UC CE | UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources | UC Cooperative Extension

Imperial County Agricultural Briefs

July 2024 (Volume 27 Issue 6)

Features from your Advisors

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Agriculture and Natural Resources

Cover Crop Field Day:

Summer Cover Crop Options for Managing Soil Health, Nitrogen, and Pest

Learn about:

1) The benefits of cover crops
2) Soilborne disease management using cover crops
3) Nitrogen management using cover crops
4) Soil health management using cover crops

Date: Tuesday July 9, 2024
Time: 8:00 – 10:00 AM
Location: 72155, 72nd Ave, Thermal, CA 92274

Register here: https://surveys.ucanr.edu/survey.cfm?surveynumber=43175

Contact us for more information at pwaisen@ucanr.edu/cgnguyen@ucanr.edu or 760-905-5204

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The UCCE Imperial Livestock Program presents

INTERN PRESENTATION DAY 2024

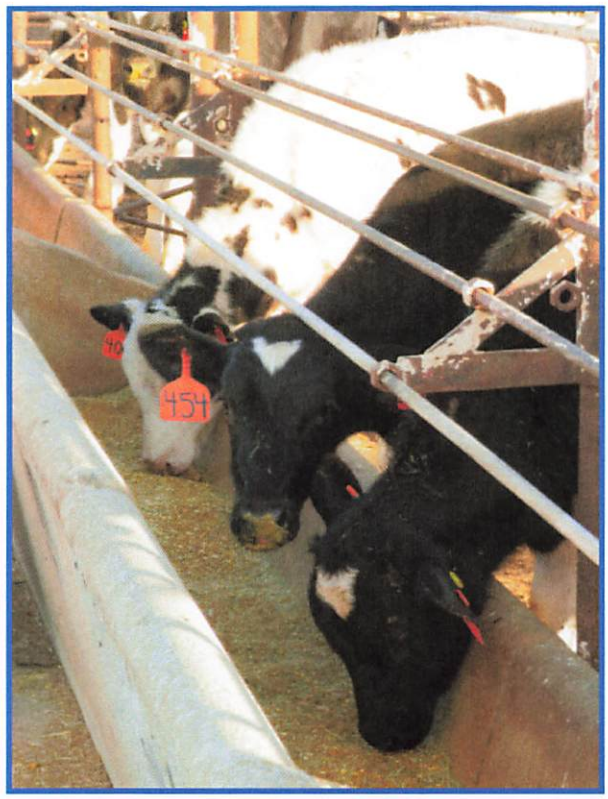
About Our Workshop

The 2024 UCCE Imperial Livestock program summer interns will be presenting about topics related to beef cattle production. This is a largely self-led project that highlights things they have learned throughout the summer. The interns are local students of Holtville High School, Imperial High School, and Southwest High School.

We invite anyone in the agriculture community to come and enjoy the presentations produced by the hard work of this year's interns!

Presentation Topics:

- The impact of flies on cattle performance
- Handling behavior of crossbred Angus-Holstein and Charolais-Holstein steers in the feedlot
- Misconceptions of the cattle industry



When

July 24, 2024
10 am to noon

Where

UCCE Imperial offices
1050 E Holton Rd
Holtville, CA 92250

Cost

FREE

Please rsvp to Brooke Latack by emailing bclatack@ucanr.edu or call/texting 269-313-2579
Feel free to reach out with any questions

Increase your Farm's Income with Regenerative Management

In collaboration with Taro Carbon, the University of California Cooperative Extension, and the UC ANR Climate Agriculture Smart Division, we have developed a carbon removal program that provides additional revenue for farmers in California while reducing carbon emissions from our atmosphere.

The program works with farmers that are implementing or wants to implement:

- Reduced till or no-till farming
- Crop rotation strategies
- Cover crops
- Fertilizer management
- Optimized irrigation systems

These practices increase carbon in biomass and soil, which we annually sample to generate carbon credits. Your farm could make anywhere from **$10-30 per acre per year** depending on the mutually agreed upon practice(s) implemented and land characteristics.

