip irrigation system (SDI). I actively participated in the educational activities to provide science-based and practical information including field days, growers' meetings, field tours, online learning and web content systems and extension publications.

I have been working on documenting the experience of California and Arizona alfalfa growers utilizing SDI and had a chance to work closely with growers in California through farm visits, interviews, questionnaire surveys and field studies. I collaborated cooperatively with UC academics, specialists at the California Department of Water Resources and several irrigation and water companies.

I have been very fortunate to be involved with research and training programs in the Imperial Valley since May 2014, continuously working on two field experimental trials at DREC, surveying alfalfa commercial fields and as an invited speaker at field days and workshops. These collaborations provided me an initial understanding of soil and water related issues in the low desert region, while I am hoping to learn more from growers and

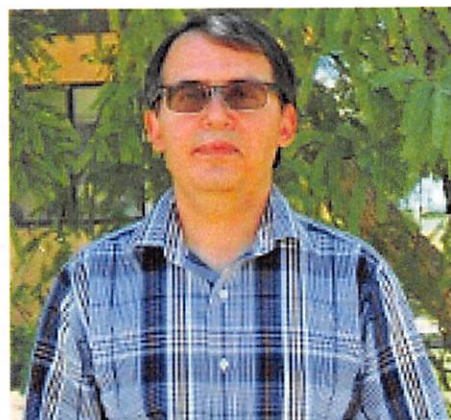
stakeholders about the local issues and how effectively I can provide my services as an irrigation and water management advisor. My priority is to develop educational programs and utilize technology transfer methods to disseminate useful and knowledge-based information on irrigation technology and water management practices to growers and farm managers, irrigation districts and the irrigation industry as well as to assist in establishing an innovative, multi-disciplinary program in the field of expertise in the Imperial, Palo Verde and Coachella Valleys.

To address the core challenges related to limited water supplies and water quality in the region, I will develop my research and training programs on resilient, productive and profitable crop production; addressing the needs of growers and stakeholders to sustain agricultural productivity. I will work cooperatively with growers, farm managers and farm workers, irrigation districts, pest control advisers, commodity groups, conservation/environmental groups, public agencies and agricultural related businesses on innovative water conservation practices and techniques to gain more crop per drop, optimal irrigation-fertilizer strategies to enhance resource use efficiency and irrigation and soil management practices for more effective on-farm salinity control and water quality improvement. My goal is to provide essential leadership and to develop collaborative teams with UC academics, public and private agencies, growers' boards and associations and other interested parties to prioritize issues and implement effective programs to address critical issues related to irrigation and water management in Imperial and Riverside counties.

I am looking forward to working with the great people of the low desert region. Please feel free to contact me any time so that I can get the opportunity to visit your farm, discuss possible soil and water issues with you and seek answers to the questions you may have. I will always be around to help.

Thank you so much for welcoming me to the low desert region.

Ali Montazar
Irrigation and Water Management Advisor
(Serving in Imperial & Riverside Counties)
University of California Cooperative Extension
1050 E. Holton Rd.
Holtville, CA 92250
Office: (442) 265-7700
Cell: (530) 574-4140
Fax: (442) 265-7723
amontazar@ucanr.edu & amontazar@ucdavis.edu
<http://ceimperial.ucanr.edu/>



AMERICAN BLACK NIGHTSHADE

Jose Luis Aguiar, Farm Advisor, UCCE Riverside County

Solanum americanum, American Black Nighshade is native to the Americas and is spreading in the Coachella Valley. I first noticed it in the Mecca Salton Sea area in bell pepper fields several years ago, it has now spread out to the Oasis Salton Sea area bell pepper fields. It is a perennial herb that can serve as a host to Pepper Weevil. American Black Nightshade is in the same family as bell peppers and can be found alongside the pepper plants, it is usually growing taller than the bell pepper plants and easy to spot.

Figure 1. *Solanum americanum*: American Black Nightshade



Figure 2. Flowers of American Black Nightshade



Figure 3. Seed pods of American Black Nightshade



Thanks to Andrew Sanders at the Herbarium for Identification.

WEED CONTROL BY SOIL SOLARIZATION

Pratap Devkota, Weed Science Advisor, UCCE Imperial and Riverside Counties

As we are in the mid-summer, lots of agricultural fields throughout the Imperial Valley are preparing for soil solarization. Soil solarization is one of the methods to control crop pests which is widely adopted by organic growers of the Valley. Soil solarization disinfests a soil with high temperature that builds up under the clear plastic sheet. Moisture is also an important component of soil solarization, so soil-beds are listed and sprinkler-irrigated before covering with the plastic sheet. The beds are covered with plastic sheets and left for about 4-6 weeks for effective pest control. Soil solarization is found to be effective in controlling pests, such as disease-causing soil pathogens, soil nematodes, and weeds. Meanwhile, beneficial soil organisms are also killed with the soil solarization process, which is one of the drawbacks of this method.

