



# 2013 Crop Statistics and Annual Report

County of San Diego Department of Agriculture, Weights and Measures





# County of San Diego

**HA DANG**  
AGRICULTURAL COMMISSIONER/  
SEALER OF WEIGHTS & MEASURES

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**SANDY PARKS**  
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Karen Ross, Secretary,  
California Department of Food and Agriculture  
and

The Honorable Board of Supervisors of the County of San Diego  
Supervisor Dianne Jacob, Chair, 2<sup>nd</sup> District  
Supervisor Bill Horn, Vice Chairman, 5<sup>th</sup> District  
Supervisor Greg Cox, 1<sup>st</sup> District  
Supervisor Dave Roberts, 3<sup>rd</sup> District  
Supervisor Ron Roberts, 4<sup>th</sup> District

I respectfully submit this report of acreage, yield and value of agricultural production for San Diego County. In 2013, the value of agriculture in San Diego County totaled \$1,850,307,291. This equates to a 6% increase over 2012's total value of \$1,747,069,810. The overall acreage devoted to commercial agriculture went from 303,983 acres in 2012, to 305,573 acres in 2013 for a 1% increase.

The 2013 Crop Statistics and Annual Report details crop information and highlights the many diverse programs within the Department of Agriculture, Weights and Measures. Our dedicated staff work to support the County's focus on safe communities, sustainable environments and healthy families.

Thank you to the many farmers, ranchers, nursery owners, and industry groups who provided information for this report. Additionally, I would like to express my appreciation to the Agriculture, Weights and Measures staff for continually providing our customers with superior service.

Sincerely,

HA DANG  
Agricultural Commissioner/  
Sealer of Weights and Measures

# 2013 Summary of Major Crops

2013 Total Value	\$1,850,307,291			Value Per Acre
Change in Value from 2012	\$103,237,481	Highest Value Crop	Indoor Flowering & Foliage Plants	\$457,000
Percent Change	6%			
Total Acreage	305,573	Lowest Value Crop	Range	\$8
Change in Acreage from 2012	1,590			
Percent Change	1%			

## Overview of Changes

Commercial agriculture in San Diego County increased in value to bring the 2013 total up (6%) to \$1,850,307,291! Overall acreage saw an increase (1%) from 303,983 acres in 2012 to 305,573 acres in 2013.

**Ornamental Trees and Shrubs** continued as top crop, bringing in a total of \$424,862,000 equating to 23% of the total value of agricultural production in San Diego County. Following close behind was **Indoor Flowering and Foliage Plants** valued at \$329,497,000 accounting for 18% of the overall agricultural production in San Diego County.

Nursery and Cut Flower Products went up (3%) to \$1,139,427,462.

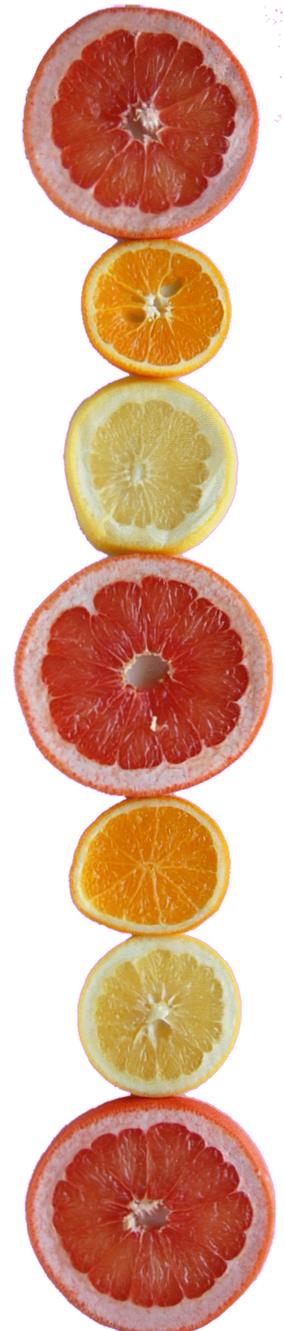
**Fruit and Nuts** had a substantial increase (23%) in value for a total of \$415,645,774. This increase is due in large part to the value of Avocados that saw a gain (25%) in overall value. Wine Grapes also saw an increase (18%), for a total value of \$6,512,870!