Outside of the carbon credit revenue, the practices provide multiple fold investment value for you through increased land productivity and soil health.

For more details or to get involved, please contact:

Ana Resendiz, CES III, Climate Smart Ag Program
Email: aresendiz@ucanr.edu
Phone: 760-265-7709

Bennett Liu
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Phone: (303) 881-6587
Tarocarbon.com

UC CE University of California Cooperative Extension

Taro Carbon

UPDATES ON SUGAR BEETS AND BEET LEAFHOPPERS

Ana M. Pastrana – UC ANR - Plant Pathology Advisor for Imperial, San Diego, and Riverside counties

Email: *ampastranaleon@ucanr.edu*

Description of the problem:

Six weeks ago, a sugar beet field in the northwest region of Imperial showed symptoms resembling Beet Curly Top Virus (BCTV), although the symptoms were not entirely clear. Samples were sent to the Gilbertson Lab in the Department of Plant Pathology at UC Davis for proper identification—one of the five samples tested positive for Beet Curly Top Virus.

Updates:

New samples tested: Four weeks ago, new samples were sent to the Gilbertson Lab. All of the samples came back negative for Beet Curly Top Virus.

New CDFA Report: highlights high beet leafhopper counts in Imperial County (see attached).

Management Strategies to Keep in Mind

Cultural methods:

- ✓ Choose varieties that can handle the virus and also work well in your area.
- ✓ Planting early can help the plants grow past the most vulnerable stages before the leafhoppers arrive.
- ✓ Keep weeds under control to reduce places where the virus and leafhopper can live.
- ✓ Using the right amount of water and fertilizer can help reduce losses if your plants get infected with BCTV.

Chemical methods:

- ✓ Consider insecticide seed treatment (Table 1) in high-risk areas (see https://pnwhandbooks.org/sites/pnwhandbooks/files/insect/chapterpdf/agronomic.pdf).
- ✓ Post-emergence treatments (Tables 2-3) may be used instead of or to supplement at plant treatments, but application timing would have to coincide with the movement of beet leafhoppers into fields. Extensive research in Idaho has demonstrated the highest efficacy with group 4A and 3A products (see https://pnwhandbooks.org/sites/pnwhandbooks/files/insect/chapterpdf/agronomic.pdf).

BEET CURLY TOP VIRUS CONTROL PROGRAM

GROWER ALERT

California Department of Food and Agriculture
Plant Health and Pest Prevention Services
Integrated Pest Control Branch
2895 N. Larkin Ave, Suite A
Fresno, CA 93727
Phone: (559) 294-2031
Fax: (559) 294-2037

Program-wide notice **May 2024**

- Beet Curly Top Virus (BCTV) Control Program (Program) personnel have identified high beet leafhopper (BLH) counts in Imperial County located from the Salton Sea to El Centro.

- BLH are concentrated on roadside vegetation from East of Hwy 111 to Northeast of Brawley and West of Hwy 111 to the North of Hwy 8.

    - Kloke Rd, Meloland Rd, E Holton Rd, Yourman Rd and Chell Rd. Roadside vegetation consisted of Goosefoot and Russian Thistle located near water canals. On May 21st, BLH averages were 25 per sweep net, with adults and nymphs present.
    - Loveland Rd, Forrester Rd, and McNerney Rd located near Westmorland, CA. Roadside vegetation consisted of Goosefoot and Saltbush located near water canals. On May 21st, BLH averages were 33 per sweep net, with adults and nymphs present.
    - Hastain Rd, Rutherford Rd, Butters Rd, Fleming Rd, E Sinclair Rd, Blair Rd, and E McDonald Rd. Roadside vegetation consisted of Goosefoot and Saltbush located near water canals. On May 22nd, BLH averages were 32 per net sweep.
    - Brandt Rd, Gentry Rd, and Forrester Rd. Roadside Vegetation consisted of Goosefoot and Saltbush located near water canals. On May 22nd, BLH averages were 27 per sweep net, with adults and Nymphs present.

