



Imperial County

Agricultural Briefs



Features from your Advisors

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THE 2020 CDFA HEALTHY SOIL-INCENTIVE PROGRAM AND IMPERIAL COUNTY AWARDEES

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It is widely known that the California Department of Food and Agriculture (CDFA) has been providing financial initiatives to what is known as the “**Healthy Soil Incentive Program**” to California growers and ranchers. The mission is to allow applicants to implement conservation management practices that sequester carbon, reduce atmospheric greenhouse gases (GHGs), and improve **soil health**. CDFA secretary Karen Ross stated that, "Soil has the transformative power to help us stabilize our changing climate by capturing greenhouse gas emissions from the atmosphere and storing them underground, through the assistance of living plants and microbes, that improve both the atmosphere and the soil."

This year CDFA’s HSP program received a total of 578 applications requesting \$37.87 million, exceeding the \$22 million available funds. With a maximum of \$100,000 per award, this grant was a great opportunity for California farming operations to pilot conservation management practices such as compost application, cover crops, nutrient management, and reduced till/no till for 3-10 years (depending on the practice) with minimal financial investment on their part. For the farmers and ranchers interested in the environmental benefits but unable to afford the cost of implementing these practices on their own, this program is a chance to try them firsthand.

The implementations of these conservation management practices are known to promote on-farm sustainability by building organic matter, encouraging nutrient cycling, increasing water holding capacity, reducing soil compaction, and lessening the need for synthetic fertilizers. In general, if you enrich your soil, it will boost the productivity of your cropping systems. However, every agricultural operation varies in its needs. The benefit it obtains from different conservation management practices depends on its location, size, crop rotation, irrigation system, and soil type. To enhance applicability according to site specific needs, CDFA allows applicants to choose from four categories, totaling 28 eligible practices selected from the United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) conservation practices standards. Of the many subsequent application years, it was only in 2020 that IV growers and ranchers applied for this incentive program. Many of the farmers and agricultural operation applicants have been eagerly awaiting to

hear who got awarded this year's CDFA Healthy Soil Incentive Program (HSP). We would like to congratulate the thirteen (13) Imperial County applicants who received a total of \$1,073,697.97 in funds. These 13 award winning projects will have an estimated GHG emission reduction of 3,689.1 metric tons of carbon dioxide per year, which is equivalent to 797 passenger vehicles driven for one year. This is a groundbreaking achievement of our county and a huge jump from last year's HSP solicitation period, demonstrating that farming operations in this region are becoming very interested in adopting climate smart agricultural practices, provided funding availability. Ronnie Leimgruber, one of the thirteen Healthy Soils grant recipients says, "These climate smart agriculture incentive programs assist farmers in doing their part to try to sequester carbon and help sustain the environment. He further stated, "Being awarded this grant will allow me to apply more compost than I normally would."

The UCCE Imperial County and ICFB partnered as technical assistance providers for the Healthy Soils Program and Alternative Manure Management Program for 2020. Together we conducted several outreach events, held a series of workshops and assisted with individual grant applications. The goal was to bring awareness to these Climate Smart Agriculture incentive programs and assist growers in applying and maximizing their chances of being awarded. Overall, Imperial County saw great progress from the prior year in the number of applicants and awards. We are optimistic that these programs will continue to grow in future years, assisting local farmers in implementing additional farming practices that continue to benefit the environment. We encourage awarded applicants to contact us for any project implementation and data collection process.

For more information, please contact Kristian Salgado at kmsalgado@ucanr.edu or call at 442-265-7700.

GRANULATE CUTWORM UPDATE

Michael D. Rethwisch, Crop Production & Entomology Advisor, UCCE Riverside County – Palo Verde Office

Granulate cutworms (*Feltia subterranea*) are pests of various crops across the southern U.S., including various vegetables. In low desert areas, granulate cutworms can be a major pest during the summer of alfalfa regrowth on following cutting, eating the regrowth and delaying green-up and harvest. They are usually considered to be more damaging on bedded alfalfa than flooded fields, with this thought due to less death by drowning in bedded situations.

They are also pests of newly planted sugar beets grown near alfalfa in the Imperial Valley. On occasion it migrates out of the alfalfa fields into sugar beets, where it can consume young plants or clip them off below the ground as they feed. Granulate cutworm moths have been found to lay eggs on sugar beets, and hatching larvae kill plants by eating them to the ground or by clipping them off at ground level, thus reducing plant stands. There have also been reports of occasional damage to the rinds of cucurbits.