**Vegetables and Vine Crops** had a decrease (-9%) in value to \$170,676,812. Lettuce had the most significant decrease in value (-79%) and in acreage (-84%) for this category.

**Apiary Products** showed an increase in value with the exception of pollen which decreased in value (-3%) to \$90,000. The overall increase (6%) in value of Apiary products brought the total up to \$2,517,936.

**Livestock and Poultry** jumped (19%) in value to \$28,797,952. This is attributed to Hogs and Pigs increasing in value (103%) to \$198,250.

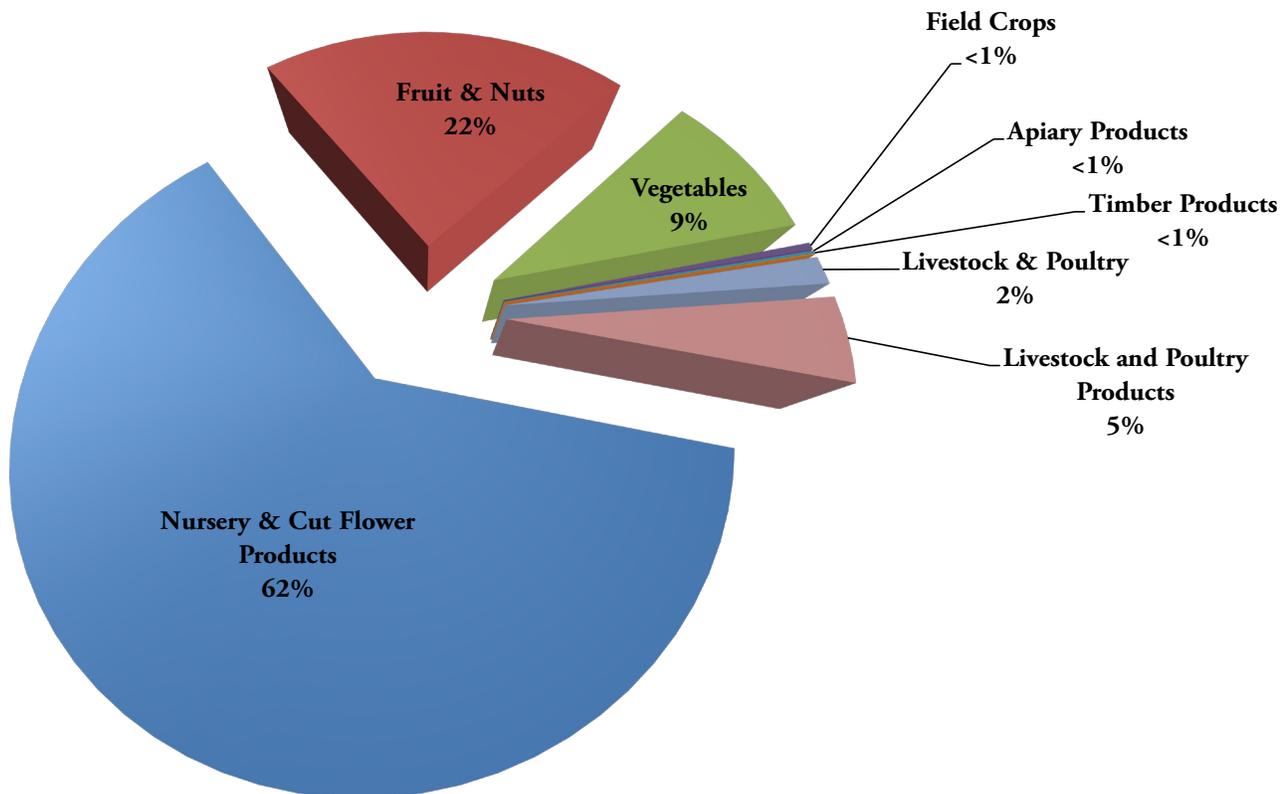
**Livestock and Poultry Products** increased overall to \$84,710,748 (10%). Despite a drop in value for Ratite products (-95%) due to bad weather that would not allow transport to the rendering facility that produces the Emu Oil. The heat in San Diego County also had a negative impact on the number of Emu eggs laid in 2013.



