PESTS of Ventura County What you need to know!



County of Ventura 2023 Crop & Livestock Report

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Please scan to view acknowledgement information of the photographs taken from third-party sources.



The Department of Agriculture/Weights & Measures extends their sincerest appreciation to the agricultural industry of Ventura County. Without your information, this report would not be possible.



Karen Ross, Secretary California Department of Food & Agriculture And The Honorable Board of Supervisors of Ventura County Matt LaVere, 1st District Jeff Gorell, 2nd District Kelly Long, 3rd District Janice S. Parvin, 4th District Vianey Lopez, 5th District

July 23, 2024

Pursuant to Section 2279 of the California Food and Agricultural Code, I am pleased to submit the 2023 Ventura County Crop and Livestock Report. This crop report commemorates Ventura County's 150th anniversary and underscores the diverse challenges faced by farmers. The vital rains in 2023 replenished our water reserves but also brought storm damage and a surge in pests. This report seeks to highlight these challenges and emphasize the resilience of Ventura farmers as they employ integrated pest management strategies to combat these issues. This report reflects gross values only and does not represent the net return to growers or the multiplier effect on the local economy. From these totals, growers pay their workers, water, fuel and electricity bills, bank loans or land leases, insurance, taxes, equipment, materials and all other farming costs. The estimated gross value of Ventura County's agriculture for calendar year 2023, is \$2,170,243,000. This represents a 2% increase in comparison to 2022. Strawberries remained the number one crop at \$733,257,000, increasing by 11% from 2022. Nursery stock jumped back into the number two spot for the first time since 2009, with a value of \$208,169,000, increasing by 8%. Lemons stayed at third place with a value of \$207,542,000, increasing by 0.47%. Celery bumped up to fourth place with a value of \$167,950,000, increasing by 32%. Raspberries moved up to fifth place with a value of \$167,008,000, increasing by 49%. Avocados dropped to sixth place with a value of \$125,728,000, decreasing by 51%. Blackberries moved up to seventh place with a value of \$70,177,000, increasing by 56%. Peppers moved down to eighth place with a value of \$58,046,000 increasing by 9%. Tomatoes bumped blueberries off ninth place with a value of \$41,061,000, increasing by 25%. Lettuce replaced cabbage as the number ten crop, coming in at \$38,114,000, increasing by 53% from 2022.

Our thanks and gratitude to the agricultural industry for providing the information used to produce this report.

Respectfully submitted,



Korinne M. Bell, Agricultural Commissioner

Agricultural Commissioner Korinne M. Bell Sealer John Beall Chief Deputy Greta Varien



Recapitulation

Crop Grouping	Year	Value
1 Eruit & Nut Crop	2023	\$1,379,162,000
1. Fruit & Nut Crop	2022	\$1,379,846,000
2 Vagatable Crons	2023	\$486,110,000
2. vegetable Crops	2022	\$460,675,000
2 Nursami Stack	2023	\$208,169,000
3. Nursery Slock	2022	\$193,550,000
4. Livestock, Poultry &	2023	\$43,282,000
Seafood	2022	\$43,270,000
a Cut Flavor	2023	\$30,515,000
5. Cut Flowers	2022	\$31,439,000
(Anigm Droducto	2023	\$9,404,000
6. Aplary Products	2022	\$9,575,000
7 Dielegiaal Gentuel	2023	\$7,595,000
7. Biological Control	2022	\$5,715,000
9 Field Chone	2023	\$6,006,000
8. Field Crops	2022	\$3,612,000
	2023	\$2,170,243,000
GRAND IUIAL	2022	\$2,127,682,000

Irrigated Cropland

Year	Acres
2018	91,350
2019	95,813
2020	96,523
2021	98,549
2022	95,785
2023	99,433

County of Ventura Did You Know...?

Ventura County celebrated its 150th anniversary in 2023. The county was established in 1873, with agriculture as its leading industry. Ventura County has always been a leader in agribusiness and is ranked 10th in the state in gross value of agricultural production. Our production contributes to California's rank as first in the United States and the fifth largest food and agricultural products supplier globally.

Ventura County Facts & Statistics Land: 1,840.79 sq. miles of total land. 149.66 sq. miles of irrigated land (approx. 8.13% of total land). Population: 832,605 people. 13th largest county by population. Economy: Over \$2.1 billion annual crop value. 5.4% of Ventura County industries are related to agriculture, forestry, fishing, and hunting. \$39,828 for the average fieldworker salary. Trend of the number of employed workers have dropped, while the average salary has increased. Crop information: Ventura County's rank in commodity values in California: 1st for Avocados, Raspberries and Kale; 2nd for Lemons, Celery, Peppers and Cabbage; 3rd for Horticulture, Strawberries, Blackberries and Artichokes; 4th for Blueberries; and 5th for Spinach.

References: U. S. Census Bureau, Ventura County Civil Alliance State of the Region Report, California Statistics Review 2021-2022, County of Ventura 1873-2023; 150 Years of Prosperity.



2023 brought with it an unexpectedly large amount of rain which created extensive storm damage for farms. As the agricultural industry cleaned up the aftermath of the storms, Ventura County Department of Agriculture/Weights & Measures (VCAWM) staff were sent out to collect data which could potentially help growers get compensation for damages.

After the storm damage, growers had to focus on pest control. Pests like weeds, insects, mold and rodents are already a problem in the field, but the increased water the storms brought made the situation worse.

The Huanglongbing (HLB) virus, carried by the Asian Citrus Psyllid (ACP), and the Queensland Fruit Fly (QFF) had the greatest impact on the county. HLB and QFF were unprecedented in Ventura County before 2023. This triggered quarantines in the areas of Santa Paula for HLB and Thousand Oaks, Moorpark and Santa Rosa for QFF. Restrictions and specific mitigations were set forth for the harvest and transport of commodities that are hosts to the HLB/ACP and QFF. The VCAWM partners with the California Department of Food and Agriculture (CDFA) and the United States Department of Agriculture (USDA) in the enforcement of those quarantines.