In the soil solarization process, soil surface gets more heat and the temperature is higher near the soil's surface. The temperature declines as the soil depth increases. The maximum temperature during soil solarization may range from 108° to 131°F (42° to 55°C) at a depth of 2 inches (5 cm) and from 90° to 99°F (32° to 37°C) at 18 inches (45 cm). However, soil solarization temperatures could be higher for the low desert conditions. Research findings on soil solarization suggest that pest control is greater at soil depth of about 6 inches and less at shallower depths (below 6 inches).



Figure: Beds listed and sprinkler irrigated (top); Soil-beds ready to be covered by plastic sheet Bottom).



Figure: Soil-beds covered with clear plastic sheet for solarization.

Weed control

Soil solarization is found to be effective in controlling annual weeds, but not as effective for perennial weeds. Among annual weeds, it is very effective for weeds with soft seed coat (example, common lambsquarters, pigweeds, horseweed, mustards etc.), but it has poor control of weeds with hard seed coat (example, little mallow, velvetleaf etc). For the perennial weed species such as nutsedge spp., johnsongrass, bermudagrass, and field bindweed, soil solarization controls their seeds but has poor control of perennial structures such as tubers, rhizomes, and stolons if they are buried deep into the soil. Soil solarization is also more effective in controlling weed seeds within the top six inches of soil beds than at greater soil depth.

There are four important steps to consider for effective soil solarization:

- a. Field cultivation and removal of clods and plant debris that might hinder soil solarization.
- b. Listing soil beds
- c. Irrigation of soil beds
- d. Laying out the plastic sheet on the beds.

Clear or transparent plastic sheets are most effective for solarization, because it allows the entry of solar radiations to the soil bed and traps the heat underneath it. Other colored-plastic sheets are less effective because they can deflect the solar radiation and light does not penetrate through as effectively as in the clear plastic sheet. Plastic sheets can be found in various thicknesses and suitable tarp selection is critical. Thin plastic sheets (1 mil) provide greater heating, but are also more susceptible to tearing during lay out or later from wind pressure. Consider slightly thicker plastic sheets (1.5 to 2 mils) for windy conditions (FYI, 1 mil = 0.001 inch or 0.025 mm).

If you would like more information on soil solarization here are some good reference sources for further information's.

1. Soil Solarization for Gardens & Landscapes, UC ANR Statewide IPM Program. Available at: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn74145.html>
2. Elmore et al. 1997. Soil Solarization A Nonpesticidal Method for Controlling Diseases, Nematodes, and Weeds. UC ANR Publication 21377. Available at: http://vric.ucdavis.edu/pdf/soil_solarization.pdf

SUBSURFACE DRIP IRRIGATION IN ALFALFA: ADVANTAGES AND DISADVANTAGES

Ali Montazar, Irrigation & Water Mgmt Advisor, UCCE Imperial County
Khaled M. Bali, Irrigation Water Mgmt Specialist, Kearney Ag Research & Extension

Water management is perhaps the key limiting factor for irrigated alfalfa production worldwide. Alfalfa is the highest agricultural water user in California given its large acreage (over 0.85 million acres) and long growing season. It uses greater than 16% of the agricultural water in the state, which is over 4.5 million acre-feet per year. Alfalfa is also the dominant water user in the low desert region.

One strategy to improve the water-use efficiency in alfalfa production is improvement in water system delivery technologies. Subsurface drip irrigation (SDI) is a well-known, feasible alternative in irrigation technology with superior application efficiencies. This irrigation system has been applied primarily to the production of high value crops of fruits, processing tomatoes and other vegetables, nuts and sugarcane. As system reliability and longevity improved, its application has expanded to agronomic crops like alfalfa. In alfalfa, drip lines with a lifetime of 6 to 12 years are typically buried 10” to 12” below the soil surface on a spacing of 30”-60”, depending upon soil type. The most common spacing is 40” (note that ideal spacing parameters are dictated by soil type and other factors). A pressurized system (pumps), as well as a filtering and filter maintenance system are necessary for SDI.

Where it is most appropriate: Drip irrigation has likely the best fit for farms with a high level of management, regions with a highly limited water supply, sandy soils where subsurface losses are great, and areas with low gopher pest pressure. It has also been used successfully on clay loams and heavier soils. If yield advantages (evidenced by earlier research and grower experience) can be confirmed, it has wider applications on many soil types.