The caterpillars are about an inch long when mature, dark gray in color (Figure 1), and the surface of its body is covered with black granules which can be easily seen under a microscope. These granules contribute to this insect's common name.



Fig. 1. Granulate cutworm caterpillar (UC-IPM photograph).

Biological studies on this insect have noted various and sometimes conflicting findings. For example, granulate cutworm moths in Florida are reported to be most common from April-June, but June-November in

Louisiana, and in Tennessee oviposition peaks were reported to be about every two months (March, May, July and September).

As there are no commercial pheromone traps available for this pest, monitoring of adult moths prior to oviposition is somewhat challenging. In 2019 several pheromone analogues of the closely related dingy cutworm (*Feltia jaculifera*) were placed in six locations across the Palo Verde Valley to determine if any would be a potentially successful lure for the granulate cutworm. Data indicated that these lures did not result in large collections of granulate cutworm moths.

The data were useful to provide some initial biological data on this insect for the low desert however, which indicated that there were population peaks about a month apart (Fig. 2), which were fairly synchronized across the entire Palo Verde Valley. Additional monitoring is necessary to determine if a generation is completed in about 30 days or if there are two alternating generations that are approximately 60 days long in the low desert.

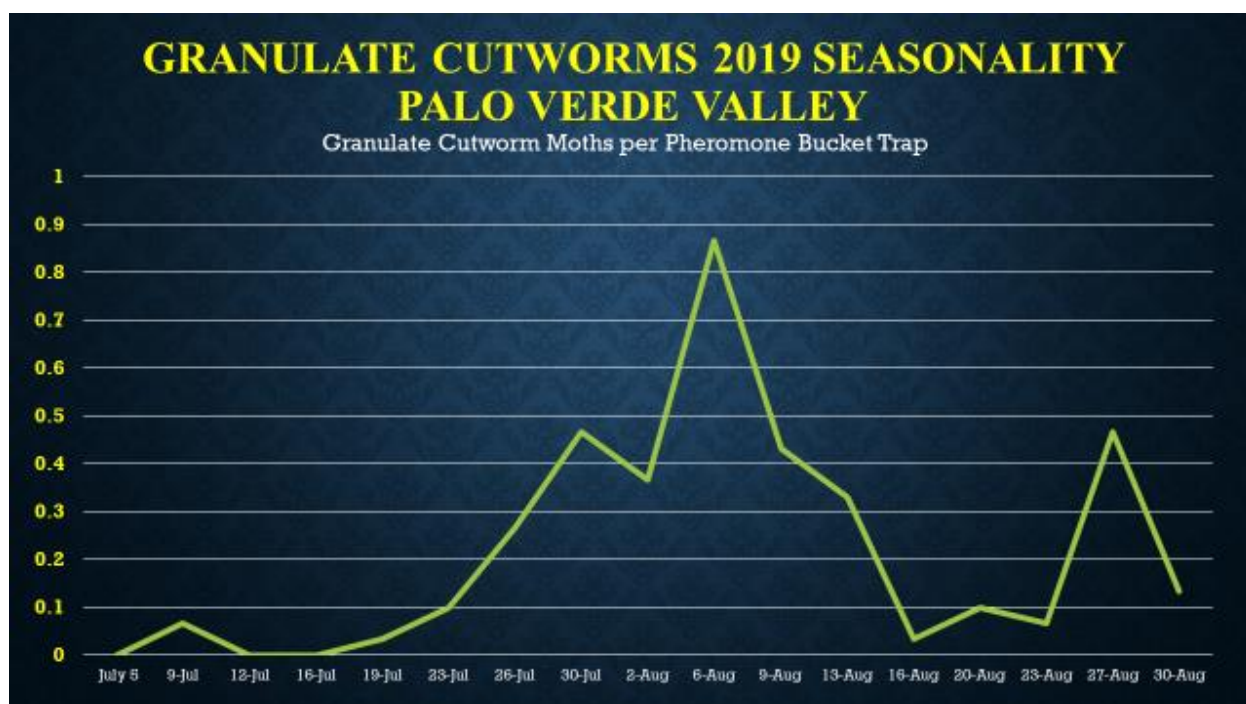


Fig. 2. Mean number of granulate cutworms collected in pheromone baited bucket traps during July-August, 2019.

An insecticide trial for insecticide efficacy for this pest in alfalfa was conducted in August 2019 near Blythe. This experiment consisted of plots that were 25 x 14 feet, with five replications. Treatments were applied with a back-pack sprayer calibrated to deliver 18.6 gpa on August 6. All treatments included the surfactant Hasten EA.

