

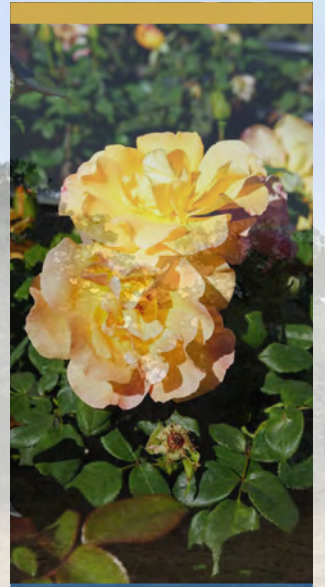
COUNTY OF SAN DIEGO



CROP STATISTICS & ANNUAL REPORT



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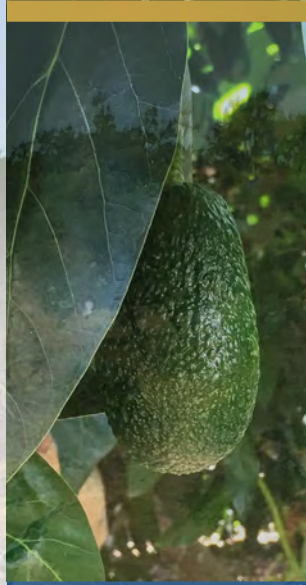


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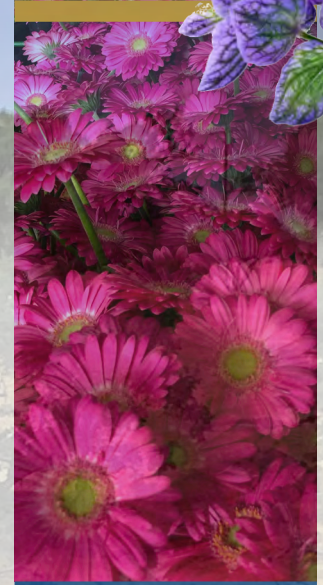
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# County of San Diego

HA DANG  
AGRICULTURAL COMMISSIONER/  
SEALER OF WEIGHTS & MEASURES

DEPARTMENT OF AGRICULTURE WEIGHTS AND MEASURES  
9325 HAZARD WAY, STE. 100, SAN DIEGO, CA 92123-1217  
(858) 694-2739  
FAX (858) 467-9697  
<http://www.sdcawm.org>

MĒGAN MOORE  
ASST. AGRICULTURAL COMMISSIONER/  
SEALER OF WEIGHTS & MEASURES

Secretary Karen Ross  
California Department of Food and Agriculture  
and  
The Honorable Board of Supervisors of the County of San Diego  
Supervisor Nathan Fletcher, Chair  
Supervisor Nora Vargas, Vice Chair  
Supervisor Joel Anderson  
Supervisor Terra Lawson-Remer  
Supervisor Jim Desmond

I respectfully submit the County of San Diego Department of Agriculture, Weights and Measures' 2021 Crop Statistics and Annual Report of acreage, yield, and value of agricultural production for San Diego county. In 2021, the direct economic output from agricultural production totaled \$1,752,999,086. This equates to a decrease of about \$57 million or 3.2% from 2020's total value of \$1,810,326,411. The overall acreage devoted to commercial agriculture went from 224,549 acres in 2020 to 219,874 acres in 2021 for a decrease of about five thousand acres or 2.1% overall. The reductions in value and acreage are due to decreasing trends in cut flower products, and fruit and nut production that reflect impacts from the COVID pandemic, the ongoing drought, and the high production costs based on local growers' input.

This report details crop information and highlights the many diverse programs that promote the County's Framework for the Future by supporting food security, agricultural trade, public health, consumer confidence, and a sustainable environment.

Special thanks to the producers, industry groups, and public agencies who provided vital information for this report. I would also like to express gratitude for your leadership and support. Finally, much appreciation to my outstanding staff for their continued superior service to our community.

Regards,

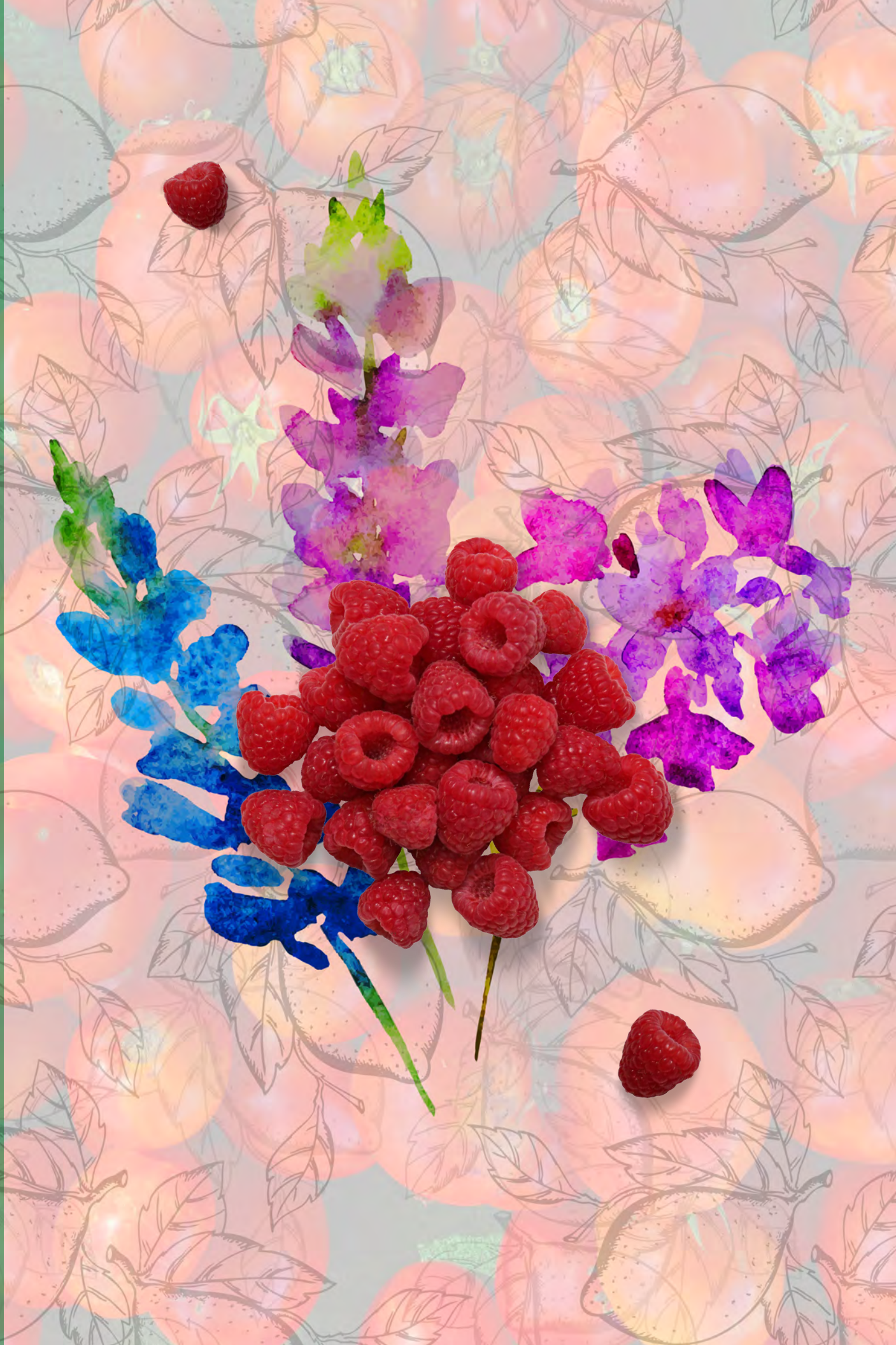
Ha Dang  
Agricultural Commissioner/  
Sealer of Weights and Measures



# OVERVIEW OF CHANGES FROM LAST YEAR

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COUNTY OF SAN DIEGO 2021 CROP STATISTICS & ANNUAL REPORT





# 2021 Overview of Changes



**The overall value of commercial agriculture in San Diego county decreased 3.17% from 2020 to 2021.** This change is mainly due to the decrease in total production value of Avocados by 46%. This drop was mitigated due to increases in Nursery Products - a 16% increase in the value of Indoor Flowering & Foliage plants together with a 13% increase in Bedding Plants, Color, Perennials, Cacti & Succulents. Livestock & Poultry and Forest Products increased in value while all other groups decreased. The impact of COVID-19 caused some crops to go up and others to go down in value during the year. Some growers reported labor shortages and business closures as well as increased cost of labor, high cost of water, and drought while others had an increase in sales due to the pandemic demand for certain crops.

Bedding Plants, Color, Perennials, Cacti & Succulents is the top crop now, bringing a total of \$488,376,727 or 28% of the total value of agriculture production in San Diego county. They are followed by Ornamental Trees and Shrubs valued at \$382,387,500 equaling 22% of the region's overall agriculture production.

Nursery & Cut Flower Products rose by 3% to a value of \$1,312,707,724. Even though there were increases in Nursery Products values, there was a 24% decrease in Cut Flower Products' overall value. Wax Flowers Outdoor decreased by 20%, while Other Cut Flower & Bulbs decreased by 18%. The reduction in value in some Nursery & Cut Flower Products is due to a decrease in acreage, while the increase of the overall value may be attributed to the increased demand.