Advantages:

Yield. It is quite likely that yields may improve utilizing SDI vs. flood irrigation in alfalfa. Growers in the long-seasoned environment of Central and Southern California and Arizona have reported increased yields averaging 3 ton/acre over their check-flood fields, at least in the initial years (Montazar et al. 2016 and Putnam 2015).

Better water distribution uniformity over space. Check flood systems have built-in problems with uniformity due to longer periods available for water infiltration at different places in the field. Often, water in flooded fields needs to move more than 1,300 feet, which takes 10-14 hours resulting in different amounts of water available in different sections. One of the key advantages of SDI systems is to apply water more uniformly across a field.

Better water distribution uniformity over time because of more frequent irrigation. SDI has the ability to quickly apply uniform irrigation to an entire field. This is not feasible with most surface irrigation systems. Depending upon flow rates, many surface systems require from 3-12 days for irrigating an 80-100 acre-field. Thus, one side of the field may get water much later than the other side. In a well-designed and properly managed SDI, there is less soil evaporation, more crop transpiration, no runoff and no/less-deep percolation. As a result, there is a high potential to enhance water use efficiency. Since irrigation events are able to be scheduled more frequently (Fig. 1), crop water requirements (ET) and applied water may significantly match over the growing season (Fig. 2).

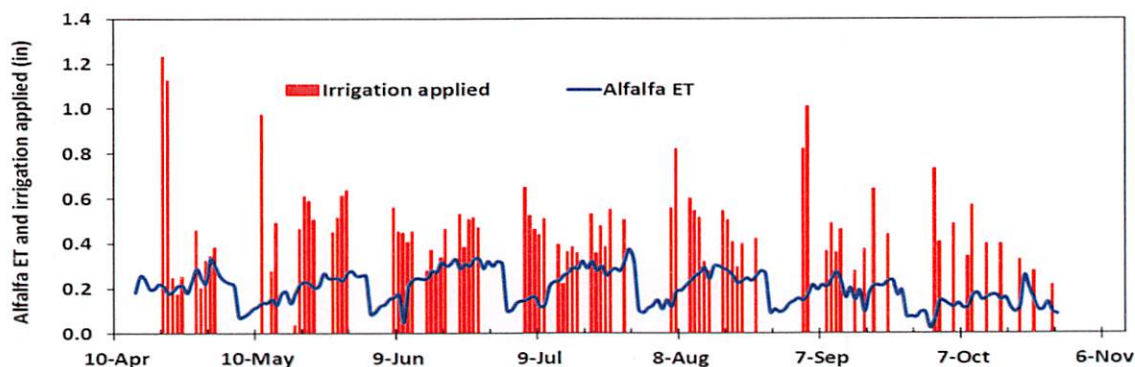


Fig 1. Daily alfalfa ET and irrigation applied over the season

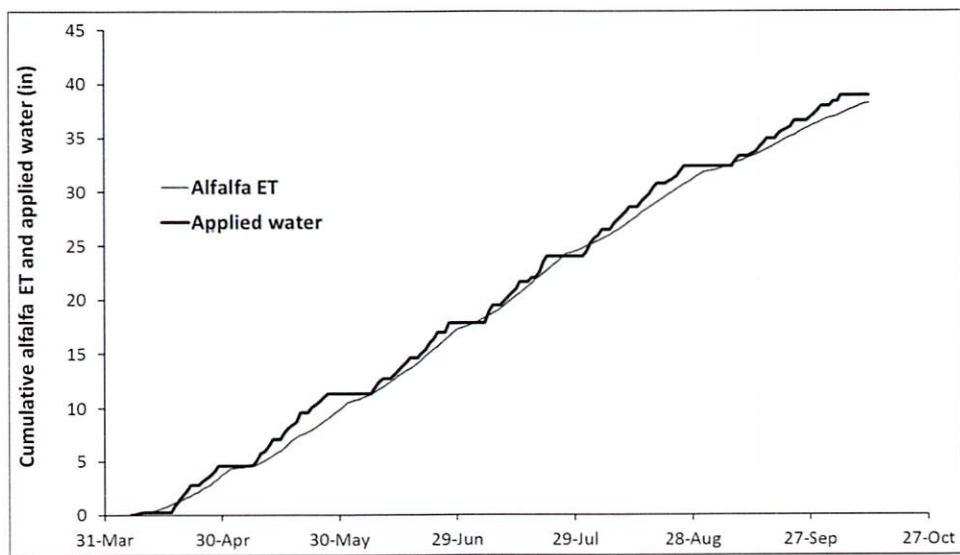


Fig 2. Matching alfalfa ET and applied water through SDI over the season

Disadvantages:

The key limitations of SDI include cost of installation and rodent damage.