- Activity in fallow fields or removal of host vegetation may increase the likelihood of BLH displacement into neighboring commodity fields. This notice is to advise growers of the BLH presence detected in the survey completed May 22nd, to assist in monitoring the risks to fields and determine whether to clear the vegetation along canals and strongly consider coordination with adjacent fields when pursuing mitigation measures.

To subscribe to the BCTV monthly report, updates, and alerts, please use the link below:
www.cdfa.ca.gov/subscriptions/

References:

- Harveson, R. M. 2015. Beet curly top: America's first serious disease of sugar beets. APS Features. doi:10.1094/APSFeature-2015-02
- Pacific Northwest Pest Management Handbook
- UC IPM Guide – Curly Top
- Utah Vegetable Production and Pest Management Guide

MAY GUAYULE (PRONOUNCED "WHY-YULEE") BE A FUTURE CROP OF THE IMPERIAL VALLEY

Oli Bachie,
University of California Cooperative Extension (UCCE) Imperial County, Riverside & San Diego
Agronomy and Weed Management Advisor, obachie@ucanr.edu

Guayule (*Parthenium argentatum*) is a perennial desert shrub of the family Asteraceae. Guayule is currently widely grown in AZ by Bridgestone Tire as source of high-quality natural rubber (cis- 1,4-polyisoprene), identical to the rubber from the Hevea (*Hevea brasiliensis*) tree (Euphorbiaceae). Guayule reaches harvest size in about 18 months. Guayule is presently cultivated in several countries, such as Australia, Israel, Madagascar, Mexico, and parts of the United States. When mature, the entire shrub is harvested without the roots and grows back in about a year and then harvested again. In California guayule is said to have grown in the San Joaquin Valley, Escondido (at Valley Center), the Imperial Valley, and Salinas, but not for commercial purposes.

Guayule outer branches and leaves are covered with white wax / hairs called ***trichomes*** which prevents the crop from drying. It also has an extensive root system, which accounts for its drought resistance. Being a semiarid, drought-tolerant crop, guayule requires lower irrigation water than some conventional crops grown in the low desert (Foster and Coffelt, 2005), although others suggested that guayule is of low water use efficient crop. On the other hand, guayule requires less fertilizer than other crops currently produced in the low desert. Banuelos, et al. (2022) evaluated the potential of growing guayule for saline, boron- and selenium-laden soils in the Westside of central California in both greenhouse and drainage sediment field experiments. The researchers observed that the salt tolerance threshold, maximum average salinity level of the root zone without yield reduction was 7.5 dS/m; beyond this threshold, rubber production is reduced by 6% per unit increase of soil salinity (Hoffman, et al., 1988). These findings provided evidence that guayule can be a promising rubber-producing crop that tolerates saline conditions.

Figure 1: Guayule plant appearance

Having these characteristics and the adaptation to high heat, dry, and high temperature environment makes guayule a potential alternative crop for California's Low Desert, the Imperial Vally in particular. Its potential adaptability to the Imperial Valley can be traced to its origin in the arid zone from the southwestern part of the USA to northern Mexico, hence, its suitability as an economically productive and alternative crop to the IV that has similar environments.

Bridgestone Tire is currently promoting guayule as an alternative crop. It sounds like they're looking for growers across the desert Southwest. However, guayule a shortcoming of withstanding weed pressure during its early establishment, suggesting that requires weed management in its first growth cycle or its establishment, but maybe less once it develops full canopy.

In anticipation that guayule someday might find the low desert (Imperial Valley) as the production zone sometime soon, the CCE Imperial County Weed Management program started evaluating various preemergent and post emergent grass and broadleaf herbicides that may be efficient to control / suppress weeds, safe to the crop and be registered for weed management for Guayule production system in CA. Various preemergent herbicides, including Prowl (Pendimethalin), Dual Magnum (S-metolachlor), Spartan (Sulfentrazon), Sonolan (ethalfluralin), and Caparol (ethalfluralin) and post emergent grass herbicides (Fusillade, Clethodim, and Sethoxydim), and a broadleaf herbicide (Shark / Aim) are being tested. The trial is being conducted at the University of California Desert Research and Extension Center (UC DREC). Our preliminary results showed variations in the efficacies of the pre-emergent herbicides (Figure 2) showing complete control to no effect (see Figure 2). Under no control environment (no pre-emergent herbicide), weeds can be overwhelming (Figure 3), although guayule