Fruit & Nut Crops' value decreased to \$236,848,841, a 31% drop from the previous year. The overall Citrus value decreased by 21% from last year, due in part to a 11% decrease in acreage. All Citrus crops decreased in value, led by Lemon which dropped by 25% and Grapefruit which dropped by 21%. This trend in decrease in value driven by the decrease in acreage was also seen in Grapes, Wine. The biggest impact in value decrease of this Fruit & Nut Crops group comes from the drop in total value of Avocados, since it is a crop with the largest acreage. Its value was reduced to \$82,832,387, a drop of 46% from the previous year equaling a decrease of \$70,125,271 due to drop in yield by 47% that was driven by hot and dry weather conditions.

Vegetable & Vine Crops' value decreased to \$120,881,147, a 1.5% decrease from last year. This small decrease was due to combined decreases in the value of Vegetables, Other and Squash by 1.5% and 21%, respectively. On the other hand, there were increases in the value of other crops, such as Cucumbers by 19% and Herbs/Spices by 7%. These increases could not offset the overall decrease in value of Vegetable & Vine Crops. The reduction in value of the group can be attributed to the decrease in acreage and lower yields.

Apiary products were valued at \$3,741,323, a 16% decrease from last year. The value of Honey & Beeswax declined 85% from the previous year's value. This year's decline is due to the reduction in rainfall, which supports bees' ability to produce honey.

Livestock & Poultry were valued at \$73,696,906, a 25% increase from last year. This was caused by the significant growth in most of Livestock & Poultry Products.

Field Crops' value decreased to \$4,257,868, which is 6% lower than last year. Despite the increase in acreage, the total value of Field, Other went down by 4% as a result of the decrease in yield and the lack of demand.









## 2021 HIGHLIGHTS

<b>TOTAL VALUE OF PRODUCTION</b>	<b>\$1,752,999,086</b>
Total Acreage	219,874
Commodity with Highest Reported Dollar Value	Bedding Plants, Color, Perennials, Cacti & Succulents
Highest Dollar Value Per Acre	Indoor Flowering & Foliage Plants
Lowest Dollar Per Acre	Rangeland
Greatest % Increase in Total Dollar Value from 2020	Livestock and Poultry
Greatest % Decrease in Total Dollar Value from 2020	Honey & Beeswax
Commodity with Greatest Amount of Planted Acreage	Avocados



CROP	YEAR	ACRES	TOTAL VALUE
Nursery & Cut Flower Products	2021	11,429	\$1,312,707,724
	2020	11,731	\$1,274,784,274
Fruit & Nut Crops	2021	26,014	\$236,848,841
	2020	27,455	\$344,250,521
Vegetable & Vine Crops	2021	3,342	\$120,881,147
	2020	2,918	\$122,665,855
Field Crops	2021	179,088	\$4,257,868
	2020	182,444	\$4,515,221
Apiary Products	2021		\$3,741,323
	2020		\$4,433,270
Forest Products	2021		\$865,277
	2020		\$868,398

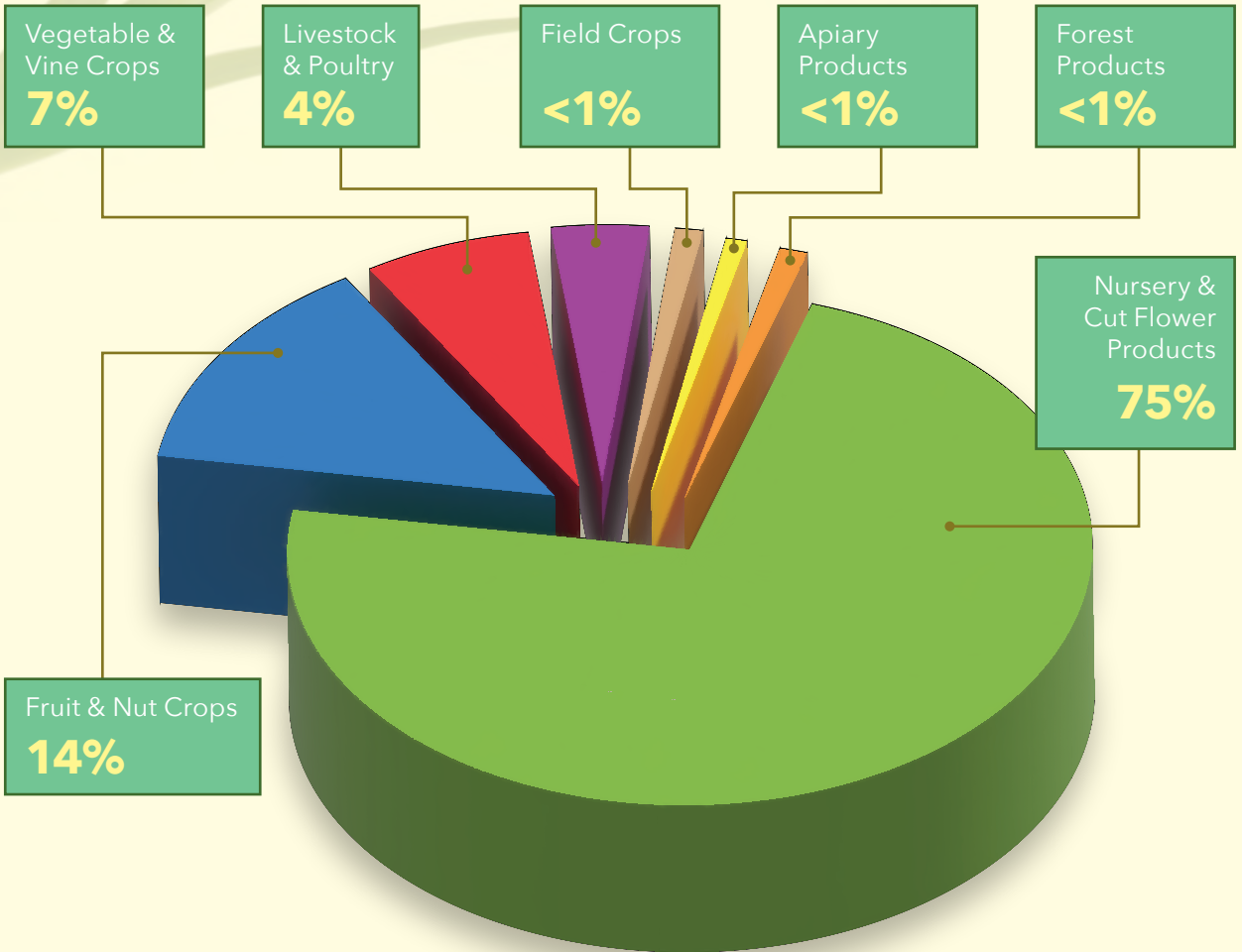


## CROPS BY GROUP CONTINUED

Livestock & Poultry	2021		\$73,696,906
	2020		\$58,808,872
Totals	2021	219,874	\$1,752,999,086
	2020	224,549	\$1,810,326,411