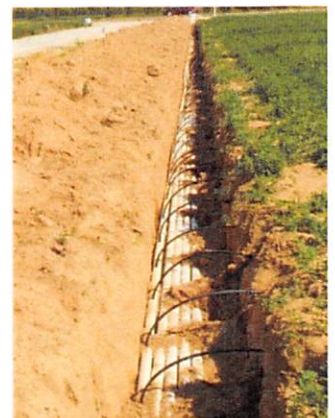
Rodent damage. Rodent damage, particularly the potential for gopher damage, is probably the key practical disadvantage and main barrier of adaptation of SDI (Fig. 3). Some growers have ‘walked away’ from large investments due to rodent infestations. Alfalfa, particularly sprinkler- or SDI-irrigated is an ideal habitat for gophers. High levels of management are required to manage rodents. Gopher fences, setting traps, burrow fumigation, and continual monitoring and removal need to be implemented as effective solutions.



Fig 3. Leaks and drip-tape damages because of rodent issue

Costs. The cost of SDI installations has been a major disadvantage of SDI systems in alfalfa. System installations may cost between \$1,000/acre to 2,600/acre depending upon specifics of the farm. However, these costs can be justified if yields are improved and/or price of the product is sufficient to cover costs. We have estimated the yield required to justify the cost at between 0.5 ton/acre and 1.5 tons/acre depending upon specific costs and the price of hay.

Last word: Desirable water and salinity management practices and design considerations are required to prevent salinity build-up at soil profile above the drip tapes, where salts will accumulate throughout the multiple-growing seasons, specifically in low-desert areas with insufficient annual rainfall.



More information may find in references below:

- Montazar, A., Zaccaria, D. Bali, K., Putnam, D. (2017). An analysis to assess the economic viability of alfalfa production under subsurface drip irrigation in California. *Irrigation and Drainage* 66: 90-102.
- Putnam, D.H. 2015. Opportunity to improve the water use efficiency of irrigated alfalfa. Proceedings, International Alfalfa Congress, 25-27 October, Bengbu, China.

A LESSON FROM THE PROGRESSIVE FARMERS IN BLYTHE, CALIFORNIA

Oli Bachie, Agronomy Advisor, Riverside, San Diego, & Director UCCE Imperial County

Blythe, CA, a cradle of low desert farming, is located near the California-Arizona border in the Palo Verde Valley of the Lower Colorado River Valley region. Blythe was named after Thomas H. Blythe, who established the region's primary water rights to the Colorado River in 1877.

In recent years, growers from Blythe and the surrounding areas organized a "Progressive Farmers Meeting" to facilitate agricultural extension education. The University of California Cooperative Extension (UCCE) Riverside county has teamed up with local farmers to provide highlight agriculture related concerns and discuss farm issues. These comprehensive meetings emphasize the professionalism of today's farms and ranches, and the agricultural produce in that region. Over the course of the monthly meetings, extension educators (UC and Arizona Cooperative Extension specialists, farm advisors, etc.) provide farm education and training, encompassing various disciplines and topics relevant to the current needs of growers. The meetings also allow growers and farm educators to create good relationships which foster a strong and sustainable regional economy. New farm issues, new technology and precision farming issues are brought to the attention of the growers through these meetings. The progressive farmers meetings in Blythe are also held to:

- collect agricultural input on needs, challenges, and find proposed solutions
- introduce new technology
- collect feedback on technologies, and promote farmer-to-farmer education

The preparation, facilitation, selection of subject matter and conducting the meetings in a sound manner is what keeps the monthly meetings attractive, consistent and participatory. UCCE-Riverside county director, Eta Takele, in collaboration with county and cross-county advisors, organizes speakers, schedules an annual meeting a year in advance and lets growers know of the whole meeting schedules. The continuity of the farmers' educational meetings is also helpful to new and beginning farmers of large and small-scale vegetable, field and/or fruit crops and enlightens them on various topics usually selected based on the needs of growers and relevance to current farming situations of the region. As the farmers age, extension education meetings help educate young growers who are going to replace the experienced growers and carry on sustainability of food production. All trainings and / or meeting presentations are at no cost to the growers. Additionally, PCA's and CCA's can accumulate continuous education units to renew their DPR applicators license.

