



Features from your Advisors

March 2022 (Volume 25 Issue 3)

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Vegetable Crops and IPM Workshop (Webinar)

UCCE Imperial County – March 10th, 2022

Workshop registration link:

<https://surveys.ucanr.edu/survey.cfm?surveynumber=36660>

9:00 a.m. - 12:15 p.m.

- 9:00** Welcome - *Oli Bachie, UCCE Imperial County Director*
- 9:05** Research and Extension Program - New Vegetable Crops Advisor - *Philip Waisen, Vegetable Crops Advisor, UCCE Riverside County (Indio office)*
- 9:15** Updates to Produce Safety Rule proposed revisions to Subpart E – Agricultural Water - *Linda Harris, Professor of Cooperative Extension in Microbial Food Safety, UC Davis*
- 9:30** New information developed on water-nitrogen best management practices in desert carrots - *Ali Montazar, Irrigation and Water Management Advisor, UCCE Imperial County*
- 9:45** Downy mildew in vegetable crops - *Alex Putman, Assistant Cooperative Extension Specialist, UC Riverside*
- 10:00** Fertilizer Research and Education Program (FREP): resources and opportunities for vegetable production - *Emad Jahanzad, CDFA Senior Environmental Scientist*
- 10:15** Irrigation and Nutrient Management of Drip Irrigated Onions in Imperial County- *Jairo Diaz, UC Desert Research and Extension Center*

Break (15 minutes)

- 10:45** An update on current effort to mitigate risk of INSV incidence in desert lettuce - *Apurba Barman, IPM Advisor, UCCE Imperial County*
- 11:00** Herbicide evaluations and streamlining the use of Dual Magnum in carrots - *Jaspreet Sidhu, Vegetable Crops Advisor, UCCE Kern County*
- 11:15** Low desert dehydrator onion yield responses to biostimulants - *Michael Rethwisch, UCCE Riverside Crop Production and Entomology Advisor, Blythe (Palo Verde Valley Office)*
- 11:30** Economic Trends of Vegetable Crops Production and Sustainability in the desert - *Etaferahu Takele, Area Farm Management/Agricultural Economist in Southern California*
- 11:45** An overview of the CA climate smart agriculture programs and other resources available to farmers- *Tessa Salzman, California Climate and Agriculture Network (CalCAN)*
- 12:00** Industry updates: (1) Update on Corteva Agriscience™ portfolio for vegetable production in low desert (Junior Evans), (2) Update on Syngenta Crop Protection portfolio for vegetable production in low desert (Randy Landwerlen) and (3) Update on NovaSource product portfolio for vegetable production (Walter Albeldano)

For additional information on the workshop, please contact Ali Montazar, amontazar@ucanr.edu, or Apurba Barman, akbarman@ucanr.edu, or call us at (442) 265-7700.

Approved Continuing Education Units:

CALIFORNIA DPR (Course ID #M-0506-22 - 1.5 hrs), Arizona Dept. of Agriculture (Course ID #21824 - 1.5 hrs.), CCA (Tracking No. #CA 59079 - 2.5 hrs.) & CDFA FREP (Course ID #693 - 1.5 hrs.)

*** Test will be given intermittently for people registering for CA DPR CEU ***

FEBRUARY 2022 CATTLECAL NEWSLETTER UPDATE

Brooke Latack, Livestock Advisor – Imperial, Riverside, and San Bernardino Counties

The February 2022 edition of the CattleCal newsletter covered information on diets for cattle moving from pasture to the feedlot, the career and research of Cal Poly beef cattle specialist Zach McFarlane, and a discussion of a study looking at the effect of level and source of fat supplementation on feedlot steer performance and carcass characteristics. The newsletter also summarizes animal performance of cattle finished on the research study of 2021 and information about the new studies being conducted in 2022.

If you would like to subscribe to the CattleCal newsletter, please visit this site and enter your email address: http://ceimperial.ucanr.edu/news_359/CattleCal_483/

November CattleCal podcast episodes:

- Quiz Zinn

In this episode, we asked Dr. Richard Zinn a question from our listeners related to the diet of cattle moving from pasture to the feedlot.

- Career Call

Brooke Latack and Pedro Carvalho called Dr. Zach McFarlane. Dr. McFarlane is an Assistant Professor, Beef Cattle Production Specialist at Cal Poly. In the current episode, Dr. McFarlane talked about his background in the beef industry and things that he did in graduate school to help him to be where he is today.