## CROPS BY GROUP OVERALL

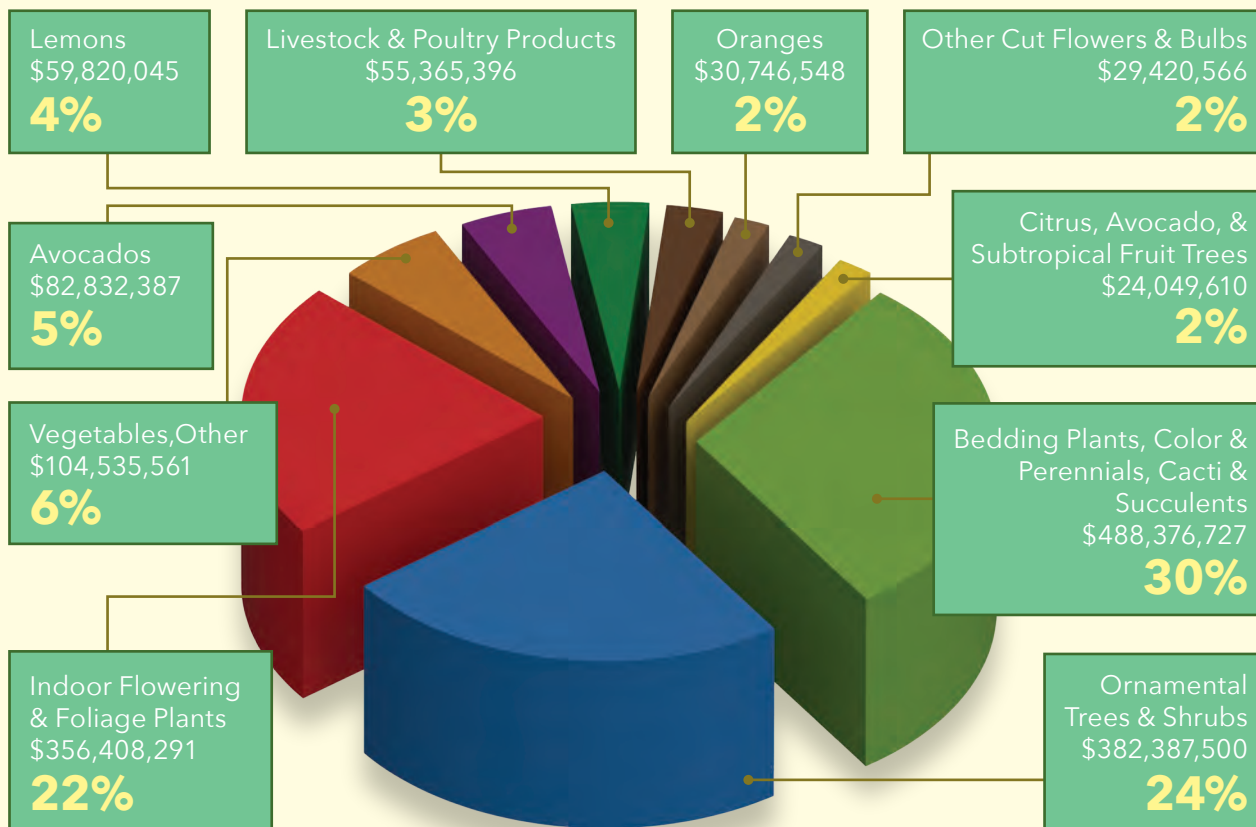




## TOP TEN CROPS

TOP TEN CROPS	GROUP	2021 VALUE
Bedding Plants, Color, Perennials, Cacti & Succulents	Nursery & Cut Flower Products	\$488,376,727
Ornamental Trees & Shrubs	Nursery & Cut Flower Products	\$382,387,500
Indoor Flowering & Foliage Plants (including Poinsettia)	Nursery & Cut Flower Products	\$356,408,291
Vegetables, Other	Vegetable & Vine Crops	\$104,535,561
Avocados	Fruit & Nut Crops	\$82,832,387
Lemons	Fruit & Nut Crops	\$59,820,045
Livestock & Poultry Products	Livestock & Poultry	\$55,365,396
Oranges	Fruit & Nut Crops	\$30,746,548
Other Cut Flowers & Bulbs	Nursery & Cut Flower Products	\$29,420,566
Citrus, Avocado, & Subtropical Fruit Trees	Nursery & Cut Flower Products	\$24,049,610

## TOP 10 CROPS OVERALL





## NURSERY PRODUCTS

CROP	YEAR	ACRES	TOTAL VALUE
Bedding Plants, Color, Perennials, Cacti & Succulents	2021	1,976	\$488,376,727
	2020	2,092	\$431,766,617
Cacti & Succulents*	2021	921	
	2020	1,002	
Citrus, Avocado, & Subtropical Fruit Trees	2021	235	\$24,049,610
	2020	252	\$27,435,499
Indoor Flowering & Foliage Plants (including Poinsettia)	2021	881	\$356,408,291
	2020	879	\$307,662,324
Ornamental Trees & Shrubs	2021	4,950	\$382,387,500
	2020	4,950	\$432,039,762
Turf, Cut Christmas Trees & Industrial Hemp	2021	790	\$15,267,941
	2020	710	\$15,311,534
<b>Total Nursery Products</b>	2021	8,832	\$1,266,490,069
	2020	8,884	\$1,214,215,736

\*Combined Cacti & Succulents with Bedding Plants, Color, Perennials



## CUT FLOWER PRODUCTS

CROP	YEAR	ACRES	TOTAL VALUE
Leptospermum Outdoor	2021	205	\$599,231
	2020	275	\$990,275
Proteas Outdoor	2021	390	\$2,222,053
	2020	464	\$4,238,281
Wax Flowers Outdoor	2021	592	\$4,307,998
	2020	614	\$5,396,868
Other Cut Flowers & Bulbs	2021	830	\$29,420,566
	2020	890	\$35,805,590
Foliage	2021	580	\$9,667,807
	2020	605	\$14,137,525
<b>Total Flower Products</b>	2021	2,597	\$46,217,655
	2020	2,848	\$60,568,539
<b>Total Nursery &amp; Cut Flower Products</b>	2021	11,429	\$1,312,707,724
	2020	11,731	\$1,274,784,274



## FRUIT &amp; NUT CROPS

CROP	YEAR	ACRES HARVESTED	TONS/ACRE	TONS	US \$/TON	TOTAL VALUE
Apples	2021	133	2	215	\$2,372	\$510,195
	2020	148	2	253	\$2,167	\$547,806
Total Avocados	2021	14,458	2	26,577	\$3,117	\$82,832,387
	2020	14,421	4	50,540	\$3,026	\$152,957,658
Hass	2021	13,656	2	25,304	\$3,123	\$79,012,440
	2020	13,604	4	48,020	\$3,052	\$146,561,356
Lamb-Hass	2021	598	2	927	\$3,067	\$2,843,217
	2020	614	3	2,107	\$2,607	\$5,491,974
Other	2021	204	2	346	\$2,823	\$976,730
	2020	203	2	413	\$2,190	\$904,328
Berries, Other	2021	209	6	1,358	\$8,989	\$12,208,403
	2020	209	8	1,730	\$9,173	\$15,869,496
Total Citrus	2021	8,812	14	125,165	\$917	\$114,746,057
	2020	9,890	17	169,836	\$860	\$146,090,853
Grapefruit	2021	1,062	17	18,246	\$769	\$14,024,594
	2020	1,245	21	25,773	\$686	\$17,687,818
Kumquats	2021	51	4	186	\$3,552	\$661,130
	2020	47	4	182	\$3,843	\$698,952
Lemons	2021	2,847	17	48,057	\$1,245	\$59,820,045
	2020	3,257	23	73,295	\$1,082	\$79,334,418



## FRUIT & NUT CROPS

CROP	YEAR	ACRES HARVESTED	TONS/ ACRE	TONS	US \$/ TON	TOTAL VALUE
Limes	2021	244	4	1,081	\$1,620	\$1,751,534
	2020	175	6	1,046	\$1,903	\$1,989,312
Oranges	2021	4,052	13	51,015	\$603	\$30,746,548
	2020	4,402	14	60,219	\$597	\$35,935,060
Tangerines, Tangelos	2021	556	12	6,580	\$1,177	\$7,742,206
	2020	764	12	9,321	\$1,121	\$10,445,293
Grapes, Wine	2021	986	2	2,244	\$1,804	\$4,048,376
	2020	1,372	2	3,073	\$1,694	\$5,206,091
Fruit & Nuts, Other	2021	1,080				\$9,149,158
	2020	1,082				\$9,353,077
Persimmons	2021	136	3	422	\$2,717	\$1,145,563
	2020	133	5	655	\$2,017	\$1,321,617
Strawberries	2021	200	23	4,600	\$2,654	\$12,208,701
	2020	200	27	5,397	\$2,391	\$12,903,923
<b>Total Fruit &amp; Nut Crops</b>	2021	26,014				\$236,848,841
	2020	27,455				\$344,250,521



## VEGETABLE &amp; VINE CROPS

CROP	YEAR	ACRES HARVESTED	TONS/ ACRE	TONS	US \$/ TON	TOTAL VALUE
Cucumbers	2021	65	10	672	\$1,687	\$1,134,443
	2020	63	10	632	\$1,505	\$950,910
Herbs/Spices	2021	153	11	1,697	\$6,626	\$11,245,010
	2020	171	9	1,607	\$6,563	\$10,549,623
Squash	2021	383	12	4,460	\$889	\$3,966,134
	2020	380	9	3,427	\$1,468	\$5,028,465
Tomatoes *	2021	1,307				
	2020	1,197				
Vegetables, Other *	2021	2,741				\$104,535,561
	2020	2,304				\$106,136,857
<b>Total Vegetable &amp; Vine Crops</b>	2021	3,342				\$120,881,147
	2020	2,918				\$122,665,855

\* Combined Tomatoes with Vegetables, Other



## LIVESTOCK & POULTRY

COMMODITY	YEAR	NUMBER OF HEAD	TOTAL WEIGHT CWT	US \$/ CWT	TOTAL VALUE
Cattle & Calves	2021	13,200	118,800	\$118	\$13,992,000
	2020	13,300	119,700	\$114	\$13,698,468
Hogs & Pigs	2021	1,491	3,728	\$67	\$249,805
	2020	1,455	3,638	\$60	\$218,295
Chickens	2021		58,234	\$68	\$3,980,438
	2020		61,299	\$67	\$4,107,779
Lambs & Sheep	2021	923	923	\$118	\$109,267
	2020	952	952	\$114	\$108,314
Livestock & Poultry Products *	2021				\$55,365,396
	2020				\$40,676,017
<b>Total Livestock &amp; Poultry</b>	2021				\$73,696,906
	2020				\$58,808,872

*\*Combined Milk and Eggs, Chicken Market with Livestock & Poultry Products*

## FOREST PRODUCTS

COMMODITY	YEAR	TOTAL VALUE
Timber *	2021	—
	2020	\$15,908
Firewood	2021	\$865,277
	2020	\$852,490
<b>Total Forest Products</b>	2021	\$865,277
	2020	\$868,398

*\*Non-reported*





## FIELD CROPS

COMMODITY	YEAR	ACRES	TONS/ACRE	TONS	US\$/TON	TOTAL VALUE
Hay, Oat	2021	1,784	1	2,498	\$195	\$486,033
	2020	1,725	2	3,450	\$139	\$479,550
Pasture, Irrigated	2021	714				\$1,465,692
	2020	739				\$1,472,827
Range	2021	176,173				\$961,903
	2020	179,768				\$1,168,493
Field, Other *	2021	417				\$1,344,239
	2020	212				\$1,394,351
<b>Total Field Crops</b>	2021	179,088				\$4,257,868
	2020	182,444				\$4,515,221