# Summary of Major Crops

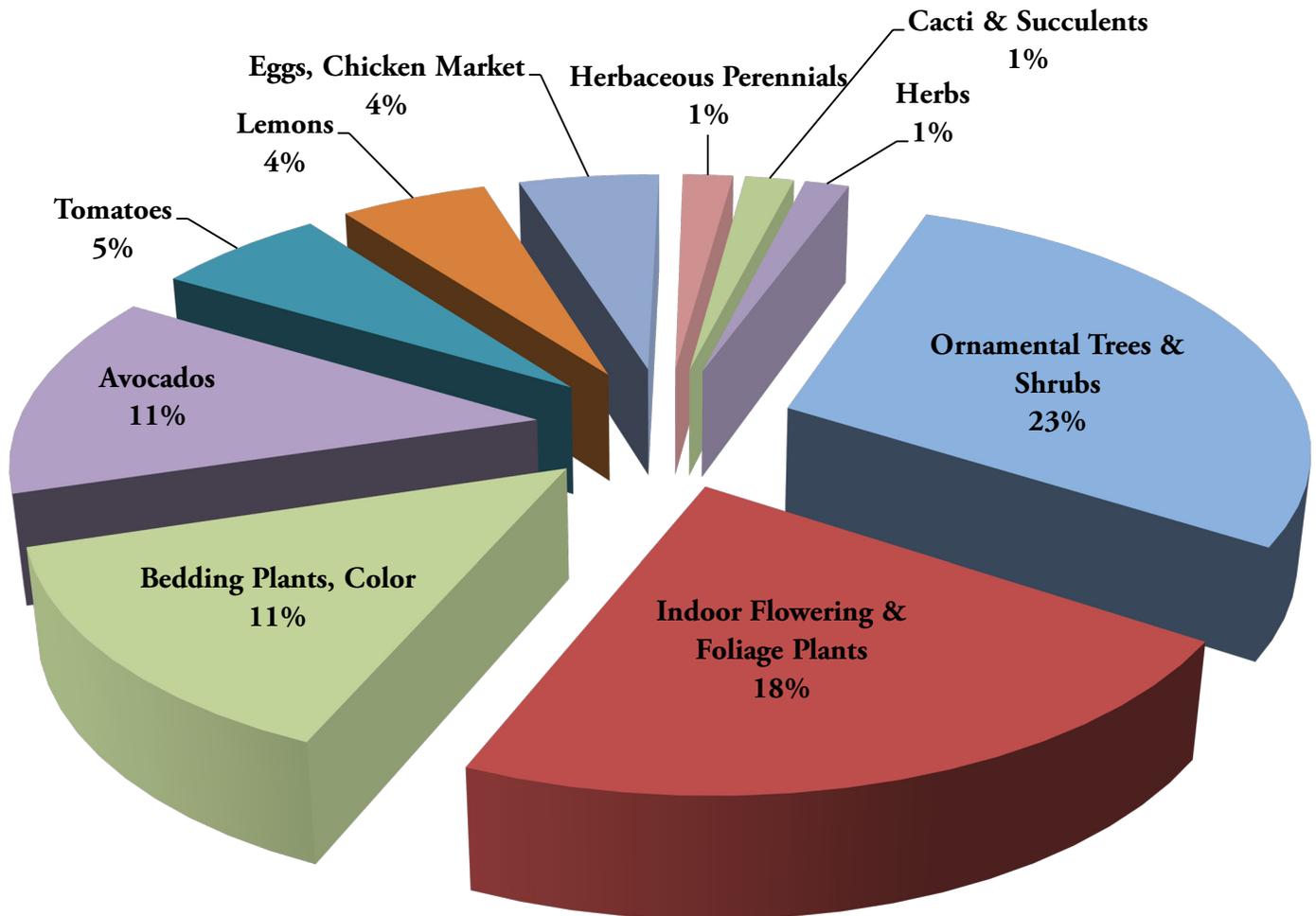
Category	Year	Acres	Total Value
Nursery & Cut Flower Products	2013	12,748	\$1,139,427,462
	2012	12,735	\$1,109,275,096
Fruit & Nuts	2013	37,910	\$415,645,774
	2012	38,535	\$338,808,324
Vegetable & Vine Crops	2013	5,107	\$170,676,812
	2012	5,436	\$188,496,460
Field Crops	2013	249,780	\$7,644,047
	2012	247,277	\$6,021,294
Apiary Products	2013		\$2,517,936
	2012		\$2,384,588
Forest Products	2013		\$886,560
	2012		\$870,864
Livestock & Poultry	2013		\$28,797,952
	2012		\$24,099,053
Livestock & Poultry Products	2013		\$84,710,748
	2012		\$77,114,131
Grand Totals	2013	305,573	\$1,850,307,291
	2012	303,983	\$1,747,069,810