The forum also keeps growers organized and facilitates a farmer to farmer training and exchange of information. We note that the Farm Bureau (FB) itself grew out of extension education needs and movements that occurred at land grant colleges across the nation (established under the Morrill Act of 1862). The FB served as the organizational network to further extend education efforts.

Growers of other regions may learn from the experiences of progressive farmers of Blythe and the benefits they obtain through extension education meetings. Growers could adopt similar educational forums and participate in discussions which include farming, farm updates, new farming technologies and research findings.

Here in the Imperial Valley, we host the annual Fall Desert Crops Workshop and twice a year we have field days. If the growers of the Imperial Valley are interested in a monthly or quarterly extension education as well, we would be very happy to organize monthly or quarterly short (one hour) meetings. If interested, please e-mail or contact UCCE Imperial County and register your name (s). with Andrea Estrada at aiestrada@ucanr.edu, Jennifer Garcia at jlgarcia@ucanr.edu or Nannette Kniffin at dnkniffin@ucanr.edu. You can also call us at (442)265-7700.

University of California
Agriculture and Natural Resources

POSITION VACANCY ANNOUNCEMENT

**University of California Cooperative Extension
Division of Agriculture and Natural Resources**

**Area Cooperative Extension Advisor - Desert Livestock
Serving Imperial, Riverside and San Bernardino Counties**
AP#17-09

Location Headquarters: Holtville, Imperial County, California

SUBMISSION DATE: To ensure full consideration, submit materials by **July 14, 2017**. Those received after July 14, 2017 may be considered if the position has not yet been filled. (open until filled)

POSITION PURPOSE: The Area Cooperative Extension (CE) advisor for desert livestock will conduct a locally-based extension, education and applied research program that will focus on desert livestock production and marketing, food safety, manure composting, and water quality. Other important issues include soil quality, wildlife habitat, forage production and other ecosystem services. With large feedlots in the Imperial Valley, the CE advisor has the ability to collaborate with other researchers to address the risk of movement of potential pathogens such



as *Listeria spp.* and *E. coli* from livestock to the vegetable crop industry. Key clientele will include ranch owners and managers, natural resource managers and professionals, food safety representatives and public agencies. The CE advisor will also work with the livestock industry in Riverside and San Bernardino Counties.

The CE advisor will facilitate interactions and information exchange among campus based academics, CE advisors and community stakeholders. The CE advisor is responsible for the development and implementation of Cooperative Extension education and applied research programs addressing important issues at the interface of desert livestock production systems, natural resources management, and watershed health. The CE advisor needs to have a thorough and practical understanding of desert livestock production, and the constraints in arid ecosystems in order to develop an effective program. CE advisors provide credible and practical solutions to ranch owners and managers, natural resource professionals, and water resources regulators, who face complex management issues relating to desert livestock production, and watershed health.

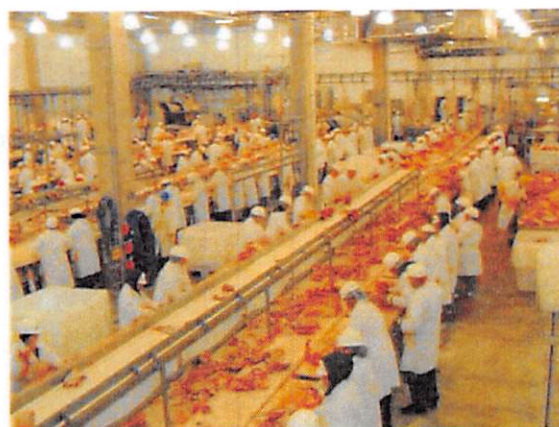
BACKGROUND: University of California, Division of Agriculture and Natural Resources (UC ANR), is the statewide division of the University of California that administers Cooperative Extension, which is responsible for local program development and delivery

throughout the state of California. University of California Cooperative Extension (UCCE) is a network of colleagues with a focus on research, education programs, and outreach to resolve local challenges in communities where they live and work. UC ANR is the bridge between local issues and the power of UC Research. UC ANR's CE advisors, CE specialists and Agricultural Experiment Station (AES) faculty develop and deliver practical, science-based solutions that contribute to healthy food systems, healthy environments, healthy communities, and healthy Californians. Learn more about existing UCCE programs in these vibrant communities, visit <http://ceimperial.ucanr.edu/>, <http://ceriverside.ucanr.edu/> and <http://cesanbernardino.ucanr.edu/>.