\*Combined Industrial Hemp with Field, Other



## APIARY PRODUCTS

COMMODITY	YEAR	TOTAL VALUE
Honey & Beeswax*	2021	\$79,023
	2020	\$516,890
Pollination	2021	\$3,662,300
	2020	\$3,916,380
<b>Total Apiary Products</b>	2021	\$3,741,323
	2020	\$4,433,270

\*Combined Beeswax with Honey

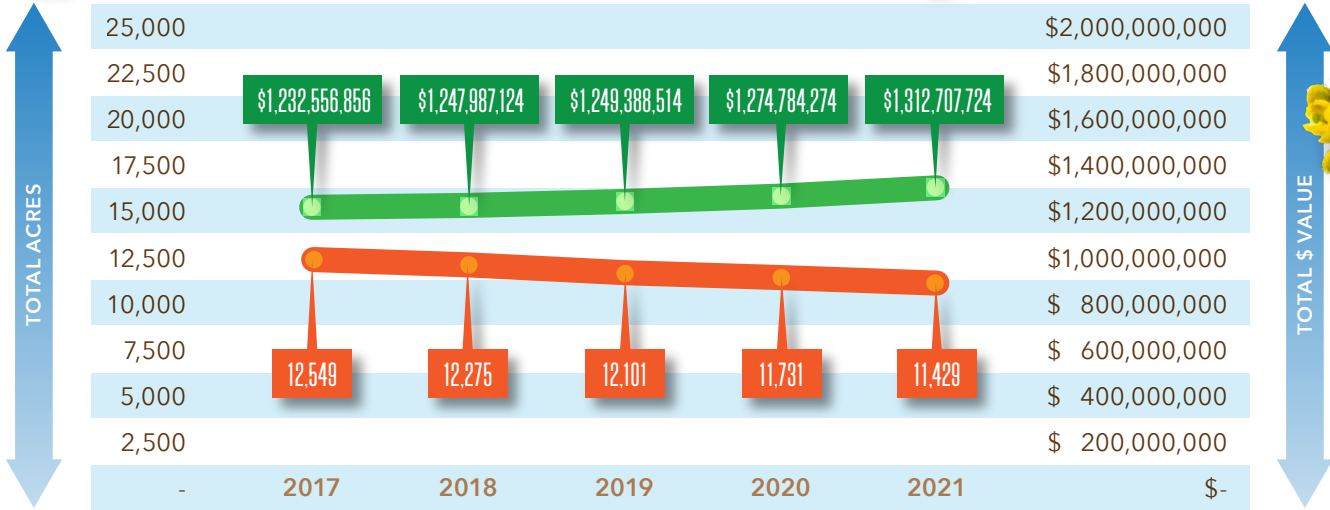




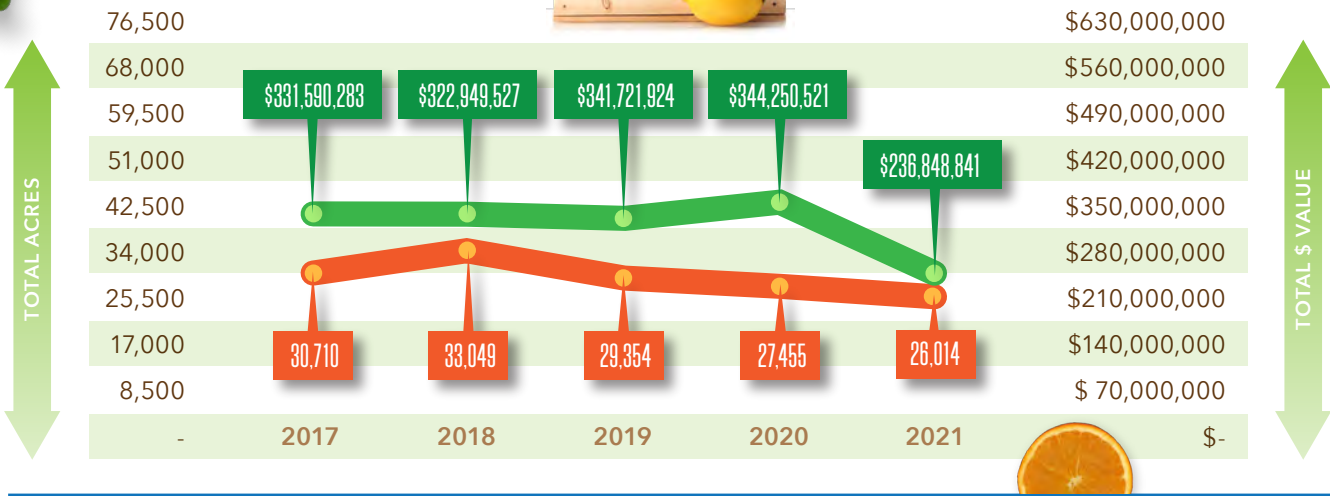
# FIVE YEAR TREND ANALYSIS

TOTAL ACRES  
TOTAL \$ VALUE

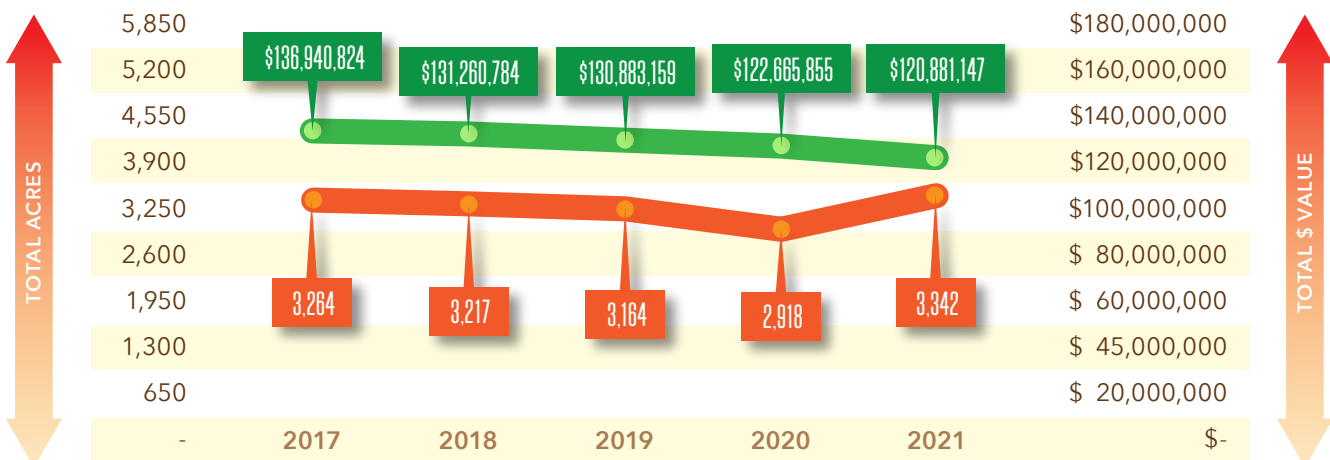
## NURSERY & CUT FLOWER PRODUCTS



## FRUIT & NUT CROPS



## VEGETABLE & VINE CROPS





# INTERNATIONAL TRADING PARTNERS

IN 2021 WE CERTIFIED 8,982 SHIPMENTS OF PLANT MATERIAL (INCLUDING FRUITS AND VEGETABLES) GOING TO 47 COUNTRIES

## Domestic Trading



Top issued certificates of commodities grown in **San Diego county** exported in the United States

Commodity: **Ornamental Trees & Shrubs**  
Certificates: **599**



Commodity: **Cacti & Succulents**  
Certificates: **166**



Commodity: **Tomato Plants**  
Certificates: **115**



## TOP TRADING PARTNERS

Mexico	<b>6,290</b>
Canada	<b>1,607</b>
<b>Total</b>	<b>7,897</b>

## SOUTH AMERICA

Chile	<b>7</b>
Ecuador	<b>4</b>
Paraguay	<b>2</b>
Uruguay	<b>1</b>
<b>Total</b>	<b>14</b>

## CENTRAL AMERICA & THE CARIBBEAN

Guatemala	<b>37</b>
Honduras	<b>13</b>
Bahamas	<b>13</b>
Trinidad and Tobago	<b>5</b>
Panama	<b>4</b>
Bermuda	<b>1</b>
Aruba	<b>1</b>
Costa Rica	<b>1</b>
<b>Total</b>	<b>75</b>

## ASIA

Japan	<b>447</b>
Korea, Republic of	<b>154</b>
Taiwan	<b>109</b>
Hong Kong	<b>43</b>
Thailand	<b>23</b>
United Arab Emirates	<b>13</b>
Singapore	<b>12</b>
India	<b>12</b>
China	<b>7</b>
Jordan	<b>2</b>
Armenia	<b>1</b>
Macao	<b>1</b>
Philippines	<b>1</b>
Indonesia	<b>1</b>
Kuwait	<b>1</b>
<b>Total</b>	<b>827</b>

## AUSTRALIA & OCEANIA

New Zealand	<b>38</b>
Australia	<b>23</b>
<b>Total</b>	<b>61</b>

## DOMESTIC PARTNERS

### Top three states by certificate count

Arizona	<b>378</b>
Texas	<b>285</b>
Florida	<b>142</b>

### Top three counties by certificate count

Kern	<b>245</b>
Fresno	<b>183</b>
Tulare	<b>153</b>

## EUROPE

Netherlands	<b>50</b>
France	<b>12</b>
United Kingdom	<b>9</b>
Spain	<b>6</b>
Italy	<b>4</b>
Germany	<b>4</b>
Greece	<b>4</b>
Ukraine	<b>3</b>
Poland	<b>2</b>
Belgium	<b>2</b>
Switzerland	<b>1</b>
Bulgaria	<b>1</b>
Russian Federation	<b>1</b>
Malta	<b>1</b>
<b>Total</b>	<b>100</b>

## AFRICA

South Africa	<b>4</b>
Egypt	<b>4</b>
<b>Total</b>	<b>8</b>









# Sustainable Agriculture 2021



Sustainable agriculture promotes the economic viability of local farms and resident's quality of life while preserving natural resources for future generations' needs in California. An important component of the sustainability efforts is related to mitigation activities that are essential to prevent the spread of invasive agricultural pests. This work contributes to the security of the food system and helps protect the region's most vulnerable populations.