2023 Leading Crops





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Fruit & Nut Crops

			—	Durletter		
Crop	Year	Acres	lons/ Acre	in Tons	value/ Ton	Gross Value
Avocados	2023	16,947	2.71	45,945	\$2,736.49	\$125,728,000
	2022	16,995	3.38	57,498	\$4,268.58	\$245,435,000
Blackberries	2023	1,023	10.93	11,186	\$6,273.65	\$70,177,000
Allen 3	2022	700	10.88	7,615	\$5,896.52	\$44,902,000
Blueberries	2023	669	4.82	3,226	\$9,938.31	\$32,061,000
	2022	767	6.60	5,060	\$8,712.85	\$44,087,000
Lemons	2023	18,159	19.20	348,695	\$595.20	\$207,542,000
	2022	19,961	18.74	374,123	\$552.15	\$206,573,000
Mandarins & Tangelos	2023	1,602	7.61	12,198	\$858.83	\$10,476,000
	2022	1,612	11.79	19,006	\$972.11	\$18,476,000
Oranges	2023	503	13.13	6,602	\$610.57	\$4,031,000
-Navel	2022	398	15.87	6,315	\$668.25	\$4,220,000
Oranges	2023	2,524	8.74	22,061	\$573.32	\$12,648,000
-Valencia	2022	2,507	14.42	36,153	\$734.82	\$26,566,000
Raspberries	2023	2,702	7.02	18,969	\$8,804.26	\$167,008,000
Dr. The Barry	2022	2,181	6.16	13,425	\$8,331.55	\$111,851,000
Strawberries	2023	and the		208,303	\$3,306.66	\$688,788,000
-Fresh	2022			174,118	\$3,455.51	\$601,666,000
Strawberries	2023			44,663	\$995.66	\$44,469,000
-Processed	2022			50,334	\$1,212.66	\$61,038,000
Strawberries	2023	10,402	24.33	253,081	\$2,897.32	\$733,257,000
-Total	2022	10,263	21.87	224,452	\$2,952.54	\$662,704,000
Miscellaneous Fruits	2023	1,028	S. W. C. W. C.		S. S. Jan	\$16,234,000
& Nuts*	2022	988		A Providence in the second		\$15,032,000
Tatal	2023	55,559				\$1,379,162,000
ισται	2022	56,372				\$1,379,846,000

*Includes: Apples, Apricots, Asian Pears, Bushberries, Cherimoya, Coffee, Dragonfruit, Grapefruit, Grapes, Guavas, Kiwi, Kumquat, Limes, Macadamias, Mangos, Melons, Olives, Passionfruit, Persimmons, Pomegranate, Sapote, Walnuts; and Miscellaneous Citrus, Deciduous and Subtropical Fruit.



The Apple Maggot is a native pest of the eastern United States and Canada. In 1979, it was discovered in Oregon and has since moved into California and other Western states. Apples are the favored hosts, but cherries pears and other fruits have been attacked. Female adults deposit eggs under the fruit's skin. Damage is caused when maggots burrow and feed on the flesh. Browning occurs as the fruit responds to the injury and bacteria associated with the maggots cause the fruit to rot internally. The VCAWM traps for this pest starting in September of each year.

Integrated Pest Management (IPM) is a sustainable and environmentally responsible approach to managing pests based on the principle of using a combination of strategies to minimize the impact of pests while reducing the reliance on chemical pesticides. This holistic approach seeks to strike a balance between economic viability, environmental protection and the need to ensure human and animal safety.

The concept of IPM was developed in the mid-20th century as a response to the negative consequences of the over-reliance on chemical pesticides. Early IPM pioneers recognized that a more holistic and strategic approach was needed to manage pests effectively. They laid the foundation for the integration of various pest control methods, including biological control (using natural predators), cultural practices (such as crop rotation) and physical methods (like traps or barriers).

IPM is widely practiced in agriculture today and has evolved with advancements in technology and research. Farmers use a combination of scientific knowledge, monitoring systems and data-driven decision-making to implement IPM strategies. This approach has been successful in reducing chemical pesticide use, mitigating resistance and preserving natural ecosystems.

The future of IPM looks promising. With ongoing research and technological innovations, IPM will continue to improve. For example, the use of drones and sensors allows for realtime monitoring of pest populations, enabling more precise and targeted interventions. Genetic technologies, such as genetically modified crops with built-in pest resistance, may also play a role in the future of IPM.



Scan QR Code to read the Roadmap for Integrated Pest Management through the UC IPM website.

If you need help identifying pests we suggest contacting Master Gardeners or downloading the iNaturalist app. If you have seen a new or unusual pest in your area, you can report it to the CDFA Pest Hotline at 1-800-491-1899. You can also visit the UC Cooperative Extension Ventura County or UC IPM websites for more information on agriculture, pests and IPM. Visit the California Department of Pesticide Regulation's (CDPR) website to read Accelerating Sustainable Pest Management: A Roadmap for California to learn more about the state's plan for safer, sustainable pest management practices.



Steps of IPM

1. Identify and Research Pest.

Correctly identify the pest and research its life cycle and beneficials to determine best preventative measures.

2. Monitor Pest **Populations.**

Use appropriate monitoring technique and keep detailed records of observations.



3. Determine the Action Threshold.

Determine when the pest population becomes an economic threat.

4. Choose the Appropriate Management Tactic.

Explore different management tactics, like biological, cultural, mechanical/physical and chemical controls. Choose which is appropriate for you.



5. Evaluate Results. Some Steps may be Repeated.

Determine if the management tactic was successful. Review records and continue monitoring. Explore other tactics if current one was unsuccessful.

Vegetable Crops

Crop	Year	Acres	Tons/ Acre	Production in Tons	Value/ Ton	Gross Value
Artichokes	2023	579	5.39	3,122	\$2,352.02	\$7,343,000
	2022	485	5.91	2,864	\$2,145.95	\$6,146,000
Asian Vegetables	2023	314	14.42	4,528	\$1,477.92	\$6,692,000
	2022	299	20.45	6,115	\$1,761.73	\$10,773,000
Beans	2023	1,005	1.80	1,812	\$2,006.62	\$3,636,000
- Charles	2022	918	3.24	<mark>2,</mark> 974	\$1,271.02	\$3,780,000
Beets	2023	814	10.81	8,800	\$410.91	\$3,616,000
	2022	807	12.80	10,330	\$719.94	\$7,437,000
Broccoli	2023	436	7.09	3,092	\$1,638.42	\$5,066,000
a second s	2022	316	9.27	2,931	\$1,564.99	\$4,587,000
Brussels Sprouts	2023	2,052	8.23	16,878	\$813.25	\$13,726,000
a share was	2022	1,676	9.32	15,620	\$739.24	\$11,547,000
Cabbage	2023	2,515	21.85	54,955	\$394.30	\$21,669,000
	2022	2,642	29.20	77,146	\$521.26	\$40,213,000
Carrots	2023	360	32.67	11,761	\$211.29	\$2,485,000
	2022	303	38.75	11,741	\$189.76	\$2,228,000
Celery	2023	15,292	52.55	803,662	\$208.98	\$167,950,000
	2022	12,470	34.82	434,205	\$293.18	\$127,301,000
Cilantro	2023	4,327	5.25	22,726	\$1,265.07	\$28,750,000
	2022	4,064	9.68	39,353	\$885.52	\$34,848,000
Cucumbers	2023	95	30.05	2,855	\$4,803.50	\$13,714,000
-	2022	106	58.81	6,234	\$1,471.45	\$9,173,000
Greens	2023	600	4.99	2,992	\$1,278.07	\$3,824,000
	2022	578	10.26	5,930	\$826.98	\$4,904,000
Herbs*	2023	1,185	1.64	1,948	\$6,624.74	\$12,905,000
	2022					



*Herbs is a new category reported for the first time in the 2023 year. It includes: Basil, Chives, Dill, Fennel, Garlic, Mint, Rosemary, Sage, Thyme and other Miscellaneous Herbs.