Our priorities in research, education, service, and resource allocation are guided by the UC Strategic Vision [http://ucanr.edu/About ANR/Strategic Vision/](http://ucanr.edu/About%20ANR/Strategic%20Vision/). There are 5 strategic initiatives that ANR is currently focusing on: Endemic and Invasive Pests and Diseases (EIPD), Healthy Families and Communities (HFC), Sustainable Food Systems (SFS), Sustainable Natural Ecosystem (SNE), and Water Quality, Quantity and Security (WQQS). This position will primarily address priorities found in the Strategic Plans for the Sustainable Food Systems, Water Quality, Quantity and Security and Sustainable Natural Ecosystems Strategic Initiatives. The Strategic Plans for each strategic initiative can be found at <http://ucanr.edu/sites/StrategicInitiatives/>.

ACADEMIC EXPECTATIONS: All UC ANR CE advisors are responsible for performance in the areas of 1) applied research and creative activity, 2) extension of knowledge and information, 3) professional competence and activity and 4) University and public service.

Research: All UC ANR CE advisors develop and implement applied research programs to provide science-based information addressing complex issues. The CE advisor will provide essential leadership to address critical issues facing desert livestock in Imperial, Riverside and San Bernardino Counties. The focus of the applied research program will be based on a needs assessment and may include partnerships with a variety of campus and county-based colleagues. The CE advisor will develop and conduct applied research and demonstration projects that evaluate desert livestock production, food safety, water quality, soil quality and ecosystem health. Opportunities exist to perform livestock and feedlot research studies at UC ANR Desert Research and Extension Center (DREC). DREC is a national and international leader in feedlot cattle research, with one of the largest research facilities, including a 700-head feedlot, more than 100 pens, a metabolism barn and a feed mill.



DREC also has outstanding research support personnel and about 255 acres of research fields for desert forage, soil, water, and livestock research. Key species for research include cattle, sheep and goats. Publication outlets may include agriculture journals and natural resource journals (such as *Rangeland Ecology and Management* and *California Agriculture*). Research will be synthesized and popularized in ANR publications, trade and professional publications, conference proceedings, workshops, newsletters and other outlets.

Extension of knowledge: County and community partners rely on UC ANR CE advisors as a critical resource for providing research-based information across a variety of disciplines. CE advisors disseminate appropriate, science-based information to inform clientele, using extension methods that are responsive to clientele needs and appropriate for the audience and situation. Science-based research results and other educational information will be disseminated using a variety of methods including individual consultations, presentations at producer and industry meetings, workshops, short courses, field demonstrations, UC ANR publications, newsletters, technical reports to commodity boards/funding agencies, peer-reviewed journal articles, and an appropriate mix of contemporary and emerging electronic tools (such as online learning, web content systems and repositories, social media, impact and evaluation tools), along with specialized and public media outlets. Programs will be developed and carried out in collaboration with other UC ANR academics and appropriate statewide efforts including UC ANR Program Teams and Workgroups, as well as related government and private industries. The CE advisor will develop linkages with clientele groups, researchers, policy makers, agency professionals and organizations, FSMA,

and waste management organizations in the region. Collaborations with these groups will identify barriers to reaching livestock and land management goals.

Professional Competence: All UC ANR CE advisors are required to demonstrate professional competence in their programmatic areas. Professional competence includes participation in training activities to enhance professional development, such as administrative trainings, professional conferences, or workshops. Professional competence also includes activities that reflect professional standing within the programmatic area, such as presenting at



conferences or workshops, holding offices in professional societies, invited presentations, or reviewing/editing publications.

University and Public Service: All UC ANR CE advisors are required to actively serve the University, as well as the public. University service may occur at the local, division, state, national, or international level. Examples of potential University service activities include serving on a university workgroup or committee, providing leadership in program teams, or advocacy efforts. Public service should involve activities and events in which the CE advisor uses their professional expertise to benefit groups or efforts outside the University. Examples may include serving on external boards or councils, participating in community events, and leadership of non-University collaborative groups.

MAJOR RESPONSIBILITIES:

- Develop and implement effective UC ANR Cooperative Extension applied research and educational programs to address the identified priority needs of the clientele that are consistent with ANR's Strategic Vision and ANR initiatives <http://ucanr.edu/sites/StrategicInitiatives/>
- Conduct and report regular needs assessments to identify priority issues or problems relevant to the local clientele groups being served.
- Conduct applied research designed to solve locally relevant problems and monitor change.
- Disseminate useful, science-based information to inform clientele, using extension methods that are responsive to clientele needs and appropriate for the audience and situation.
- Maintain and promote UC ANR CE's credibility and visibility by participating in professional organizations and collaborating with government agencies, commodity groups, allied industry groups, policy makers and other organizations by providing independent science-based information and leadership.
- Evaluate programs and report accomplishments, results, and potential or actual impacts to scientific and lay audiences through a variety of outreach methods.
- Develop collaborative teams with other UC ANR academics, including CE specialists, AES faculty, CE advisors and/or others, to address priority issues for UC ANR.