The County of San Diego Department of Agriculture, Weights and Measures implements state regulatory programs for the detection, control, and eradication of invasive insect pests, plant diseases, and weeds that cause economic and environmental harm and supports the California Department of Food and Agriculture (CDFA) in enforcing agricultural quarantines to prevent the spread of invasive pests.

CDFA pest ratings inform county agricultural commissioners and the public of a pest's potential harm to agriculture and the environment. The pest rating also signifies its potential impact to the public by interfering with home/urban gardens and food security. Finally, the pest rating guides the regulatory actions that CDFA and county agricultural commissioners and must take to mitigate these pest risks.

Below is a list of CDFA pest rating definitions our department follows:

**A-rated:** A pest or disease that is known to have a detrimental impact on agriculture and the environment, and is not known to be established in California.

**B-rated:** A pest or disease that is known to have a detrimental impact on agriculture and the environment, and is not known to be established in California.

**C-rated:** A pest or disease that is known to have a detrimental impact on agriculture and the environment, and is established in some areas of California.

**Q-rated:** A pest or disease requiring a temporary "A" rating pending the determination of a permanent rating. These organisms are usually new to California, or their impacts are unknown but are suspected of being economically harmful to agriculture.

**W-rated:** A plant that is on the California State Noxious Weed list. A "noxious weed" is any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate.

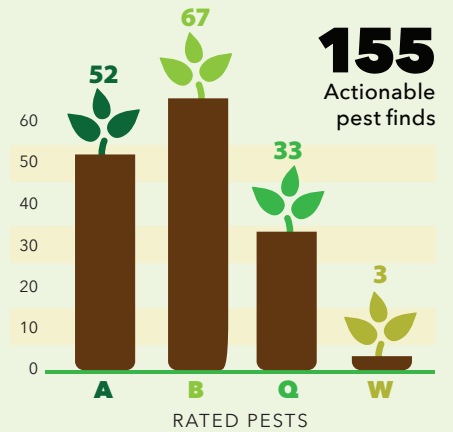
The infographics on the following two pages show the sustainable agriculture efforts in San Diego.



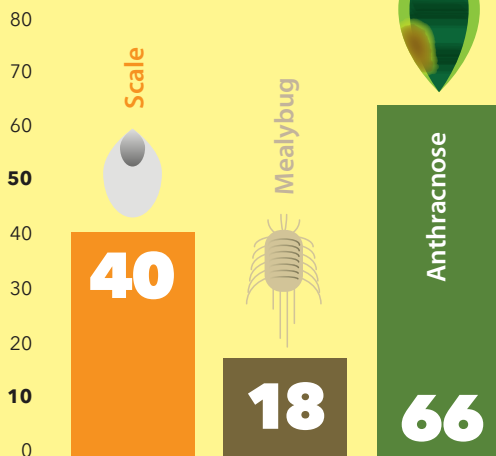


# SUSTAINABLE AGRICULTURE

## HIGH RISK PEST EXCLUSION

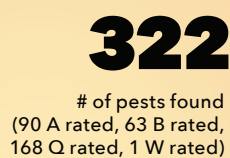


## INTERCEPTED PESTS



AWM inspectors intercepted and remedied a total of 66 anthracnose fungal diseases on incoming shipments of nursery stock. Anthracnose diseases caused by *Colletotrichum* spp. result in dark lesions on leaves and cankers on twigs and stems. These symptoms reduce plant quality and growth, affecting marketability of ornamental plants and cut foliage. Other plants grown in greenhouses are at high risk of being infected because of the close proximity of plants in nurseries. AWM also intercepted and remedied a total of 40 scale and 18 mealybug insect infestations (Families Coccidae, Diaspididae, and Pseudococcidae). Both are known to be particularly hard to treat and damaging to horticultural products.

## DETECTOR DOG TEAMS



82% were incorrectly marked

556



# SUSTAINABLE AGRICULTURE

## PLANT PEST IDENTIFICATION LAB

Our Pest Identification Lab provides rapid identification allowing a quick response in the fight against invasive pests that damage agricultural crops and landscape plants. Some have a known economic importance (A-rated) and others are suspected of economic importance (Q-rated).




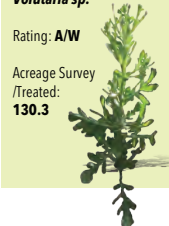

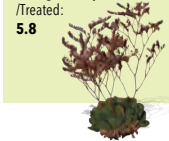
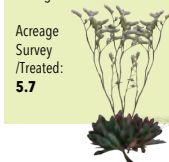
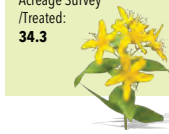



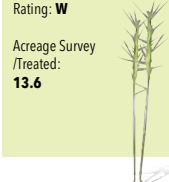



### Rated pests identified

**201** A-rated  
**211** Q-rated

## INTEGRATED PEST CONTROL

The Integrated Pest Control Program (IPC) protects the county's agriculture, sensitive habitats, native wildlife, and endangered species by controlling noxious and invasive weeds in cooperation with other county departments and agencies.

### Invasive Weeds

<p>Weed Species: <b>Ward's weed,</b> <i>Carrichtera annua</i></p> <p>Rating: <b>A</b></p> <p>Acreage Survey /Treated: <b>128.4</b></p> 	<p>Weed Species: <b>Volutaria,</b> <i>Volutaria sp.</i></p> <p>Rating: <b>A/W</b></p> <p>Acreage Survey /Treated: <b>130.3</b></p> 	<p>Weed Species: <b>Croftonweed,</b> <i>Ageratina adenophora</i></p> <p>Rating: <b>B</b></p> <p>Acreage Survey /Treated: <b>9.9</b></p> 	<p>Weed Species: <b>European sea lavender,</b> <i>Limonium duriusculum</i></p> <p>Rating: <b>B</b></p> <p>Acreage Survey /Treated: <b>5.8</b></p> 	<p>Weed Species: <b>Algerian sea lavender,</b> <i>Limonium ramosissimum</i></p> <p>Rating: <b>B</b></p> <p>Acreage Survey /Treated: <b>5.7</b></p> 	<p>Weed Species: <b>Canary Island St. John's wort,</b> <i>Hypericum canariense</i></p> <p>Rating: <b>B/W</b></p> <p>Acreage Survey /Treated: <b>34.3</b></p> 	<p>Weed Species: <b>French broom,</b> <i>Genista monspessulana</i></p> <p>Rating: <b>C/W</b></p> <p>Acreage Survey /Treated: <b>14.2</b></p> 
<p>Weed Species: <b>Yellow starthistle,</b> <i>Centaurea solstitialis</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>19.1</b></p> 	<p>Weed Species: <b>Spotted knapweed,</b> <i>Centaurea maculosa</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>13.6</b></p> 	<p>Weed Species: <b>Barbed goatgrass,</b> <i>Aegilops triuncialis</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>13.6</b></p> 	<p>Weed Species: <b>Carnation spurge,</b> <i>Euphorbia terracina</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>6.9</b></p> 	<p>Weed Species: <b>Artichoke thistle,</b> <i>Cynara cardunculus</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>3.5</b></p> 	<p>Weed Species: <b>Bridal broom,</b> <i>Retama monosperma</i></p> <p>Rating: <b>W</b></p> <p>Acreage Survey /Treated: <b>1.2</b></p> 	<p><b>Total</b> <b>Acreage</b> <b>Survey</b> <b>/Treated</b> <b>386.5</b></p>



# SUPPORTING THE LARGEST AGRICULTURAL INDUSTRY REQUIRES A TEAM EFFORT



**The County of San Diego (County) Department of Agriculture, Weights and Measures (AWM) promotes public health and safety, a resilient food supply, agricultural trade, consumer confidence, and a sustainable environment for the San Diego region.**

**By Travis Elder**

Deputy Agricultural Commissioner/Sealer



This past year, the ornamental nursery and cut flower sector contributed \$1.3 billion which is approximately three-fourths of the \$1.8 billion agricultural industry total output value in the region. Due to the high number of production nurseries (almost 500 businesses at over 650 locations), San Diego is ranked the largest nursery county in California and the second largest in the United States (after Miami-Dade in Florida). Like a high-performing sports team, our department's divisions provide multiple levels of service that prevent the spread and establishment of invasive species and minimize pesticide use in this important regional industry. This includes direct services to nurseries as well as behind-the-scenes activities that are connected to agricultural trade for the local nursery and cut flower growers, and support economic and environmental sustainability in the region.