Figure 2: Pictorial representation o efficacies of pre-emergent herbicides

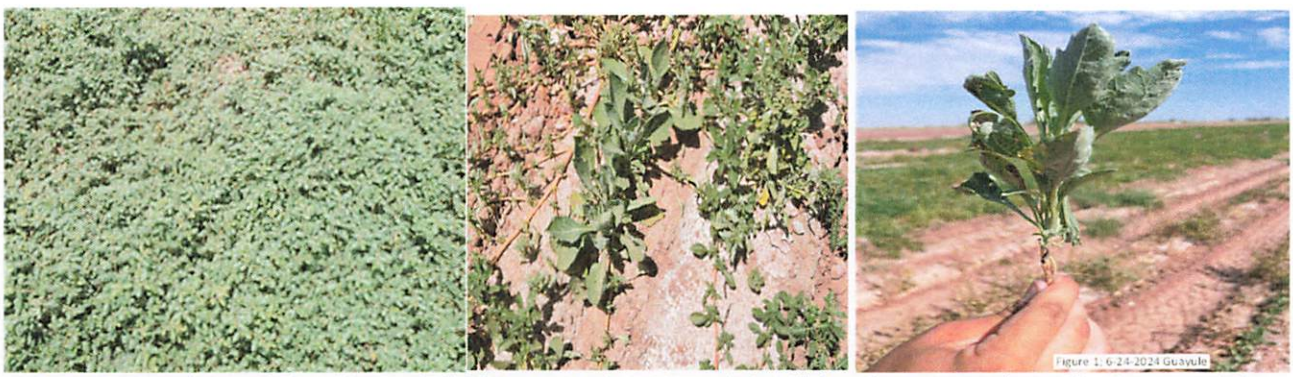

Figure 3: Guayule overwhelmed by weeds (left), emerging through weeds (middle), and young guayule seedling from our trial

can emerge through weeds under lighter weed conditions and later suppress weeds when canopy is fully developed. A young guayule seedling from the DREC trial is shown (Figure 3).

In summary: Since the environment of the Imperial Valley is conducive for guayule production, it seems that guayule could gain a foothold as a commercial crop in the Imperial Valley if commercial guayule utilizing industries successfully sign grower contracts to plant large acres. Bridgestone and other rubber utilizing industries may resort to promote guayule production business knowing the potential unsustainability and supply of importing Hevea, a natural rubber producing crop from foreign countries.

Continued research on weed management and the agronomic practices to growth guayule in the low desert is needed to address issues, such as herbicides that might affect the results from previous studies and recommendations to growers, crop varieties, irrigation, fertilizer needs, best growing seasons, productivity and other cropping system considerations. Results from our current trials will be published as soon as we complete data collection and analysis.

References

Banuelos, G. S., et al. 2022. Guayule as an alternative crop for natural rubber production grown in Band Se-laden soil in Central California. https://www.elsevier.com/locate/indcrop

Hoffman, G.J., et al. 1988. Rubber production of salt-stressed guayule at various plant populations. August 1988. Irrigation Science 9(3):213-226. DOI:10.1007/BF00275433

Foster, M.A. and T.A Coffelt. 2005. Guayule agronomics: establishment, irrigated production, and weed control. Industrial Crops and Products 22 (2005) 27–40

IMPERIAL VALLEY CIMIS REPORT AND UC WATER MANAGEMENT RESOURCES

Ali Montazar, Irrigation and Water Management Advisor, UCCE Imperial, Riverside, and San Diego 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 May 1st to July 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	July		August		September	
	1-15	16-31	1-15	16-31	1-15	16-30
Calipatria	0.32	0.31	0.30	0.28	0.26	0.23
El Centro (Seeley)	0.33	0.31	0.30	0.28	0.26	0.25
Holtville (Meloland)	0.32	0.31	0.30	0.28	0.26	0.24

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/.