## Major Crops By Overall Percentage



# 2013 Top Ten Crop Values and Percent

Crop	Total Value	Percent of Grand Total
Ornamental Trees & Shrubs	\$424,862,000	23%
Indoor Flowering & Foliage Plants	\$329,497,000	18%
Bedding Plants, Color	\$203,720,000	11%
Avocados	\$197,915,300	11%
Tomatoes	\$92,692,080	5%
Lemons	\$80,043,124	4%
Eggs, Chicken Market	\$76,307,748	4%
Berries, Misc.	\$34,344,000	2%
Herbaceous Perennials	\$26,651,100	1%
Cacti & Succulents	\$26,460,000	1%



# San Diego County's Unique Agriculture

**San Diego County** is the most southwestern county in the continental United States, with a geographic area of 4,200 square miles, approximately the size of Connecticut, and a population of more than 3 million.

**The National Weather Service** describes the San Diego climate as the most nearly perfect in America, characterized as Mediterranean, with warm winters and cool summers.

**San Diego County's** varied topography creates a wide fluctuation of microclimates resulting in nearly 30 different types of vegetation communities. This diversity allows for San Diego to grow more than 200 different agricultural commodities - from strawberries along the coast, to apples in the mountain areas, and citrus in the desert.

**San Diego County** has the 5th highest population among counties in the United States and the 19th largest agricultural economy in the U.S.

**Agriculture in San Diego County** covers 305,573 acres and is a key contributor to San Diego County's economy, along with defense, manufacturing, tourism and biotechnology.