County **AGRICULTURAL INSPECTORS** are the cream of the crop, embracing ongoing professional development, training, professional licensing, and working knowledge of international agricultural laws. Their work in the Pest Exclusion; Detection, Diagnostics and Quarantine; and Pesticide Regulation divisions ensures the success of this vibrant, productive industry.

Our **PEST EXCLUSION DIVISION** provides the first level of defense against the introduction of



invasive plant pests through the Import, Export, and Nursery Inspection Programs. The **IMPORT PROGRAM** enforces quarantine regulations by using inspections to prevent the introduction and spread of harmful agricultural pests that would leave a trail of environmental and economic destruction. The Import Program inspects for pests like the Spotted lanternfly, Gypsy moth, and exotic fungi on shipments from parts of the country where these pests are causing damage. It also screens all nursery stock from outside of California for Burrowing and Reniform nematodes, Red imported fire ants, and plant diseases that do not exist or are not widely found in California. Our inspectors found and confirmed the eradication of over 150 insect pests and diseases on nursery shipments in 2021. The **EXPORT PROGRAM** conducts surveys for pests like the Brown Garden Snail that are present in the San Diego region. These pests are unwanted at destinations, and we inspect export shipments on an as-needed basis to assure they meet the entry restrictions of the destination state or country. In 2021, AWM inspected over 10,000 shipments for export. The good work our teams do resulted in pest-free, certified shipments to 47 countries, 13 states, 2 U.S. territories, and 26 California counties. Finally, the **NURSERY INSPECTION PROGRAM** conducts yearly inspections of nurseries to verify the absence of invasive agricultural pests, and those best practices are in place to prevent the introduction and establishment of such pests. When possible, inspectors combine the various inspections needed, which saves growers time and money.

In the rare case a nasty little pest makes its way through the powerful shield that AWM provides, our **DETECTION, DIAGNOSTICS AND QUARANTINE**

**DIVISION** is there to save the day with a second level pest protection. This is where our invaluable **INSECT DETECTION SPECIALISTS** in the **PEST DETECTION PROGRAM** place about 10,000 insect traps throughout the region and inspect traps about 170,000 times annually in urban areas. The goal is timely detection of pests to stop the spread and to quickly eradicate them.



Keeping invasive pests out of San Diego county's environment helps local nurseries avoid agricultural quarantines that would prevent the sale and distribution of their products. Our **PLANT PEST DIAGNOSTICS LAB** provides rapid identification of insect pests that our team finds on import or export-bound shipments during nursery inspections, or that are turned in by concerned residents, citizen scientists, and landscapers to the lab or through the smartphone app called iNaturalist. Rapid identification supports eradication before the pest becomes established. Our two **DETECTOR DOG TEAMS** provide additional protection from invasive pests. These teams use highly trained dogs and certified handlers working together to check fruits, vegetables, and other plant materials coming into the San Diego region through the mail and parcel carriers. AWM's two detector dogs, Podder and Yeti, have noses that are so sensitive to the smell of fruits and plant parts that they can find one box containing mangoes in a pile of hundreds of other boxes. In the past two years, Podder and Yeti found 413 pests and they were ranked #1 in the State for pest finds by county detector dogs. If a pest becomes established, the next level of defense may include a quarantine and/or increased pesticide treatments to allow for continued movement of nursery and cut flower growers' products.



When pesticides are necessary to control an invasive pest or to meet shipping requirements, our **PESTICIDE REGULATION PROGRAM** provides an additional level of service to the nursery and cut flower industry through outreach and education. As a valuable resource, our inspectors issue Operator Identification Numbers, Restricted Material Permits, and Private Applicator Certifications, and support growers' efforts to train their employee handlers and fieldworkers. We also conduct oversight inspections to protect pesticide handlers, fieldworkers, the public, food systems, and the environment through use monitoring, storage, employee safety, and records audits.

The County of San Diego recognizes the importance of the nursery and cut flower industry's contribution to the economic resilience and environmental sustainability of the region and the State. Collaborating with our federal and state partners, AWM supports local growers by helping them understand and comply with regulations meant to promote the industry's business continuity. Like defensive strategies for a sports team, AWM has layers of defense against pests and diseases that could threaten the overall health of the nursery industry and we stand ready for pest challenges. AWM is here to continue to promote public health and safety, food security, agricultural trade, consumer confidence, and a sustainable environment for the San Diego region.



# FY 2021-22 CAO ADOPTED BUDGET

PROMOTING A THRIVING AGRICULTURAL COMMUNITY,  
HEALTHY RESIDENTS, AND A BALANCED ENVIRONMENT.  
SUPPORTING A FAIR MARKETPLACE AND CONSUMER  
CONFIDENCE IN THE ACCURACY OF PRODUCT WEIGHT,  
MEASURE, AND PRICE.



**\$4.8M** PROTECTING AND PROMOTING PUBLIC HEALTH

**\$19K** for fieldworker safety training for agriculture employees

**\$4.7M** for inspections of structural fumigations that protect employees, the public, and the environment by ensuring fumigations are conducted in a safe and legal way

**\$0.1M** to conduct and provide training resources for honey bee removal

**\$14.1M** PROTECTING NATURAL RESOURCES

**\$12.6M** for protecting agricultural industry through pest inspections

**\$1.0M** to partner with University of California Cooperative Extension to provide research and outreach on gardening, landscaping, water conservation, and pest management

**\$0.5M** for the agricultural water quality program to protect waterways





# \$6.1M MAINTAINING CONSUMER CONFIDENCE IN GOODS & SERVICES

**\$5.4M** to inspect gas pumps, scales, and cash register systems, validating the accuracy and ensuring consumers get what they pay for

**\$0.3M** to verify organic products and promote sustainable agriculture and consumer confidence through inspections and investigations

**\$0.4M** for Certified Farmers Markets and Producers



# \$0.8M LEVERAGING EQUITY, DIVERSITY, & INCLUSION

**\$0.3M** for ongoing training highlighting the diversity of the communities we serve

**\$0.3M** for translation services

**\$0.2M** for Community Needs Assessments, data-driven methods to inform services and address environmental justice issues



31



# \$0.3M TACKLING THE CLIMATE CRISIS

**\$0.2M** in educational and outreach materials on sustainable agricultural practices through University of California Cooperative Extension

**\$0.1M** for electric vehicle charging station inspections









## Programs and Services - 2021 Highlights



**The Pest Exclusion Division** is the first line of defense in keeping invasive agricultural pests out of our region to promote regional economic and environmental sustainability. We inspect imported and exported plant shipments and production nurseries to look for harmful agricultural pests and support agricultural trade.

6,723 imported plant shipments inspected with 155 actionable pest finds

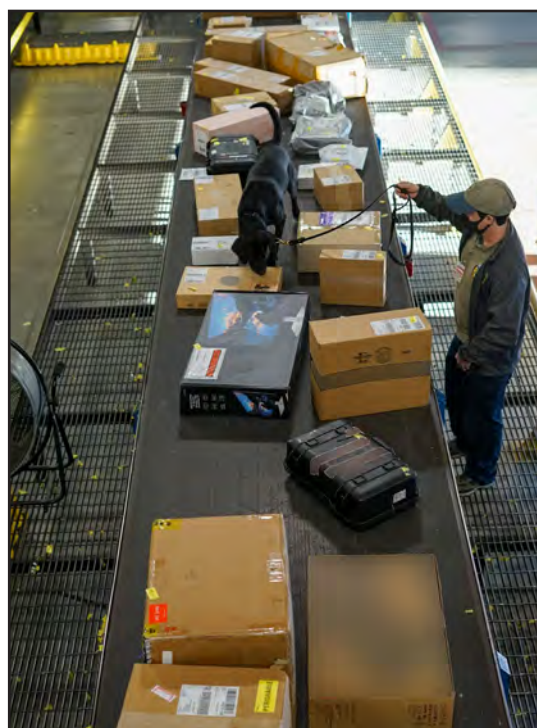
357 nurseries equivalent to 7,257 acres inspected for pests and diseases

152,744 Glassy-winged sharpshooter traps inspected in production nurseries

**The Detector Dog Team Program** supports the statewide pest prevention network and protects regional natural and agricultural resources by using two Agricultural Detector Dog Teams to check shipments at parcel facilities.