- Research Call

Brooke Latack and Pedro Carvalho speak to Dr. Zach McFarlane again to discuss his work with the Cal Poly Bull Test and his research related to the bull test.

- Feedlot Research Call

- In this episode, join Pedro Carvalho and Brooke Latack as they discuss research looking at the effect of level and source of fat supplementation on finishing diet feeding value and feedlot cattle performance.

The podcast can be found at

<https://open.spotify.com/show/6PR02gPnmTSHEgsv09ghjY?si=9uxSj3dYQueTEOr3ExTyjw> or by searching “CattleCal podcast” in Spotify. It is free to listen!

If you have burning questions about cattle management and would like your questions featured on our Quiz Zinn episodes, please send questions to cattlecalucd@gmail.com or DM your question to our Instagram account @cattlecal.

If you have any questions or comments or would like to subscribe to the newsletter, please contact:

Brooke Latack (UCCE Livestock advisor) – belatack@ucanr.edu

Pedro Carvalho (CE Feedlot Management Specialist) - pcarvalho@ucdavis.edu

CattleCal: cattlecalucd@gmail.com

BIOLOGICAL CONTROL OF COWPEA APHIDS AND BLUE ALFALFA APHIDS IN LOW DESERT ALFALFA

Michael D. Rethwisch, Crop Production and Entomology Farm Advisor, UCCE-Riverside County

Cowpea aphids (*Aphis craccivora*) have been active much later than usual and causing substantial damage to alfalfa in the Palo Verde Valley during the winter of 2022. With the recent warm temperatures and the proliferation of parasitic wasps that attack the cowpea aphid, it appears that damage by this insect is ending.

Two species of parasitic wasps in the family Braconidae commonly attack cowpea aphids in California – *Lysiphlebus testaceipes* and *Diaeretiella rapae* (Fig.1). Both of these small wasps attack a wide range of aphids, such as cotton/melon aphid and many other aphid species on other crops. The wide range of aphid hosts allows these wasps to have available aphid hosts all year long in the low desert.



Fig. 1. *Lysiphlebus testaceipes* and *Diaeretiella rapae*, two wasp species providing biological control of cowpea aphid (Images – University of California Agriculture and Natural Resources)

Some fields are also now heavily infested with blue alfalfa aphids (*Acyrthosiphon kondoi*), and there may be expectations that blue alfalfa aphids will also be controlled by the parasitic wasps attacking the cowpea aphids. These expectations will not be realized however, as the wasps attacking cowpea aphids are not known to attack blue alfalfa aphids.

The primary parasitoid of blue alfalfa aphid is the wasp *Aphidius ervi*. In other areas of the U.S. *Praon pequodorum* is not uncommon. A laboratory experiment also found that very small wasp *Aphelinus semiflavus* (which in alfalfa is primarily a parasitoid of spotted alfalfa aphids) can also parasitize and complete development in blue alfalfa aphids. However, this latter wasp species has not been found doing so alfalfa fields, perhaps due to the small size of the aphid mummies and/or their dark color which makes them difficult to find.

It is rare to find a parasitized blue alfalfa aphid in the low desert. While *Aphidius ervi* also readily attack pea aphids (*Acyrthosiphon pisum*), there are not readily available other host aphid species available during the summer/early fall for *A. ervi* to be present all year long, thus resulting in an annual die-off of the species due to lack of host.

Reintroduction of *Aphidius ervi* in the low desert typically has occurred when parasitized aphids fly into the area before being killed by the internal wasp larvae, and has not been a reliable means of re-population.

Wasp genetics and reproduction can also hinder establishment of *Aphidius ervi*. Unlike most animals that require two sets (diploid) of DNA for reproduction, wasps are haploid/diploid. Eggs that are unfertilized (haploid) will be male wasps, and those that are fertilized (diploid, two sets of chromosomes) will be female. This can also affect population establishment when very low numbers of wasps are present.

One new aspect regarding *Aphidius ervi* is that this wasp species is now commercially available for purchase and release. There are a number of companies that have this wasp species available, with a wide range of prices as well.