Lettuce is a newly combined category reported for the first time in the 2023 year. It includes: Leaf, Romaine and Head Lettuce. 2022 data reflects the combined Leaf and Romaine Lettuce information only. *Squash is a new category reported for the first time in the 2023 year. It includes: Summer and Winter Squash, including Pumpkins. The 2022 data reflects Pumpkin information only.

****Includes: Arugula, Asparagus, Baby Vegetables, Cauliflower, Eggplant, Endive, Escarole, Gourds, Kohlrabi, Leeks, Mushrooms, Onions, Peas, Radicchio, Sprouts, Sweet Corn, Tomatillos, Turnips and Watercress. Herbs, Lettuce- Head and Squash were removed from this category for the 2023 report.

Celery Mosaic Virus is a plant virus known for causing mosaic-like patterns of discoloration and deformity on celery leaves. It spreads primarily through aphids and infected plant material, impacting celery production significantly by reducing yield and causing crop losses. Ventura County, one of the world's major celery producers, implements rigorous measures to prevent the virus's establishment. Each year, from July 15th to August 5th, Ventura County observes a host-free period during which no celery cultivation occurs. This break interrupts the virus's life cycle. VCAWM staff actively scout and remove wild celery growing in ditch banks and wildland areas to ensure compliance with this host-free period.



Diamondback Moth larvae consume Brassicaceae (crucifers), like cole crops, mustard, and cruciferous plants. They remain active throughout much of the year in coastal regions. In California, natural predators such as parasitic wasps, ground beetles, spiders and fly maggots help regulate Diamondback moth populations. Over recent years, this pest has become a growing concern for growers in Ventura County, significantly affecting cabbage production, which was once a top crop. Growers, researchers and regulators are collaborating to develop effective solutions for managing this pest in Ventura County.

ons/ Acre	Production in Tons	Value/ Ton	Gross Value
5.76	4,178	\$1,474.15	\$6,159,000
5.38	4,769	\$1,639.97	\$7,821,000
3.40	19,053	\$2,000.42	\$38,114,000
8.21	30,403	\$ 820.81	\$24,955,000
2.96	14,891	\$1,079.18	\$16,070,000
9.20	34,511	\$642.11	\$22,160,000
5.39	52,125	\$1,113.59	\$58,046,000
7.70	56,121	\$946.45	\$53,116,000
1.04	30,329	\$417.92	\$12,675,000
7.44	19,428	\$727.87	\$14,141,000
9.12	4,743	\$1,171.62	\$5,557,000
2.23	9,868	\$1,090.80	\$10,764,000
2.50	5,125	\$1,047.22	\$5,367,000
4.82	7,484	\$453.23	\$3,392,000
6.06	23,838	\$1,722.50	\$41,061,000
1.06	30,596	\$1,074.94	\$32,889,000
			\$11,685,000
	P		\$28,500,000
			\$486,110,000
			\$460,675,000



What should you know about ACP and HLR?

The Asian Citrus Psyllid (ACP), Diaphorina citri, is a small, invasive insect that poses a severe threat to the citrus industry worldwide. Native to Asia, this psyllid has become a global concern due to its role in transmitting the devastating plant disease known as Huanglongbing (HLB), or citrus greening disease. The psyllid feeds on the leaves and stems of citrus trees, and during this process, it can introduce the HLB-causing bacterium, Candidatus Liberibacter asiaticus, into the tree's vascular system.

Once infected, citrus trees exhibit symptoms like mottled leaves, stunted growth and deformed fruit,

ultimately leading to tree death and crop losses. Effective management strategies to combat ACP and HLB include the use of insecticides, biological control agents and the removal of infected trees, as well as ongoing research to develop disease-resistant citrus varieties and promote strict quarantine measures to prevent its further spread.

Santa Paula and its surrounding area are currently under quarantine measures for HLB. Citrus plants, including backyard fruit, should not be transported out of the quarantine area without the proper mitigation methods taken to prevent the possible spread of HLB.



Citrus Trioza, also known as the African Citrus Psyllid or Trioza erytreae, is a tiny sap-sucking insect that is a significant pest of citrus trees. Native to Africa, this invasive psyllid is notorious for its ability to transmit the bacterium Candidatus Liberibacter africanus, responsible for the severe citrus disease known as African Citrus Greening or African Huanglongbing. Infected citrus trees exhibit symptoms like yellowing leaves, stunted growth

A. Uneven yellowing on opposing side of medial B. Adult ACP with instars.

C. Mottled pattern on leaf. D. Misshapen, discolored fruit that tastes bitter or salty. Seeds are not viable.



Scan QR Code to view the latest HLB quarantine

and misshapen, bitter fruit, leading to reduced fruit production and economic losses.

Many symptoms of HLB and African Citrus Greening resembles nutrient deficiencies in trees. If you suspect your citrus trees may be infected, you can contact the CDFA Pest Hotline by calling 1-800-491-1899 or by emailing reportapest@cdfa.ca.gov.

Livestock, Poultry & Seafood

Crop	Year	G
Livestock	2023	
- Cattle, Goats, Hogs & Sheep	2022	
Poultry	2023	
- Chickens & Eggs	2022	
Other Livestock	2023	
- Alpaca & Squab	2022	
Seafood	2023	
- Fish, Squid & Other	2022	
Total	2023	3 2 2 3 2 2 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3
ισται	2022	\$

Field Crops

Crop	Year	Acres	G
Hemp*	2023	19	
	2022	12	
Pasture, Hay & Grain	2023	607	
	2022	650	
Rangeland**	2023	194,116	
	2022	197,764	
Seed & Dry Beans	2023	452	
	2022	652	
Total	2023	195,192	
ισται	2022	199,078	

*Includes Biomass, Flower, Seed and Transplants. **Includes Fallow Cropland.



ross Value \$6,744,000 \$6,356,000 \$ 1,119,000 \$1,888,000 \$270,000 \$350,000 \$35,149,000 \$34,676,000 643,282,000 \$43,270,000

ross Value

\$2,401,000 \$1,285,000 \$489,000 \$504,000 \$ 421,000 \$403,000 \$2,695,000 \$1,420,000 \$6,006,000 \$3,612,000

Newcastle Disease Virus (NDV) is a highly contagious and often causes fatal infection that primarily affects birds, particularly poultry. Infected birds may exhibit a range of symptoms, including respiratory distress, nervous system disorders and a drop in egg production. In severe cases, the disease can lead to high mortality rates within poultry flocks. Newcastle disease can also infect wild birds, further complicating efforts to control its spread. Preventative measures include vaccination, biosecurity protocols and prompt culling of infected birds to limit outbreaks and minimize economic losses in the poultry sector. While the most recent case of Newcastle disease in Ventura County dates back to 2018, when it was detected in a private owner's flock of chickens, poultry farmers and animal health authorities continue to stay alert due to its potential impact on both commercial and backyard poultry.