653 incorrectly marked packages containing plant material were intercepted by the Detector Dog Teams at terminal facilities and the USPS distribution center

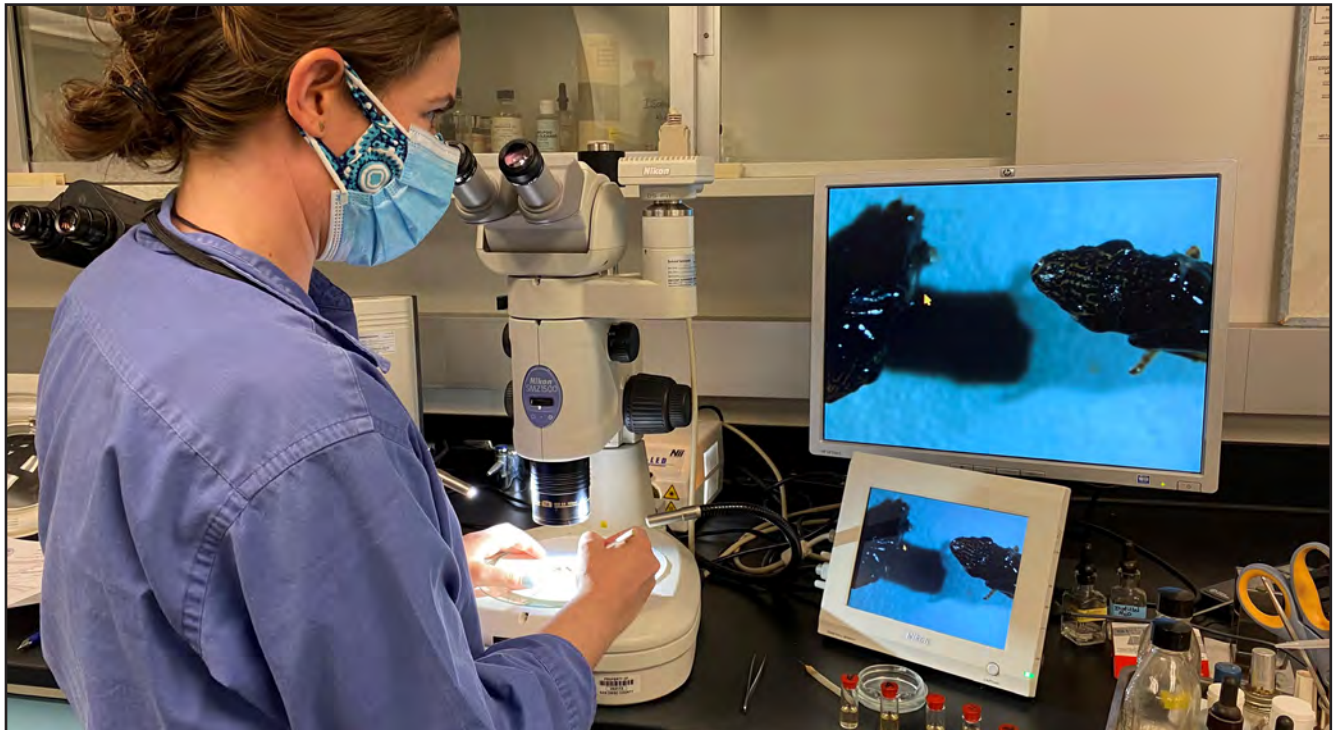
**The Pest Detection Program** is a critical component of our statewide pest prevention network as it is the final line of defense against invasive pests to support agricultural trade and environmental sustainability. There were 171,469 insect trap inspections conducted at residential locations throughout the county. The traps are used to detect insect pests, such as invasive fruit flies, Gypsy moth, Japanese



brown apple moth that pose threats to California's agricultural and horticultural crops. There were several pests detected within the county, and the program assisted both state and federal agencies in conducting activities to eradicate the pests promptly and effectively. Early detection of pests allows eradication efforts to begin before pests multiply and spread, becoming economically challenging to control.

**The Plant Pest Diagnostics Lab** provides rapid preliminary identification allowing a prompt response in the fight against invasive pests that damage agricultural crops and landscape plants. Our lab also partners with the California Department of Food and Agriculture's Plant Pest Diagnostics Center, the University of California at Davis Department of Plant Pathology, the University of California Cooperative Extension (UCCE) Master Gardeners, and UCCE advisors to help residents and the agricultural industry identify weeds, insect pests, and plant diseases that may be harmful to agricultural crops and landscape plants. Samples received by the lab are routinely processed within 24 hours.

Processed 5,199 plant and insect samples



**The Citrus Quarantine Program** is tasked with ensuring that the citrus industry complies with State regulations and quarantines regarding the Asian citrus psyllid (ACP), the insect that spreads Huanglongbing (HLB), the most destructive disease known to citrus. Controlling the movement of ACP reduces the risk of HLB. The program's primary goal is to mitigate the risk of HLB to support regional agricultural resources

Performed 41 grower inspections

Performed 42 transporter inspections

Performed 49 packinghouse inspections

Performed 20 fruit seller inspections



Issued 54 compliance agreements to ensure safe movement of citrus fruit and inhibit the spread of the ACP and the deadly citrus disease, HLB

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Of the 152 shipments inspected by the program, 95% were in compliance with quarantine requirements

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**The Honey Bee Protection Program** educates beekeepers on County and State apiary regulations including the requirement of beekeepers to register their hive locations with the County agricultural commissioner. This program supports public health and safety, and pollinator protection. Registration promotes regulatory contacts with beekeepers for the exchange of important information on pesticide applications, quarantines, and best management practices.

Registered 283 beekeepers, totaling 23,813 managed honey bee colonies in 818 apiary locations

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**The Pesticide Regulation Program (PRP)** protects human health and the environment by regulating pesticide use, and by fostering reduced-risk pest management through evaluations of Restricted Material Permits, outreach, inspections, complaint and illness investigations, and enforcement. PRP protects the health and safety of employees and the community while supporting a sustainable environment by identifying and reducing risk associated with the handling and storage of pesticides. The California Department of Pesticide Regulation (CDPR) evaluates PRP annually and provided an "Effective" performance rating for the past five calendar years. An "Effective" rating is the highest rating possible indicating the program has met all CDPR's standards.

Conducted 1,271 Pesticide Regulation inspections with an approximate 95% compliance rate

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Conducted 95 Hazardous Materials Inventory inspections

Completed 72 pesticide or antimicrobial illness investigations

Investigated 62 pesticide use and storage complaints

Issued 159 Restricted Materials Permits

Conducted 7 outreach events reaching over 432 people

Participated in 6 stakeholder meetings

Issued 14 Cease and Desist Orders

Took 28 enforcement actions and 222 compliance actions





**The Agricultural Standards Division (AGS)** supports the sustainability of local agriculture, ensures integrity in the marketplace, and promotes healthy families by inspecting fruits, vegetables, and other agricultural commodities for compliance with State laws and regulations. Activities include inspecting Certified Farmers Markets (CFM) and Certified Producers (CP) and testing citrus for maturity and organic produce for pesticide residue. In addition, AGS promotes public safety and ensures the lawful cultivation of industrial hemp by overseeing grower registration and crop sampling, testing, and harvesting.



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Issued certificates to 33 CFMs and conducted 58 inspections at these markets, and 86% of these inspections were found to be compliance with State laws and regulations

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Issued 278 certificates to CP and conducted 949 inspections of CP at CFMs, and 95% of these inspections were found to be compliance with State laws and regulations

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Conducted 140 Fruit and Vegetable Standardization inspections with a compliance rate of 89%

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Registered 376 organic growers and conducted 219 organic programs inspections with a compliance rate of 98%

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Issued registrations to 45 growers who harvested 96 acres of industrial hemp, 45 routine cultivation activities were conducted on hemp registrants and 84% were found to be in compliance with State laws and regulations

**The Agricultural Water Quality Program** performs inspections at irrigated commercial agricultural operations to support regional water quality by ensuring regulatory compliance with the County Stormwater Permit mandated by the San Diego Regional Water Quality Control Board. Outreach, inspections, and investigations focus on preventing potential pollutants such as fertilizers, pesticides, sediment, and organic waste generated by commercial agriculture activities from entering stormwater system and impairing water quality.

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Completed 523 inspections

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Investigated 20 complaints

**The Integrated Pest Control Program** supports human health and safety, and environmental sustainability by implementing the Board of Supervisors' F-45 Policy "Pesticide Use Reduction" that mandates the use of Integrated Pest Management (IPM) strategy, an effective and environmentally-sound approach for pest prevention and management. IPM incorporates current scientific information and control methods to prevent,

manage, and eradicate unwanted pests and weeds while mitigating the potential hazards to people, property, and the environment. IPMs' weed control work preserves road visibility and clearance, reduces fire danger along roadways and intersections, and enhances drainage to prevent flooding. This program's structural pest control work mitigates human disease, discomfort, or injury for County staff and customers by reducing pest populations known to be vectors of transmittable diseases through increased inspection and monitoring efforts.

Treated with herbicides or manually removed 2,784 acres of weeds

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Treated 159 County facilities for structural pests

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**The Weights and Measures Division** ensures consumers get what they pay for and supports fair competition between businesses in the marketplace to promote economic equity and sustainability. The division performs inspections to verify accuracy of product weight, measure, and price. These inspections include testing of commercial weighing and measuring devices, labeling and advertising requirements for petroleum products, price verification (price scanners), quantity control for packages, and weighmaster compliance.

Inspected 54,962 commercial weighing and measuring devices with a 93% compliance rate

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Investigated 245 consumer complaints regarding commercial meters and scales, petroleum, package/labeling, and price overcharges

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Inspected 1,782 retail locations for price accuracy with 28,872 items scanned for an 85% compliance rate

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**The Civil Actions Program** supports due process through administrative civil penalty actions, or fine actions, to gain regulatory compliance.