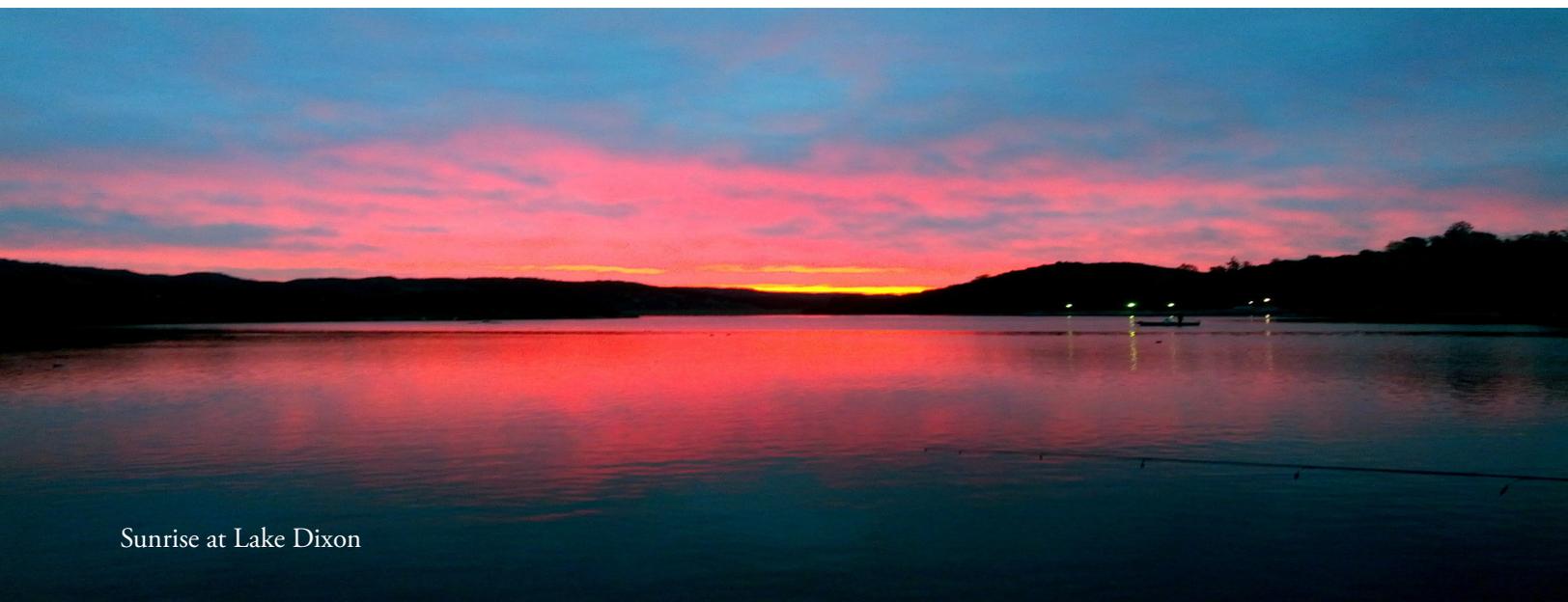
**San Diego County has** 5,732 farms, more than any other county in the United States. In San Diego County, 68% of farms are 1-9 acres. Nearly 27% of farms in San Diego County are operated by women.

**San Diego County produces** the highest dollar value per acre (\$457,000) crop of any county in California!

**The Median Size Farm** is just 4 acres, and our county's farmers rank number one in both California and the nation in the production value of nursery, floriculture and avocados.

**Statewide, San Diego County** is in the top five counties for production of Nursery Products, Flowers & Foliage, Tomatoes (Fresh Market), Lemons, Avocados, Eggs (Chicken), Mushrooms, and Grapefruit.

**San Diego County Farmers** produce more than 40 crops, that are valued in excess of \$1 million dollars each.



Sunrise at Lake Dixon

# Nursery and Cut Flower Crops

Crop	Year	Acres	Total Value
Bedding Plants, Color	2013	935	\$205,700,000
	2012	926	\$203,720,000
Bulbs, Corms, Rhizomes, Roots, Tubers	2013	80	\$640,000
	2012	78	\$624,000
Cacti & Succulents	2013	245	\$26,460,000
	2012	243	\$21,870,000
Citrus, Avocado, & Subtropical Fruit Trees	2013	289	\$15,895,000
	2012	279	\$15,345,000
Herbaceous Perennials	2013	390	\$27,300,000
	2012	381	\$26,651,100
Indoor Flowering & Foliage Plants	2013	721	\$329,497,000
	2012	705	\$337,695,000
Ornamental Trees & Shrubs	2013	5,378	\$424,862,000
	2012	5,378	\$387,216,000
Poinsettia	2013	149	\$19,072,000
	2012	149	\$18,774,000
Turf and Cut Christmas Trees	2013	705	\$16,215,000
	2012	692	\$15,916,000
Total Nursery Products	2013	8,892	\$1,065,641,000
	2012	8,831	\$1,027,811,100