RELATIONSHIPS: The CE advisor is administratively responsible to the Director of UCCE, Imperial County with input from the Directors of UCCE in Riverside and San Bernardino Counties.

AFFIRMATIVE ACTION: An understanding of and commitment to UC ANR's affirmative action goals and commitments is expected of all CE advisors.

EDUCATION AND EXPERIENCE: A minimum of a master's degree is required in disciplines such as animal science, rangeland management or other closely related fields. Work experience in livestock management, nutrition and research is preferred. Extension experience is desired. Excellent written, oral and interpersonal communication skills are required.

SALARY: Beginning salary will be in the Cooperative Extension Assistant Advisor Rank and commensurate with applicable experience and professional qualifications. For information regarding Cooperative Extension Advisor salary scales, please refer to the University of California website: <http://ucanr.edu/sites/anrstaff/files/250093.pdf>

If the successful candidate is currently a UCCE Advisor with indefinite status, the candidate will be offered the position commensurate with applicable experience and professional qualifications with eligibility to retain such indefinite status.

BENEFITS: The University of California offers comprehensive benefits including two days per month paid vacation, one day per month paid sick leave, and approximately thirteen paid holidays per year. This position is eligible for sabbatical leave privileges as per the terms of University policy. For more information, refer to the UC Benefits website at: <http://ucnet.universityofcalifornia.edu/>



HOW TO APPLY: To be considered, applicants must electronically submit the following four components of the Application Packet to ANRacademicsearch@ucanr.edu:

1. Cover Letter
2. ANR Academic Application Form— from the ANR website at: <http://ucanr.edu/academicapplication>
Please include a list of potential references. If you are selected for an interview, the search committee will contact the references you listed on the UC ANR application form (a minimum of four (4) and a maximum of six (6) names, current addresses, phone numbers and email addresses). Please do not send letters of reference.
3. CV or Resume
4. College Level Transcripts: Electronic transcripts or legible scanned copies (PDF) of original transcripts will be accepted. Transcripts must identify course work completed, grades earned, degrees conferred and confer dates.

Application and associated materials will not be returned to the applicant.

A search committee will review all applications, interview candidates, and recommend individuals most suitable for the position.

For information regarding this position, please contact

University of California

ANR Academic HR

LeChe McGill

(530) 750-1281

E-mail Address: ANRacademicsearch@ucanr.edu

Internet: <http://www.ucanr.edu/jobs>

PLEASE REFER TO POSITION NUMBER AP #17-09 IN ALL CORRESPONDENCE

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status or other protected categories covered by the UC nondiscrimination policy.

As of January 1, 2014, ANR is a smoke- and tobacco-free environment in which smoking, the use of smokeless tobacco products, and the use of unregulated nicotine products (e-cigarettes), is strictly prohibited.

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 August 1 to October 31 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 (442-265-7700) 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	July		August		September	
	1-15	16-31	1-15	16-31	1-15	16-30
Calipatria	0.39	0.38	0.35	0.32	0.30	0.27
El Centro (Seeley)	0.38	0.37	0.32	0.29	0.29	0.26
Holtville (Meloland)	0.39	0.38	0.34	0.31	0.30	0.27

* 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. 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.

Register to participate today!

2017 California Nursery Conference

Thursday, July 27

8 AM-4:10 PM

Courtyard by Marriott Irvine Spectrum
7955 Irvine Center Dr., Irvine, CA 92618

15 Trade Show Exhibitors Confirmed!

Who should attend: Nursery and greenhouse growers and others interested in the latest information on growing practices and management methods to improve production efficiency and compliance with the environment regulations.

- [Register now](#) and pay \$125 fee before July 10 and save \$25!
On July 10, fee increases to \$150.
- [Reserve your lodging now](#) at the [Courtyard by Marriott Irvine Spectrum](#).
- [Review Continuing Education](#): Credits have been applied for from CCA, CDPR, ISA, CCNPro, Ventura County AILG, LA-ILG, and San Diego RWQCB. Info will be posted online as we receive hours.

Conference sessions:

- Analyzing Production Systems and Marketing Environmental Features of Landscape Plants
- Marketing Environmental Features and Decision Management
- Irrigation and Nutrient Management
- Managing and Using Recycled Water
- Treating Captured Runoff for Reuse and Economics of Recycling Water

Register Today for the California Nursery Conference, July 27, Irvine, CA

Questions?