Success with parasitic wasps for biological control is usually tied to the ratio of aphids:wasps. Blue alfalfa aphids have been shown to be able to continue to reproduce for about 6 days after being parasitized, however, the overall reproduction is greatly reduced.

CURRENT LOW DESERT INSECT AND DISEASE UPDATE

Apurba Barman, Area Low Desert IPM Advisor, UCCE Imperial County

Sugarbeets in the Imperial Valley seem to be clean in most part except some leafhoppers. There has not been any indication from my scouting and reports from several PCAs regarding worm activities. Beet armyworms or cutworms may show up between now and harvest. It is important to continue monitoring for feeding activity of these caterpillar pests and take necessary actions.

Alfalfa is currently experiencing feeding damage from alfalfa weevil. Populations of different aphids are causing damage, especially in newly planted fields. The good news is that there are plenty of beneficial insects that are feeding on these pests and selection of pesticides is critical not to disrupt the natural pest suppression in alfalfa crops. Please refer to the last month's Ag Brief issue to learn about the effective chemistries on alfalfa weevil in low desert.

Overall, lettuce in the region is doing well. There have not been any major incidences of insect or diseases pressure observed/reported, and symptomatic Impatiens Spotted Wilt Virus (INSV) infected lettuce plants were not found. While some fields may have a few random plants with virus infection, it is a matter of finding those odd ones.

If your lettuce fields are still couple of weeks to harvest, please check your fields for any unusual plants, especially browning or dead leaf tissues. A recent field visit for some plants exhibiting similar symptoms to INSV noted that it was not virus infection, but rather some kind of nutrient/irrigation/chemical burn issue. This was confirmed by a negative test via INSV ImmunoStrip test.

One observation on INSV infections is that random plants in a bed are affected, whereas any other issues related to nutrient and chemical burn results in plant symptoms in patches (See Figures 1 and 2 for comparison). We may have some INSV infected plants in the Imperial Valley, based on recent conversations with Dr. John Palumbo and other specialists about the current situation in Yuma Valley. They have collected adult and immature thrips from transplant trays and were able to detect presence of INSV on some of the collected insects. They also followed a few fields with transplanted lettuce fields and found evidence of INSV infection

on plants. While INSV infection was initially restricted to some of the transplanted fields, later in the season INSV infection showed up in direct seeded fields.

These observations suggest that we must pay closer attention to transplants coming to the region and the transplanted lettuce fields as they are likely sources of initial INSV infection. In addition to transplants, inoculum of INSV may also reside in some weed species around the fields. Tests of weed samples collected from different lettuce fields in the past several months did not have any positive INSV positive tests however. These weed samples were collected during November 2021. It is worth collecting more weed samples at a different time of year to make sure we do not have the risk of supporting INSV in the landscape itself.

If you come across any symptomatic lettuce plants and would like to get checked, please let me know. I will be happy to come visit the field and test some plants for the virus.



Figure.1 INSV infected Romaine lettuce- usually seen in individual random plant in the bed without any pattern. (Photo taken on 21 March, 2021, Imperial County).



Figure. 2. Romaine lettuce field where plants are affected by lack of nutrient or chemical application, but not infected by INSV. (Photo taken on 22 February, 2022, Imperial County).

Got bacterial diseases of onion? Help us “STOP THE ROT”

WHO We Are: A team of researchers from across the country, working on tools to combat bacterial diseases of onions

WHAT We Are Looking For: Samples of onion plants affected by any of the bacteria known or suspected to cause diseases in onions

HOW You Can Help: If you are a grower and you have a suspected bacterial disease in your onion crop, contact us to survey your field and/or sample the bulbs in storage



California contacts:

Brenna Aegerter, UCCE San Joaquin (209-953-6114, bjaegeter@ucanr.edu)
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Alex Putman, UC Riverside (951-522-9556, aiputman@ucr.edu)
Rob Wilson, UCCE Tulelake (530-667-2719, rgwilson@ucanr.edu)



Nature's Ninja graphic courtesy of the National Onion Association

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United States
Department of
Agriculture