West Nile Virus (WNV) is a vector-borne viral disease that primarily affects birds but can also infect humans, horses and other mammals. It is transmitted through infected mosquitoes feeding on multiple hosts. Horses are highly susceptible to WNV and can develop severe neurological symptoms when infected. Ventura County actively works to prevent the spread of WNV through a comprehensive program led by the Environmental Health Division of the Resource Management Agency. Vector Control inspectors conduct rigorous mosquito monitoring and control measures at potential breeding sites to safeguard public health against mosquitoborne diseases. The 2023 Vector Control Report highlights several key aspects of the surveillance program, including monitoring mosquito populations and species, testing adult mosquitoes for viruses, conducting serological analysis on sentinel chickens and monitoring dead birds. In 2023, two sentinel chicken flocks were deployed specifically for WNV surveillance. Each flock, comprising 11 chickens, was placed in April and underwent biweekly testing until mid-November. A total of 221 blood samples were collected and submitted to the California Department of Public Health (CDPH) for WNV testing. Notably, none of the chicken blood samples from Ventura County tested positive for WNV during the 2023 season. Statewide, out of 3,704 chicken blood samples tested, 187 were found positive for WNV.

Biological Control

157,323,741,329 Beneficials, Released on 10,000 Acres, Valued at \$7,595,000.

Agent	Target
Predatory Mites,	Scale, Mealybug,
Predatory Beetles,	Snail, Aphids, Mites,
Predatory Nematodes,	Whiteflies, Psyllid,
Various Predatory Insects	Thrips, Nematodes, Flies

Honey bees and their hives are susceptible to several pests and diseases. Different foulbrood diseases, mites, louse, small hive beetle, the Greater Wax Moth larvae and various other bacterial, viral and fungal infections plague apiaries if kept unchecked. Constant monitoring of hives is especially important when apiaries travel to California's Central Valley, where bees may be exposed to pests outside their normal territories. Some IPM practices include the placing of the hive, heat, cold, light, humidity, carbon dioxide, light, ventilation or sound to control a pest. Vacuuming, screens and trapping are some mechanical controls that can be implemented. In 2023, 100% of all out-of-state hive shipments were inspected by VCAWM staff. VCAWM staff partneres with CDFA to test our local apiaries to ensure they are free of pests and diseases.



Apiary Products

Crop	Year	Production in Pounds	Value/Pound	Gross Value
Beewax & Pollen	2023	38,000	\$4.05	\$154,000
	2022	30,000	\$4.50	\$135,000
Honey	2023	1,856,805	\$2.99	\$5,548,000
	2022	1,719,957	\$3.34	\$5,741,000
Pollination Use	2023			\$3,702,000
	2022			\$3,699,000
Total	2023			\$9,404,000
ισται	2022			\$9,575,000

How does the Queensland Fruit Fly quarantine affect you?

The Queensland Fruit Fly (QFF), Bactrocera tryoni, In 2023, the first QFF quarantine in North America is a highly destructive and economically significant was declared in Ventura County. 3 QFF were detected in a residential neighborhood in Thousand Oaks, pest insect that primarily affects a wide range of fruit crops, including citrus, stone fruits and grapes. resulting in a 4.5 miles radius quarantine around the finds. Growers of host crops withing the quarantine Native to eastern Australia, this invasive fly has established itself in various regions worldwide, are required to enter into compliance agreements causing substantial damage to fruit production. The with the CDFA and apply weekly bait treatments to crops before harvest and transport. Residents are female QFF lays its eggs in the flesh of ripening or ripe fruit, and the hatched maggots feed on the fruit, advised not to transport backyard fruits or vegetables causing it to rot and become inedible. Infestations to prevent the further possible spread of the pest can lead to significant crop losses and reduced fruit area. Residents inside the quarantine are advised quality. Eradicating the QFF involves a combination to double-bag all produce and dispose of it in their of strategies, including monitoring, baiting and regular garbage bin, not the organics waste bin. the use of conventional or organic chemical control methods. Preventative measures like strict quarantine regulations and public education efforts are essential to reduce the spread of this invasive pest and safeguard fruit production industries.





Scan QR Code to view the latest QFF quarantine map.

Adult QFF lateral view.

The Black Fig Fruit Fly (BFF), Silba adipata, also it inedible and reducing crop quality and yield. known as the Black Banded Fruit Fly, is a notable To combat the BFF, integrated pest management pest that primarily targets fig trees and other fruitstrategies are often employed, including monitoring bearing plants. These flies are widespread across traps, cultural practices and the use of insecticides. various regions, including parts of Asia, Europe and Although the BFF was first discovered in Ventura the Americas. Adult female flies lay their eggs in County in 2021, it is now known to be present in ripening or overripe fruit, particularly figs, which several counties in Southern California including serve as a crucial breeding ground for their maggots. Los Angeles, Orange, Riverside, Santa Barbara, San The infestation causes damage to the fruit, making Bernardino, San Diego and Ventura counties.



A Santa Rosa grower applying organic Spinosad bait to the base of a blueberry bush to attract QFF in the field.

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What other insect pests should you be aware of?

The Goldspotted Oak Borer (GSOB), Agrilus auroguttatus, is thought to have been introduced to California from Arizona (where it is native) through the movement of firewood. Adults feed on oak leaves, but this feeding is not reported to have significant impacts on tree health. The most damage comes from the larvae that burrow into the oaks and feed on the phloem. GSOB may weaken a tree, and a pathogen may ultimately kill it. To determine whether an oak is infested by the GSOB, there are some major symptoms to look for on and around oak trees: crown-thinning, patch die-back of branches, D-shaped exit holes in the bark, sawdust at the base of the tree and red bark staining. In 2023, VCAWM staff began trapping campgrounds



Lateral view of an adult GSOB with metallic green or black coloring with golden yellow spotting.

and wildland areas surrounding our county border with Los Angeles. Los Angeles county is considered infested with this insect and is currently working on developing an ordinance pertaining to the movement of firewood.



Female Spongy Moth with egg



Ants attending to scale.