Logistics: Email anrprogramsupport@ucanr.edu or call Danielle Palermini, (530) 750-1328 or Sherry Cooper, (530) 750-1256.

Program: [Loren Oki](#) or [Darren Haver](#)

Exhibitors: [Heather Palmer](#), (949) 429-9944

Sponsored by:

- California Association of Nurseries and Garden Centers
- Nursery Growers Association
- SoCal CAPCA
- UC ANR: Cooperative Extension, SCREC, UC IPM
- UC Nursery and Floriculture Alliance
- USDA SCRI Clean Water3

University of California
Agriculture and Natural Resources



Salton Sea Management Program Status

You're
Invited

Work continues on the 10-Year Plan of the Salton Sea Management Program led by the California Natural Resources Agency in partnership with the California Department of Water Resources, Salton Sea Authority, California Department of Fish and Wildlife, Imperial Irrigation District, and many other federal, state, and local stakeholders. Projects included in the 10-Year Plan, such as the water management infrastructure, habitat, and dust suppression components, will help address dust emissions and rising salinity that pose a threat to human health, fish and bird habitat and our local economies.

Please join us at one of our upcoming workshops to learn about the 10-Year Plan and what it means for you and your community.

Salton Sea Community Workshops

- | | | | |
|---|---|---|--|
| 1 Boys & Girls Club
91391 66th Ave, Mecca
June 13, 5:30-7:30PM | 2 West Shores Senior Citizens
Club in Salton City
1375 S. Marina Drive, Thermal
June 15, 5:30-7:30PM | 3 Del Rio Community Center
1501 I St., Brawley
June 22, 5:30-7:30PM | 4 Ski Inn in Bombay Beach
9596 Ave. A, Niland
June 28, 2:00-4:00PM |
| 5 IID District Office
1285 Broadway St., El Centro
June 29, 5:30-7:30PM | 6 Indio Performing Arts Center
4517 Fargo St. Indio
July 6, 5:30-7:30PM | 7 Rancho Mirage Public Library
71100 CA-111, Rancho Mirage
July 12, 5:30-7:30PM | |

Locations and times are subject to change. Check the Salton Sea Management Program web page for details: resources.ca.gov/salton-sea

For more information and to request special assistance or interpretation services at one of these workshops, please contact Josh Zipperman at Josh@BurkeRix.com or phone at (760) 327-9708 x24.

COACHELLA VALLEY FARMERS EDUCATIONAL MEETING SCHEDULE

Jose Luis Aguiar, Farm Advisor, UCCE Riverside County

August 16, 2017:

Grape Production/Disease Update: Carmen Gispert, Farm Advisor, UCCE Riverside County cgispert@ucanr.edu

September 13, 2017:

Pitahaya Mini Festival: Ramiro Lobo, Farm Advisor, UCCE San Diego County rlobo@ucdavis.edu

October 11, 2017:

Laws and Regulations Update: Ruben Arroyo, Riverside County Agricultural Commissioner agdept@co.riverside.ca.us

February 14, 2018:

Update on Pink Hibiscus Mealybug: Tom Perring, Professor of Entomology: UCR thomas.perring@ucr.edu

March 14, 2018

Invasive Species: Cheryl Wilen, Area Integrated Pest Management Advisor, cawilen@ucanr.edu

April 11, 2018:

Invasive weed control: Travis Bean, Assistant Weed Science Specialist, Cooperative Extension UCR travis.bean@ucr.edu

WHERE ARE THE MEETINGS HELD?

All Meetings will be held at: Coachella Valley Mosquito and Vector Control District
43-420 Trader Place, Indio, CA 92201

WHEN?

Noon to 1:00 pm

We will provide lunch and some meetings are DPR approved for Continuing Education Credit! Call 760-342-6437 to Register for Meetings, if you do not pre-register, we cannot guarantee lunch. Anyone needing assistance to attend can also call that number.

Thanks to the following Sponsors:

Riverside County Agricultural Commissioners' Office

Coachella Valley Mosquito and Vector Control

Coachella Valley Water District

University of California Cooperative Extension, Riverside County

*The University of California prohibits discrimination or harassment of any person in any of its programs or activities.
(Complete nondiscrimination policy statement can be found at <http://ucanr.org/sites/anrstaff/files/107734.doc>)*

*Inquiries regarding the University's equal employment opportunity policies may be directed to John Sims, Affirmative Action Contact,
University of California, Davis, Agriculture and Natural Resources, One Shields Avenue, Davis, CA 95616, (530) 752-1397.*