Crop	Year	Acres	Total Value
Leptospermum	2013	407	\$2,645,500
	2012	399	\$3,141,726
Proteas	2013	589	\$4,799,172
	2012	575	\$4,971,450
Wax Flowers	2013	778	\$4,789,368
	2012	780	\$4,959,240
Other Cut Flowers	2013	1,335	\$43,408,422
	2012	1,310	\$48,231,580
Foliage	2013	775	\$18,144,000
	2012	840	\$20,160,000
Total Flower Products	2013	3,884	\$73,786,462
	2012	3,904	\$81,463,996
Total Nursery & Cut Flower Products	2013	12,776	\$1,139,427,462
	2012	12,735	\$1,109,275,096

# Fruit and Nut Crops

	Year	Acres Harvested	Tons/Acre	Tons Total Production	US \$/Ton	Total Value
Apples	2013	262	2	524	\$1,525	\$799,100
	2012	286	2	572	\$1,404	\$803,088
Total Avocados	2013	21,082	5	97,957		\$197,915,300
	2012	22,419	4	93,294		\$157,901,949
Hass	2013	19,784	5	91,778		\$183,293,787
	2012	21,038	4	90,634		\$155,099,702
Lamb-Hass	2013	875	6	5,493		\$13,894,820
	2012	931	2	1,907		\$2,254,352
Other	2013	423	2	687		\$726,693
	2012	450	2	745		\$547,895
Berries, Misc.	2013	318	9	2,862	\$12,000	\$34,344,000
	2012	215	7	1,505	\$12,475	\$18,774,875
Total Citrus	2013	13,244	96	196,083		\$136,977,845
	2012	12,600	90	174,528		\$116,857,854
Total Grapefruit	2013	1,680	20	36,960		\$17,172,960
	2012	1,530	20	30,600		\$14,926,680
Fresh Market	2013		20	33,600	\$500	\$16,800,000
	2012		17	27,540	\$529	\$14,568,660
Byproduct	2013		2	3,360	\$111	\$372,960
	2012		3	3,060	\$117	\$358,020
Kumquats	2013	89	4	356	\$4,600	\$1,637,600
	2012	99	4	396	\$4,600	\$1,821,600
Total Lemons	2013	3,499	22	76,978		\$80,043,124
	2012	3,477	20	69,540		\$71,824,389
Fresh Market	2013		18	62,982	\$1,200	\$75,578,400
	2012		17	59,109	\$1,159	\$68,507,331
Byproduct	2013		4	13,996	\$319	\$4,464,724
	2012		3	10,431	\$318	\$3,317,058
Total Limes	2013	290	10	2,900		\$2,418,600
	2012	372	9	3,348		\$1,771,464
Fresh Market	2013		8	2,320	\$1,000	\$2,320,000
	2012		7	2,604	\$650	\$1,692,600
Byproduct	2013		2	580	\$170	\$98,600
	2012		2	744	\$106	\$78,864

# Fruit and Nut Crops

	Year	Acres Harvested	Tons/Acre	Tons Total Production	US \$/Ton	Total Value
Total Oranges, Navel	2013	1,122		20,196		\$6,631,020
	2012	1,122		16,830		\$6,812,784
Fresh Market	2013		15	16,830	\$361	\$6,075,630
	2012		12	13,464	\$461	\$6,206,904
Byproduct	2013		3	3,366	\$165	\$555,390
	2012		3	3,366	\$180	\$605,880
Total Oranges, Valencia	2013	5,534		44,273		\$17,670,381
	2012	5,031		40,248		\$13,372,398
Fresh Market	2013		7	38,739	\$418	\$16,192,777
	2012		6	30,186	\$354	\$10,685,844
Byproduct	2013		1	5,534	\$267	\$1,477,605
	2012		2	10,062	\$267	\$2,686,554
Total Tangerines, Tangelos	2013	1,030		14,420		\$11,404,160
	2012	969		13,566		\$6,328,539
Fresh Market	2013		11	11,330	\$952	\$10,786,160
	2012		11	11,124	\$543	\$6,040,397
Byproduct	2013		3	3,090	\$200	\$618,000
	2012		3	2,442	\$118	\$288,142
Grapes, Wine	2013	842	5	4,210	\$1,547	\$6,512,870
	2012	752	6	4,813	\$1,149	\$5,529,907
Macadamia Nuts	2013	59	1	59	\$4,057	\$239,363
	2012	67	1	67	\$3,633	\$243,411
Misc. Fruit & Nuts	2013	1,432				\$14,465,220
	2012	1,364				\$13,732,752
Persimmons	2013	345	4	1,380	\$1,700	\$2,346,000
	2012	472	3	1,416	\$1,293	\$1,830,888
Strawberries	2013	326	34	11,084	\$1,989	\$22,046,076
	2012	360	36	12,960	\$1,785	\$23,133,600
Total Fruit & Nuts	2013	37,910				\$415,645,774
	2012	38,535				\$338,808,324