National Institute
of Food and
Agriculture

'Stop the Rot' Onion Bacterial Project 2019-51181-30013



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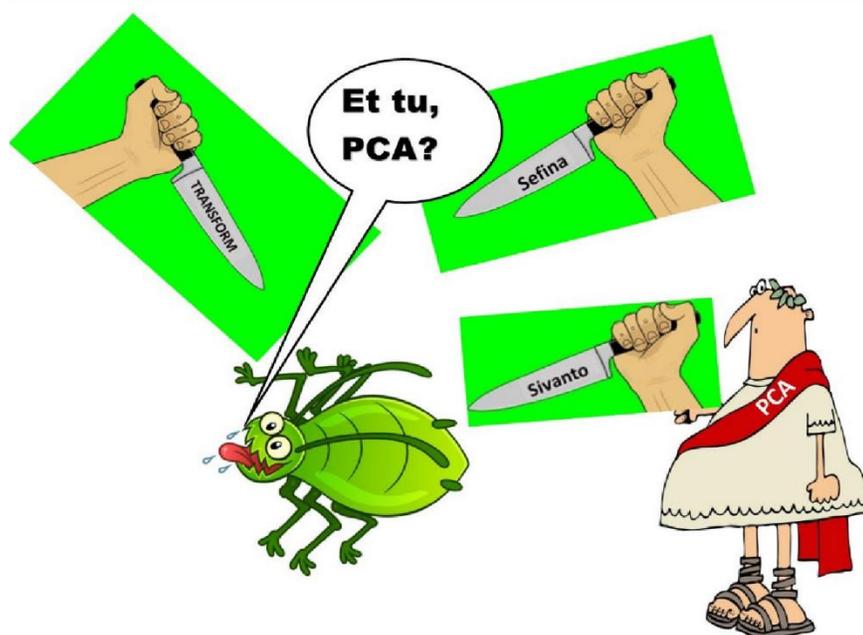


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ALFALFA INSECTICIDE EFFICACY x ALFALFA HEIGHT FIELD DAY

Join us on the Ides of March to see the effects from 3 insecticides, each at 2 rates, targeting blue alfalfa aphids applied at 4 different stages of alfalfa growth



When: Tuesday, March 15th, 2022, anytime between 10:30 a.m.–1:30 p.m.

Where: Just north of Blythe, 1/4 mile west of intersection of C&D Blvd & 8th Avenue, south side of 8th Avenue

Lunch provided by



University of California, County of Riverside and U.S. Department of Agriculture Cooperating

Serving Riverside County Residents Since 1917

Save the Date...

May 5, 2022

Agronomic Crops & Irrigation

Water Management Field

Day (Virtual)

No Cost to Attend!

Location: ZOOM WEBINAR
(9am - 12:30 pm)

Presented by the
University of California Cooperative Extension Imperial County

More information to follow regarding the event; topics, agenda, CEU's, etc.



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IMPERIAL VALLEY CIMIS REPORT AND UC WATER MANAGEMENT RESOURCES

Ali Montazar, Irrigation and Water Management Advisor, UCCE Imperial and Riverside Counties

The reference evapotranspiration (ET_o) is derived from a well-watered grass field and may be obtained from the nearest CIMIS (California Irrigation Management Information System) station. CIMIS is a program unit in the Water Use and Efficiency Branch, California Department of Water Resources that manages a network of over 145 automated weather stations in California. The network was designed to assist irrigators in managing their water resources more efficiently. CIMIS ET data are a good guideline for planning irrigations as bottom line, while crop ET may be estimated by multiplying ET_o by a crop coefficient (K_c) which is specific for each crop.

There are three CIMIS stations in Imperial County include Calipatria (CIMIS #41), Seeley (CIMIS #68), and Meloland (CIMIS #87). Data from the CIMIS network are available at:

<http://www.cimis.water.ca.gov/>. Estimates of the average daily ET_o for the period of March 1st to May 31st for the Imperial Valley stations are presented in Table 1. These values were calculated using the long-term data of each station.



Table 1. Estimates of average daily potential evapotranspiration (ET_o) in inch per day

Station	March		April		May	
	1-15	16-31	1-15	16-30	1-15	16-31
Calipatria	0.16	0.19	0.22	0.25	0.27	0.29
El Centro (Seeley)	0.19	0.22	0.24	0.28	0.29	0.31
Holtville (Meloland)	0.17	0.21	0.23	0.27	0.29	0.31

For more information about ET and crop coefficients, feel free to contact the UC Imperial County Cooperative Extension office (442-265-7700). You can also find the latest research-based advice and California water & drought management information/resources through link below:

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

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