AWM conducted inspections to verify compliance with State laws and regulations and County ordinance. During some inspections, noncompliances were found that resulted in the issuance of 254 fines. AWM held four requested administrative hearings (two in Weights and Measures and two in Pesticide Regulation) in which the hearing officer upheld the fines. Of the civil penalty actions:

225 were issued by Weights and Measures (56 device tolerance, 169 price verification)

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28 were issued by Pesticide Regulation (17 structural, 11 agricultural)

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1 was issued by Agricultural Standards (1 direct marketing)

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PROGRAM	SERVICES	HOW TO REACH STAFF
Agricultural Standards	Certified Farmers' Markets and certified Producer certificates; organic handler/producer; fruit and vegetable standardization; industrial hemp cultivation; agricultural stormwater	858-614-7786 FAX: 858-467-9273
AWM	All Services	858-694-2739 www.sdcawm.org sdcawm@sdcounty.ca.gov
Citrus Quarantine	Inspections of Asian citrus psyllid quarantine requirements	858-614-7770 FAX: 858-467-9697
Detector Dog Teams	Parcel inspections at terminal sorting facilities and the USPS distribution center	858-614-7770 FAX: 858-467-9697
Hazardous Materials Inventory	Inspections and registrations of agricultural hazardous materials; and California Environmental Reporting System assistance	858-694-8980 FAX: 858-467-9277
Honey Bee Protection	Apiary registration, hive inspections, complaint investigations, honey bee education, and outreach	858-614-7738 FAX: 858-467-9697
Integrated Pest Control	Weed control, habitat restoration, and structural pest control.	858-614-7750 FAX: 858-467-9279
Pest Detection	Invasive insect trapping for invasive fruit flies, Gypsy moth, and Japanese beetle	858-614-7770 800-300-TRAP(8727) FAX: 858-467-9697
Pest Exclusion (Import/Export; Nursery; Light Brown Apple Moth; Pierce's Disease; Sudden Oak Death)	Inspections of incoming and outgoing plant commodity shipments; phytosanitary and quarantine compliance certificates; nursery inspections; Gypsy moth inspections	760-752-4700 Inspection Request Line: 760-752-4713 FAX: 760-724-4098
Pesticide Regulation	Pest control business registration, Restricted Materials Permits, Operator Identification Numbers, pesticide use reporting, employee pesticide training, and pesticide complaints	858-694-8980 FAX: 858-467-9277
Plant Pest Diagnostics Lab	Insect identification for regulatory purposes; pest surveys	858-614-7738 FAX: 858-467-9697
Weights and Measures	Price verification (price scanners) and commercial weighing and measuring device registration and inspections, weighmaster, petroleum quality/labeling, package and labeling inspections	858-694-2778 FAX: 858-467-9278 Meter Testing Lab Hours: 8:00am-5:00pm M-F

**The 2021 Crop Statistics and Annual Report was produced by Program Coordinator Porfirio Mancillas, Operations Research Analyst Bosko Celic, and Information Technology Principal Vince Acosta. Photos were mostly taken by AWM employees with growers' consent.**

All reported figures represent Freight on Board (F.O.B.) values for products. These are not net values and do not reflect cost of production. Total values may not add precisely due to rounding. Gross value of farm products does not reflect the total value to the economy. Values are aggregated to maintain growers' confidentiality.







**Ha Dang**

Agricultural Commissioner/Sealer of Weights &amp; Measures

**Megan Moore**

Assistant Agricultural Commissioner/Sealer of Weights &amp; Measures

**Garrett Cooper**

Deputy Director

**PEST EXCLUSION****Travis Elder** Deputy Ag Commissioner/Sealer**Claire Aicken** Supervising ASI**Shady Hajjar** Supervising ASI**David Navarro** Supervising ASI**Merle Van Cleve** Sr. IDS**Charity McGuire** Administrative Secretary II**Cambria Jensen** Sr. Office Assistant**Leslie Bernal** Office Assistant**SR. ASI****Nicolas Basinski****Robert Delaval****Nicole Goss****Saiqa Javed****Narriman McNair****Jorge Olivares****Gregory Terhall****ASI****Nicole Bell****Brett Birdwell****Kahsai Ghebretnsea****Alice Larphaveesarp****Lila Marko****Evan Padgett****James Riley****Sierra Wolf****Jacqueline Zelon****IDS II****Richard Arne****Raul Duenas****Arthur Drum****Roy Joseph****Jade Kluge****Amanda Mathews****Keegan Smock****DETECTION, DIAGNOSTICS, QUARANTINE****Jason Schwartz** Deputy Ag Commissioner/Sealer**Jasmine Lopez** Supervising ASI**Bodil Cass** Agricultural Scientist**Susan Callies** Office Support Specialist**Rosa Sotomayor** Office Assistant**SR. ASI****Justin Aquino****Jaime Garza****Kyle Moranton****Jeremy Partch****William Walsh****ASI****Aprille Geier****Camthao Ho****Tyler Tkachuk****IDS II****Sebastian Hampton****Ceres Phillips****Fran Wade****DETECTOR DOG****Podder****Yeti****PEST DETECTION****Bonnie Wheeler** Program Coordinator**Fallon Anderson** Sr. IDS**Sulay Felix** Sr. IDS**Lynne Gardner** Sr. IDS**Dusko Pantovic** Sr. IDS**Ivonne Torres** Sr. IDS**IDS II****Ma Rae Aurea****Vanessa Baltazar-Chavez****Robert Coniff****Raul Burquez****Manuel Casillas****Marilen Cepe****Louis Cheung****Casey Choate****Sean Conley****Jason Feyen****Jorge Fregoso****Katherine French****Amy Geffre****Grant Hassinger****Kimberly Hock****Mohamed Jama****Conner Jordan****Svetozar Lazarevic****Loren Libolt****Joseph Marino****Marissa Mariscal****Rita McElroy****Chuc Nguyen****Rafael Orozco****Nicole Orsi****John Patino****Brenna Salvato****John Velardi****Daniel Villada****Alondra Wheeler****JOB TITLES****ASI:** Agricultural/Standards Inspector**IDS:** Insect Detection Specialists**SR:** Senior**PESTICIDE REGULATION****Kara Roskop-Waters** Deputy Ag Commissioner/Sealer**Ryan Wann** Program Coordinator**Tim Holbrook** Supervising ASI**Edith Heaton** Supervising ASI

**Gabriel Hernandez** Supervising ASI**Tyler Lew** Supervising ASI**Gemma Bilog** Sr. Office Assistant**Sabumon Joseph** Office Assistant**Suzanne Raymond** Office Assistant**Kenneth Woodson** Environmental Health Tech**SR. ASI****Abdel Amador****Kristi Conway****Daniel Desserich****Chase Goodman****Rocio Lara****Brian Pennington****Nancy Wickus****ASI****Matthew Buller****Joseph Brettillo****Eve Castillo****Sean Foley****Eric Gentry****Timothy Hewitt****Henderson Hsu****Benjamin Jacobs****Siobhan Lozada****Juan Zazueta****AGRICULTURAL STANDARDS****Jordan Key** Deputy Ag Commissioner/Sealer**Kimberly Greene** Supervising ASI**Monica Winters** Supervising ASI**Elinor Weed** Office Support Specialist**SR. ASI****Mark Lyles****ASI****Angelica Aguilar****Wesley Leonard****Erin Orion****Mario Maldonado****Robert Roma****Melissa Sinkovits****John Utterback****Richard Valentine****Patricia Watkins****INTEGRATED PEST MGMT****Mark Martinez** Supervising Pest Mgmt. Tech.**PEST MGMT TECHNICIAN II****Paul Cadena****Dustin Hylton****Danny Luna****Ivan Robles****Marcel Sanchez****Raymond Wood****PEST MGMT TECHNICIAN I****Raul Macias****WEIGHTS AND MEASURES****Austin Shepherd** Deputy Ag Commissioner/Sealer**Cynthia Davis** Supervising ASI**John Kinkaid** Supervising ASI**Claudia Verdugo** Supervising ASI**Mark Roughton** Sr. Office Assistant**Areleous Burton** Office Assistant**SR. ASI****Annie Arcinue****Randy Carrera****Janice Deguzman****Paula DeWall****Katherine Dobbins****Jonathan Garcia****David Gonzalez Jr.****Atlaw Kebede****Craig Lawson****Margaret Maloney****Quang Ong****Chris Placek****Kevin Porter****Brad Shipley****Mazen Stevens****ASI****Richard Cockroft****Garrett Giles****Darin Hinesly****Johanna Northcote****Victoria Ochoa****Jessica Shuck****CIVIL ACTIONS  
/ ENVIRONMENTAL SERVICES****Jesus Amial Jr.** Administrative Analyst I**Paul Rushton** Office Support Specialist**ADMINISTRATION****FISCAL****Rolinda Gelacio** Principal Administrative Analyst**Mary Cervantes** Sr. Accountant**Joe Swaykos** Administrative Analyst III**Melissa Balino** Administrative Analyst II**Fery Samani** Associate Accountant**Sandra Luck** Administrative Analyst I**Gloria Lomibao** Accounting Technician**Nahid Chizani** Account Clerk Specialist**Erlinda Espiritu** Purchasing Clerk**Josephine Aguinaldo** Office Support Specialist**HR****Paul Lugue** Sr. HR Officer**Oscar Gonzalez** HR Specialist**Kaitlin Woods** HR Assistant**IT/GIS****Vincent Acosta** IT Principal**Jeffery Westrick** Sr. ASI**Lorie Roberts** GIS Technician**PROGRAM BUSINESS INTELLIGENCE****Porfirio Mancillas** Program Coordinator









DEPARTMENT  
OF AGRICULTURE  
WEIGHTS  
AND  
MEASURES

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