The Spongy Moth, Lymantria dispar, is a widely recognized and highly destructive moth species found on the east coast of the United States. This moth is notorious for its voracious appetite during its caterpillar stage, where it feeds on a wide range of tree species, particularly hardwood trees like oaks, maples and birches. Spongy Moth infestations can lead to severe defoliation and weakened tree health, which can result in long-term damage to forests and urban green spaces. Control measures to combat the Spongy Moth often include aerial spraying, biological control agents and the removal of egg masses to prevent population explosions. VCAWM staff inspects the outdoor items of anyone moving into the county from a Spongy Moth quarantine area. In 2023, one egg mass was found, but it did not trigger a quarantine.

Aphids, scale and mealybugs are common pests found both in and out of agricultural settings. They can cause significant damage to plants by piercing them with their needle-like mouthparts and extracting the sugary sap, which can lead to wilting, deformation and the transmission of plant diseases. Their high reproductive rate allows populations to explode under favorable conditions, posing a threat to plant health and crop yield. Ants exacerbate the problem by relocating these pests to other plants and defending them from predators. One of the keys to keeping these pests in check is to control the ants that defend them. In response to aphid infestations, various management strategies are employed, such as the use of natural predators, insecticidal treatments and integrated pest management practices to maintain the balance between controlling these pests and preserving the health of plants. VCAWM staff inspect nurseries every year for the presence of these pests. If these pests are found on shipments of plant material coming into our county, the plants are put on hold. We submit samples to the state lab for identification and depending on the pest rating (see page 18), the shipment is either destroyed, treated or released.

Nursery Stock

Сгор	Year	Acres*	Production	Unit	Gross Value
Bedding Plants, Ground	2023	622	29,095,531	flats	\$42,778,000
Cover & Turf	2022	834	15,453,380	flats	\$46,684,000
Fruit & Nut Trees	2023	226	1,474,345	trees	\$31,586,000
	2022	256	1,508,617	trees	\$27,487,000
Herbaceous Perennials &	2023	199	6,785,763	containers/pots	\$35,957,000
Potted Plants**	2022	193	7,829,902	containers/pots	\$30,644,000
Propagative Material &	2023	106	131,939,115	cuttings/flats	\$16,356,000
Vegetable Transplants***	2022	159	50,892,234	cuttings/flats	\$16,270,000
Woody Ornamentals	2023	1,815	3,550,557	trees/shrubs	\$81,492,000
	2022	1,690	5,081,697	trees/shrubs	\$72,465,000
Total	2023	2,968			\$208,169,000
iotai	2022	3,132			\$193,550,000

*Acres includes greenhouse square feet. **Herbaceous Perennials and Potted Plants are newly combined into one category for the 2023 year report. Acres, Production and Value have been modified to reflect the change. ***Propagative Material and Vegetable Transplants are newly combined into one category for the 2023 year report. Acres, Production and Value have been modified to reflect the change.

Glassy-Winged Sharpshooter (GWSS), Homalodisca vitripennis, is an invasive insect species known for its voracious appetite and ability to transmit plant pathogens. The insect feeds on a wide range of plants, particularly grapevines, citrus and ornamental plants. It transmits the bacterium Xylella fastidiosa, responsible for Pierce's Disease. This disease is especially deadly to wine grapes as it blocks the plant's xylem vessels, leading to wilting, scorching and the eventual death of the plant. Management of the GWSS involves IPM strategies, which include the use of biological control agents and targeted pesticide applications to mitigate its impact on crops and prevent the spread of disease. In order to allow trade between the nursery-producing counties and wine/grape-producing counties, a robust regulatory program has been implemented in the state. VCAWM staff inspect every leaf of every host plant



destined for Central and Northern California. These shipments are then treated with an approved material and the shipment is certified that same day. In the case of shipments destined for Napa and Sonoma, all host plant material must be treated with Tame or Sevin, two chemicals known for their efficacy in controlling the emergence of GWSS.

What weeds are considered invasive pests?









Giant Reed, or Arundo donax, is a common sight along Ventura County waterways. It is native to the Middle East and Asia, but due to its versatility has been dispersed worldwide. It is among the fastestgrowing plants and poses a fire hazard in the county. The seeds are sterile, so the plant reproduces by its root mats. During storms, root mats can dislodge and relocate, effectively increasing the Arundo's spread. Currently, mechanical removal, the parasitic Arundo Wasp and chemical herbicides are employed to control this weed to allow native species to return to our riparian wetlands.

Oncosiphon piluliferum didn't get its common name of Stinknet for nothing. This cute yellow flower smells like potent turpentine. It grows in mats that choke out surrounding natives and grows rapidly, taking over large areas. This invasive weed from Africa also poses a threat to the federally endangered Stephens' kangaroo rat. Since the plant covers large patches and is low in nutrition, kangaroo rats in the area have lower body mass compared to their counterparts that feed on native plants. Removal of Stinknet has been difficult since burning and herbicides aren't always effective. This invasive weed has been found in a few locations within Ventura County.

Spotted Knapweed, Centaurea stoebe, is a noxious weed limited to only two locations in Ventura County's Los Padres National Forest. The County of Ventura found one of the locations from an enthusiast who reported it through the iNaturalist app. Inspectors remove the weeds by hand before they seed, then visit the sites over multiple years to ensure it has been eradicated. Spotted Knapweed is destructive to surrounding plants because it is more efficient at absorbing water and stunts the growth of neighboring natives. It also can produce tens of thousands of seeds, causing it to spread rapidly.

Fountain Grass, Cenchrus setaceus, originated in Africa but has rapidly spread in California. Currently, it is causing problems for our strangelooking native plant, the Giant Coreopsis, found along the Pacific Coast Highway near Point Mugu. Fountain Grass is outcompeting the Giant Coreopsis for root-hold between the rocky slopes that meet the sea. Fountain grass poses another potential threat because of its high flammability. The Giant Coreopsis is usually fairly safe growing between the rocks, but Fountain Grass fuels fires, bringing the flames closer to our native plants.

Сгор	Year	Acres	Gross Value
Aster, Gypsophila, Lace & Statice	2023	115	\$3,708,000
	2022	98	\$4,326,000
Chrysanthemums & Sunflowers	2023	60	\$3,459,000
	2022	48	\$3,956,000
Delphinium, Larkspur, Snapdragons,	2023	156	\$7,044,000
& Stock	2022	186	\$9,682,000
Lilies & Irises	2023	68	\$2,690,000
	2022	40	\$2,030,000
Lisianthus	2023	37	\$3,540,000
	2022	42	\$4,083,000
Miscellaneous Cut Flowers & Foliage*	2023	121	\$10,074,000
	2022	138	\$7,362,000
Total	2023	557	\$30,515,000
ΙΟΙΔΙ	2022	552	\$31,439,000

*Includes: Alstroemeria, Amaranthus, Anemone, Anthurium, Belladona, Bells of Ireland, Bird of Paradise, Bupleurum, Carnation, Celosia, Dahlia, Dianthus, Freesia, Gardenia, Gerbera, Gladiolus, Green Ball, Hyacinth, Hydrangea, Kangaroo Paw, Liatris, Limonium, Marigolds, Narcissus, Orchid, Ornithogalum, Protea, Ranunculus, Rose, Solidago, Solidaster, Stephanotis, Sweet Pea, Tuberose, Tulip and Veronica.