Plots were sampled the night of August 9 (3 nights after application) as cutworms climb the plants at night and can be collected then. Sampling consisted of 10 pendulum sweeps with a 15-inch diameter sweep net, transferring the net contents to containers which were then frozen to kill the collected insects, allowing insects to be counted at later time.

As most of the collected granulate cutworms were very large and nearing pupation, only one night of successful sampling was completed.

Statistical analyses of data indicated differences in insecticide treatments even though the numbers of collected granulate cutworms were not extremely high. Two insecticides (Intrepid at 10 oz./acre and Prevathon at both 14 and 20 oz./acre) resulted in significant reduction on granulate cutworms on August 9. DiPel DF at 32 oz./acre, Steward at 11.3 oz./acre and the combination of Steward at 8 oz./acre + DiPel DF @ 16 oz./acre resulted in a reduction of granulate cutworms compared to untreated alfalfa but were more than collected from the Intrepid and Prevathon treatments (Fig. 3).

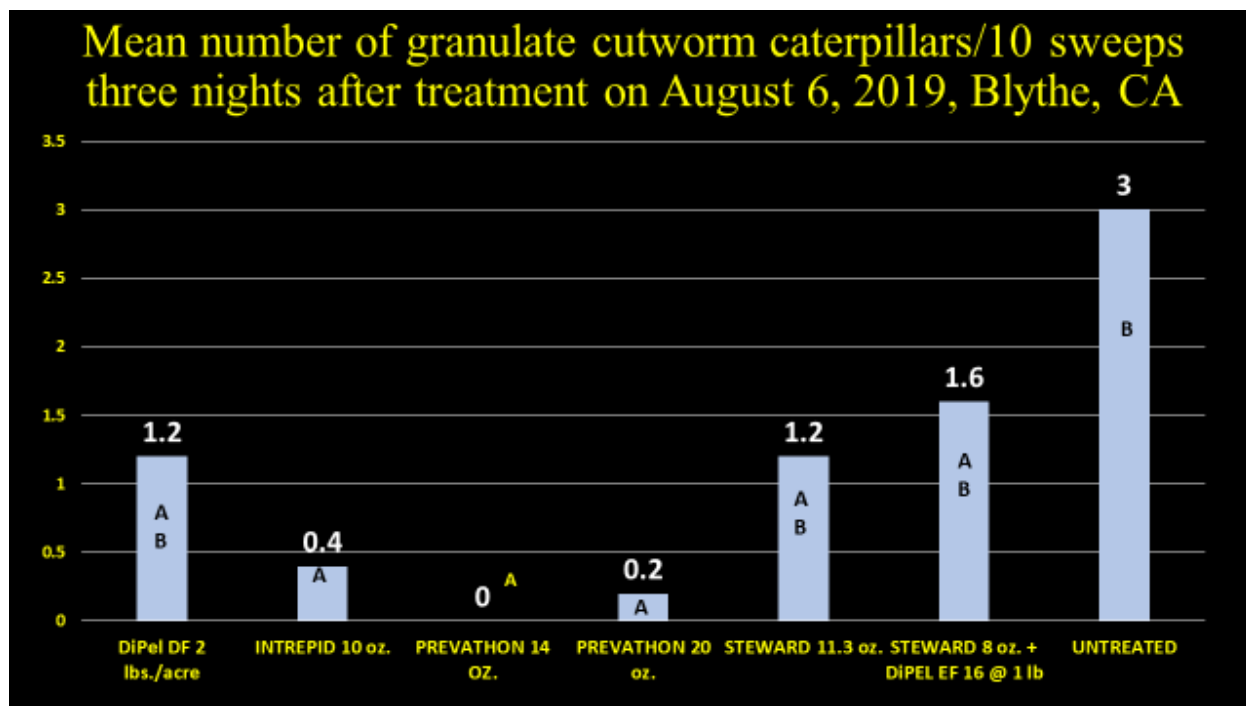


Fig. 3. Mean number of granulate cutworm caterpillars on August 9, 2019 (three (3) nights post treatment), Blythe, California.

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 May 1st to July 31th 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

June	June		July		August	
	1-15	16-30	1-15	16-31	1-15	16-31
Calipatria	0.31	0.32	0.32	0.31	0.30	0.28
El Centro (Seeley)	0.34	0.36	0.33	0.31	0.30	0.28
Holtville (Meloland)	0.33	0.34	0.32	0.31	0.30	0.28

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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