Pancratium maritium Tropical Pokeweed, is also known by its Phytolacca icosandra, common name the is native to the Sea Daffodil. Don't be neotropics but may fooled by this beautiful have established itself invasive species. It is here as an ornamental. originally native to It was discovered being sold in Ventura the Mediterranean Sea where it grows along County nurseries for coastal sand dunes. landscaping. The entire plant is toxic to humans It is thought that this plant was introduced and livestock. Birds are as an ornamental. The immune to the toxins Sea Daffodil currently and are thought to be

the main means of seed dispersal. It is commonly has been found at Buenaventura State Park, where its spread could potentially choke out sensitive mistaken for Common Pokeweed, which is native to native sand dune plants. the eastern United States. You can identify Tropical Pokeweed by its short pedicel (flower/fruit stem).

Cut Flowers



Organic Farming

Сгор	Year	Acres	Gross Value
Registered Growers	2023		147
	2022		143
Cut Flowers & Nursery Stock	2023	30	\$30,000
	2022	35	\$40,000
Field & Seed Crops	2023	871	\$63,000
<u> 1 1 1 1 1 1 1 1 1 1 1 1 1</u>	2022	1,154	\$179,000
Fruit & Nuts	2023	9,415	\$194,694,000
	2022	8,919	\$229,344,000
Livestock & Poultry	2023	100	\$30,000
	2022	110	\$30,000
Specialty Crops	2023	15	\$10,000
	2022	15	\$10,000
Vegetables & Herbs	2023	3,234	\$18,007,000
	2022	2,058	\$24,300,000
Tatal*	2023	14,780**	\$212,834,000
10LAI."	2022	13,393**	\$253,903,000

*Included in all other total values.

**Includes 1,115 acres of Fallow Cropland for 2023 and 1,102 acres for 2022.

CDFA Pest Rating System

Both California and the U. S. government maintain lists of pests that are considered threats to the wellbeing of the state or the country. If an organism is found to probably be "troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate", the government will designate the organism as a noxious pest. At the time that CDFA lists a species, it also receives a rating of A, B, C, D or Q which reflects the CDFA's view of the statewide importance of the pest, the likelihood that eradication or control efforts would be successful and the present distribution of the pest within the state.

"A" A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment. If found entering or established in the state, they are subject to enforced action involving eradication, quarantine regulation, containment, rejection or other holding action.

"B" A pest of known economic or environmental detriment and, if present in California, it is of limited distribution. They are subject to state endorsed holding action and eradication only to provide for containment, as when found in a nursery. They are subject to eradication, containment, suppression, control or other holding action.

"C" A pest of known economic or environmental detriment and, if present in California, it is usually widespread. They are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner.

"Q" An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

"D" An organism known to be of little or no economic or environmental detriment, to have an extremely low likelihood of weediness or is known to be a parasite or predator or pathogen of a pest or is an otherwise beneficial organism. There is no state enforced action.

Certified Farmers' Markets

MONDAY



Adventist Health Simi Valley CFM 3000 Sycamore Dr. & Avenida Simi 10 AM - 3 PM Michela Browning

TUESDAY

THURSDAY

Downtown Oxnard Downtown Plaza Park 500 S. C St. 9 AM - 1:30 PM The Oxnard Heritage Foundation

Thousand Oaks 222 W. Hillcrest Dr., East End Parking Lot 12 PM - 5 PM Karen Wetzel Schott

Ojai Community Farmers' Market 414 E. Ojai Ave. 3 PM - 7 PM Julie Gerard

FRIDAY

Simi Valley at Civic Center 2757 Tapo Canyon Rd. 11 AM - 3:30 PM Michela Browning

SATURDAY

Camarillo Hospice 2220 Ventura Blvd. 8 AM - 12 PM Ruff Smith

Downtown

Ventura Santa Clara and Palm St., City Parking Lot 8:30 AM - 12 PM Karen Wetzel Schott

Santa Paula CFM 801 E. Main St. 10 AM - 2 PM Ananda Luyt

VENTURA FISHERMAN'S MARKET 1449 Spinnaker Dr. 7 AM - 11 AM (206) 391-9054

WEDNESDAY

Midtown Ventura Pacific View Mall, West Parking Lot 9 AM - 1 PM Karen Wetzel Schott



SUNDAY

Ojai Farmers' Market 300 E. Matilija St. 9 AM - 1 PM Cynthia Korman

Channel Islands Harbor 3350 S. Harbor Blvd. 10 AM - 2 PM Melissa Farwell

Saticoy Farmers' Market 11321 Violeta St. 10 AM - 2 PM Sierra Doehr

Westlake Village 2797 Agoura Rd. 10 AM - 2 PM Melissa Farwell CERTIFIED FARMERS' MARKETS OPERATIONS MANAGERS' CONTACT INFORMATION

Michela Browning (714) 747-6811 pacific209@hotmaill.com

Sierra Doehr (805) 293-9417 info@saticoyfarmersmarket.org

> Melissa Farwell (818) 591-8216 Melissa@ccfm.com

Julie Gerard (805) 798-9165 ojaicommunityfarmersmarket@ gmail.com

Cynthia Korman (805) 698-5555 ojaifarmersmarket@cox.net

> Ananda Luyt (818) 299-7912

Ruff Smith (805) 389-6870 info@camarillohospice.org

The Oxnard Heritage Foundation (805) 247-0197 info@oxnarddowntowners.org

Karen Wetzel Schott (805) 529-6266 www.vccfarmersmarket.com

All Certified Farmers' Markets are open year-round, except Saticoy Farmers' Market is from Jun. - Dec.

PROGRAMS **CONSUMER PROTECTION**

DEPUTY AGRICULTURAL COMMISSIONER/SEALER JOHN BEAL

- PRODUCE STANDARDS (MELON/CITRUS)
- DIRECT MARKETING
- ORGANIC FARMING
- AG. DISASTER ASSESSMENT
- INVASIVE WEED MANAGEMENT
- TOLAND DUMP PEST HAZING
- EGG STANDARDS



Every year, the VCAWM collaborates with local organizations to host the Wildflower and Weed Show in April, at the Agricultural Museum in Santa Paula. There you can discover what local native and invasive plants to look out for in the county, buy native plants, take a garden tour with the UC Master Gardeners and participate in other informative activities. There is also fun for the kids, tike making bee hives for native pollinators from the invasive Arundo reed!

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The VCAWM keeps track of the A and Q rated invasive weeds in Ventura County. We utilize the citizen observations uploaded to the iNaturalist app to locate and evaluate the weeds. If A or Q rated weeds are found, we work with other agencies to control them. Here we see the VCAWM removing the Q rated invasive Senecio angulatus that was transported from Africa. The plant overtook the fence and neighboring trees. We worked with residents to remove the biomass while they took measures to mitigate the weed's return.



Premises Visited	65
Lots Inspected	1,634
Containers Inspected	235,060
Citrus Maturity Tests Conducted	36
Non-Compliances Issued	1
Containers Rejected	108

STANDARDIZATION

DIRECT MARKETING

Certified Producers	136
Certificates Renewals	
CPC Amendments	73
Certified Farmers'	29
Markets Inspections	
Warning Letters Issued	15
Notices of Proposed	4
Action Issued	
Notices of Non-	22
Compliance Issued	
Verification Inspections	30

ORGANICS	
Registrations	165
Audits Performed	29
Samples Collected	21

WEIGHTS & MEASURES DEPUTY AGRICULTURAL COMMISSIONER/SEALER JOHN BEALL & DEPUTY AGRICULTURAL COMMISSIONER/SEALER ANGELA GODWIN

- DEVICE INSPECTION
- PRICE VERIFICATION
- QUALITY CONTROL
- PETROLEUM AUDITS
- WEIGHTMASTER CERTIFICATE **INSPECTIONS**

		II N	
WEIGH	IING DEV	ICES	
IN	SPECTED		

Computing/Counter	2,466
Scales	
Vehicle Scales	72
Dormant/Platform	323
Scales	
Livestock Scales	2
Hanging/Crane Scales	22
Jewelry/Class II Scales	32
Miscellaneous	e ~ 8
Weighing Devices	
	\

MEASURING DEVICES INSPECTED

Retail Motor Fuel Meters	5,425
High Flow Meters	70
Liquid Propane Gas Meters	61
Vapor/Water/Electric Submeters	3,967
Vehicle Meters	22
Retail Water Vending Machines	280
EVSE Meters	135
Other Measuring Devices (Including Taxis)	37



Angela Godwin played a crucial role in facilitating the merger between the Agricultural Commissioner's Office and the Weights & Measures Division. We appreciate the knowlege and training she provided that enhanced the overall efficiency and effectiveness of the newly intergrated departments. Thank you and best wishes as Commissioner/Sealer in Mendocino County.

As part of its Quantity Control (QC) program, Ventura County Weights and Measures Division inspects packaged commodities labeled by weight, volume or count. In the photo, Deputy Ag Commissioner Angela Godwin, meticulously checks packages of lady beetles, ensuring they conform to net content statements and labeling standards required for sale in retail nurseries. Other important programs within the division include price verification, commercial weighing and measuring devices, petroleum advertising and weighmaster enforcement. The division also performs outreach to inform consumers and industries about weights and measures

regulations and how they provide equity in the marketplace for everyone.





QUANTITY CON PROGRAMS	FROL S		
Price Accuracy Inspections	464	,	
Test Purchases Made	8	CONSUME COMPLAIN	ER NT
Packages Checked for Net Quantity	71,188	Investigations	29

PEST EXCLUSION DEPUTY AGRICULTURAL COMMISSIONER DAVID WIRTA

- HIGH RISK PEST EXCLUSION
- MISC. PHYTOSANITARY CERTIFICATION
- SUDDEN OAK DEATH
- SEED PROGRAM
- TREE CROP PHYTOSANITARY CERTIFICATION
- INDUSTRIAL HEMP PROGRAM
- LETTUCE MOSAIC
- HLB TESTING

FedEx	1,731
UPS	868
Truck Inspections	633
Ocean Freight Inspections	26
Household Goods (Pest Inspections)	7
Notices of Rejection	23

OUTGOING SHIPMENTS

Federal Phytosanitary	10,508
Certificates	
State Phytosanitary	1,429
Certificates	
Certificates of	57
Quarantine Compliance	

PESTS IN	NTERCEPTED
A Rated	17 + 26 ACP
Q Rated	22 + 2 weeds

TOP 10 LEADING EXPORT **COUNTRIES**

Numbers are reported as number of exports per country.

- 1. Canada... 4.631 2. Japan... 1,399 3. Saudi Arabia... 520 4. Republic of Korea... 448 5. Mexico... 433 6. Taiwan... 407 7. United Arab Emirates... 372 8. Kuwait... 367
- 9. Netherlands... 233 10. Chile... 151

TOP 10 COMMODITIES EXPORTED

- Numbers are reported as number of shipments per commodity.
- 1. Strawberries... 3.276 2. Blueberries... 2,295 3. Raspberries... 2,116 4. Seeds... 1,790 5. Blackberries... 1.686 6. Lemons... 1,035 7. Parsley... 892 8. Kale... 482 9. Cabbage... 221

10. Nursery Stock... 149



If you have ever sent or received flowers in the mail, they may have been inspected by the county before being delivered. The VCAWM inspects boxes at the shipping terminals that contain plants, plant parts (like fruits and seeds) and even soil that could potentially harbor pests. Shipments come into Ventura County from other counties, states and countries that each have their own pest quarantines. VCAWM inspectors prevent the spread of pests by inspecting the package contents, reviewing the quarantines that apply based on origin and ensuring the appropriate paperwork is present for shipping into Ventura County.

Live

P'ants

Flowers-4-U

PEST MANAGEMENT DEPUTY AGRICULTURAL COMMISSIONER GRETA VARIEN

- GLASSY-WING SHARPSHOOTER
- INVASIVE SHOT HOLE BORER
- TRAPPING (LBAM/AM/ACP/GWSS)
- NURSERY PROGRAM
- ASIAN CITRUS PSYLLID-BULK CITRUS MONITORING
- ABANDONED ORCHARDS
- GREEN WASTE MONITORING
- CELERY MOSAIC
- APIARY PROGRAM

Nursery stock is the highest risk pathway for the movement of plant pests worldwide. Maintaining a system of clean, healthy nursery stock is essential to the protection of California's agriculture and environment. Supported by nursery license and acreage fees, nursery regulatory activities conducted by the county agricultural commissioners and their staffs are an integral part of

the state's agricultural pest prevention system. The VCAWM inspects incoming shipments of nursery stock, enforces plant quarantines and inspects nursery stock for proper labeling and condition. The VCAWM also issues shipping permits, nursery stock certificates and other required certificates to facilitate movement of nursery stock in trade.



GLASSY WINGED SHOOTER (GV		SHARP- VSS)
	Shipments Inspected	5,476
	Containers Inspected	416,995
	Flats Inspected	11,495
	GWSS Findings	45
	Outgoing	
	GWSS Finds at	1
These	Destination	
	ASIAN CITRUS P	SYLLID
	(ACP) BULK CI	TRUS
	New Compliance	55
	Agreements	
	Updated Compliance	12

SHOOTER (GWSS)		
Shipments Inspected	5,476	
Containers Inspected	416,995	
Flats Inspected	11,495	
GWSS Findings Outgoing	45	
GWSS Finds at Destination	1	

ITRUS PSYLLID BULK CITRUS

New Compliance	55
Agreements	
Updated Compliance	12
Agreements	
Total Compliance	1,056
Agreements Issued	
Compliance Inspections	568
Notices of Violations	25
Issued	ST PA
Notices of Proposed	4
Action Issued	

CELERY MOSAIC	
Permits Issued	30
Number of Sites	25
Bags Collected	91

PESTICIDE USE ENFORCEMENT DEPUTY AGRICULTURAL COMMISSIONER ANDY CALDERWOOD

- **RESTRICTED MATERIAL PERMITS**
- COMPLIANCE MONITORING
- ENFORCEMENT RESPONSE
- AIR MONITORING
- FIELDWORKER SAFETY
- PESTICIDE RELATED INVESTIGATIONS

Rodents, gophers and squirrels can be persistent pests to residential, industrial and agricultural settings. They can cause structural damage to buildings, injure crops and spread diseases. Rodenticides are pesticides used to aid in the control of rodents, gophers and squirrels. The VCAWM regulates the safe use of rodenticides by proctoring exams for private applicators' certificates, issuing pesticide use permits, registering pest control companies, conducting headquarters inspections on pest control companies and farms and inspecting pesticide applications.



PERMITS AND OPERATOR IDS

Agricultural Permits	399
Non-Agricultural Permits	54
Operator IDs	595

NOTICES OF INTENT AND PRE-APPLICATION INSPECTIONS

AC .	
Notices of Intent Received	2449
Pre-Application Inspections	320
Percent Pre-Application	13.1%

ENFORCEMENT RESPONSES

•	
Agricultural Civil Penalties	64
Structural Civil Penalties	0
Notices of Violation	81
Decision Reports	32
	Agricultural Civil Penalties Structural Civil Penalties Notices of Violation Decision Reports

PESTICIDE USE INSPECTIONS

Agricultural Use	346
Structural Use	72
Farm Headquarters	22
Pest Control Business Headquarters	28
Fieldworker Safety	63
Commodity Fumigation	5 Zuolis Cota
Pre-Application	320 856

Celebrating 96 years with ASSOCIATES INSECTARY and saying, "Farewell"

A few parting words from Associates Insectary's President/General Manager Brett Chandler: "Associates Insectary couldn't have existed without the dedication and commitment of our growers and our employees. I appreciate all you have done. Thank you."

An excerpt from the Associates Insectary website: In the 1920's, California's Ventura County citrus crops were being ruined by masses of Citrophilus mealybugs which smothered the valuable fruit with black, sticky, sooty mold. There were no chemical methods available to control this pest at the time. Using a model to form other Southern California agricultural cooperatives, seven citrus packing house "associations" joined together to hire an entomologist and finance and build "Associates Insectary". Growers were charged the equivalent of about \$85 an acre to raise the start-up funds necessary to construct the buildings and begin operations. By the mid-1930's, additional pests were becoming a problem, and it became obvious that an "integrated" approach was needed to continue to successfully combat these new pests. A fleet of spray equipment was designed and fabricated by our staff to be used in conjunction with the release of beneficial insects and grove inspections by entomologists. This integrated approach pioneered by Associates Insectary has since been labeled Integrated Pest Management (IPM).



"For nearly a century, Associates Insectary has led the way in integrated pest management and biological control, effectively combating agricultural pests in Ventura County with beneficial insects. We sincerely appreciate your decades of dedication and service to the industry. Your presence, professionalism, and expertise will be fondly remembered and greatly missed." - County of VenturaAgricultural Commissioner Korinne Bell



Department of AGRICULTURE/ WEIGHTS & MEASURES

AGRICULTURAL COMMISSIONER Korinne Bell SEALER John Beall CHIEF DEPUTY AGRICULTURAL COMMISSIONER Greta Varien

DEPUTY AGRICULTURAL COMMISSIONERS Ameer Atrash John Beall Andy Calderwood David Wirta

ADMINISTRATIVE SUPPORT

Blair Brillante Miriam Mendez Anthony Ortiz Leticia Ramirez Marlene Ridge Annie Rodriguez Iovan Sedano Lena Stehly Sara Venegas

Matthew Aitken Marco Cabrera Rebecca Cano Vanessa Cruz Shravan Dasoju Dennis Diaz Adriana Flores Molly Gonzalez

WEIGHTS & MEASURES INSPECTORS

William Gildea Austin MacPherson Thomas VanBreemen Peter Wilder

WEIGHTS & MEASURES

TECHNICIAN Cory Baird Sarah Snow

SUPERVISING AGRICULTURAL INSPECTOR/BIOLOGISTS

Lauren Balthazor David Carrillo Timothy Fritch John Mikesell Michael Otani Erika Zapien

AGRICULTURAL INSPECTOR/BIOLOGISTS

Eileen Guettler Dylan Johnson Jennifer Le Jeremy Licea Melonie Morgan Mahsa Pakzad Nanette Quayson Rafael Raygoza Sara Safaee

INSECT DETECTION

SPECIALISTS Eliseo Bonita Hayden Fausset Talisa Garcia Mason Gilfoy Nicole Goulart Kris Hamilton Lance Hermann Francisco Hernandez Victor Melgoza Kevin Minck Ruben Ortega Desiree Teran

SUPERVISING WEIGHTS & MEASURES INSPECTOR

Anthony McInally

AGRICULTURAL FARM COMMUNITY ASSISTANT Javier Martinez

ENVIRONMENTAL RESOURCE ANALYST Alec Thille

> Loveleen Sandhu Brian Snodgrass Brenda Tello Eduardo Ventura Taylor Wallace Shirley Williams Tom Yanagihara Cristina Zamora

TECHNICAL SPECIALISTS

Alberto Acho Lopez Evaristo Aguilar Emilio Coronado Madeline Hansen Monica Mendez Victoria Mendez Megan Valverde

STUDENT WORKER III

Zackary Addison Jose Escamilla Joseff Francisco Brooke Perry Jaquelyn Yepez