# Vegetable and Vine Crops

Crop	Year	Acres Harvested	Tons/ Acre	Tons Total Production	US \$/Ton	Total Value
Beans, Snap	2013	152	5	760	1300	\$988,000
	2012	200	5	1,050	1302	\$1,367,100
Bunch Vegetables	2013	437				\$4,598,786
	2012	470				\$4,143,050
Corn, Sweet	2013	113	8	961	514	\$493,697
	2012	109	9	954	416	\$396,760
Cucumbers	2013	208	10	2,080	520	\$1,081,600
	2012	169	17	2,873	832	\$2,390,336
Herbs	2013	478	11	5,258	4572	\$24,039,576
	2012	369	11	4,059	4572	\$18,557,748
Lettuce	2013	84	17	1,428	720	\$1,028,160
	2012	517	14	7,093	698	\$4,951,082
Melons	2013	89	4	356	400	\$142,400
	2012	120	4	480	850	\$408,000
Mushrooms	2013	28	153	4,284	3154	\$13,511,736
	2012	28	129	3,612	3420	\$12,353,040
Oriental Vegetables	2013					Included in Misc Veg
	2012	10				\$111,010
Peppers	2013	194	20	3,822	824	\$3,149,163
	2012	136	22	2,992	1250	\$3,740,000
Potatoes	2013	274	9	2,466	429	\$1,057,914
	2012	405	15	6,075	520	\$3,159,000
Squash	2013	649	9	5,841	700	\$4,088,700
	2012	540	10	5,400	574	\$3,099,600
Tomatoes	2013	1,872	15	28,080	3301	\$92,692,080
	2012	1,427	20	28,540	3219	\$91,870,260
Misc. Vegetables	2013	529				\$23,805,000
	2012	936				\$41,949,474
Total Vegetables	2013	5,107				\$170,676,812
	2012	5,436				\$188,496,460



# Field Crops

	Year	Acres Harvested	Tons/Acre	Tons Total Production	US \$/Ton	Total Value
Barley, Grain	2013					
	2012					\$0
Greenchop	2013					
	2012		10	0		\$0
Hay, Oat	2013	4,931	2	9,862	\$186	\$1,834,332
	2012	4,752	2	9,504	\$176	\$1,672,704
Pasture, Irrigated	2013	1,500				\$2,850,000
	2012	1,500				\$2,850,000
Range	2013	240,630				\$1,925,040
	2012	240,630				\$1,443,780
Silage	2013					
	2012					
Misc. Field	2013	2,719				\$1,034,675
	2012	395				\$54,810
Total Field Crops	2013	249,780				\$7,644,047
	2012	247,277				\$6,021,294

# Forest Products

	Year	Total Value
Timber	2013	\$8,671
	2012	\$10,189
Firewood	2013	\$877,889
	2012	\$860,675
Total Forest Products	2013	\$886,560
	2012	\$870,864

# Apiary Products

	Year	Total Value
Honey	2013	\$971,438
	2012	\$916,451
Wax	2013	\$69,007
	2012	\$65,101
Bees & Queens	2013	\$168,490
	2012	\$160,467
Pollen	2013	\$90,000
	2012	\$92,568
Pollination	2013	\$1,219,000
	2012	\$1,150,000
Total Apiary Products	2013	\$2,517,936
	2012	\$2,384,588



# Livestock and Poultry

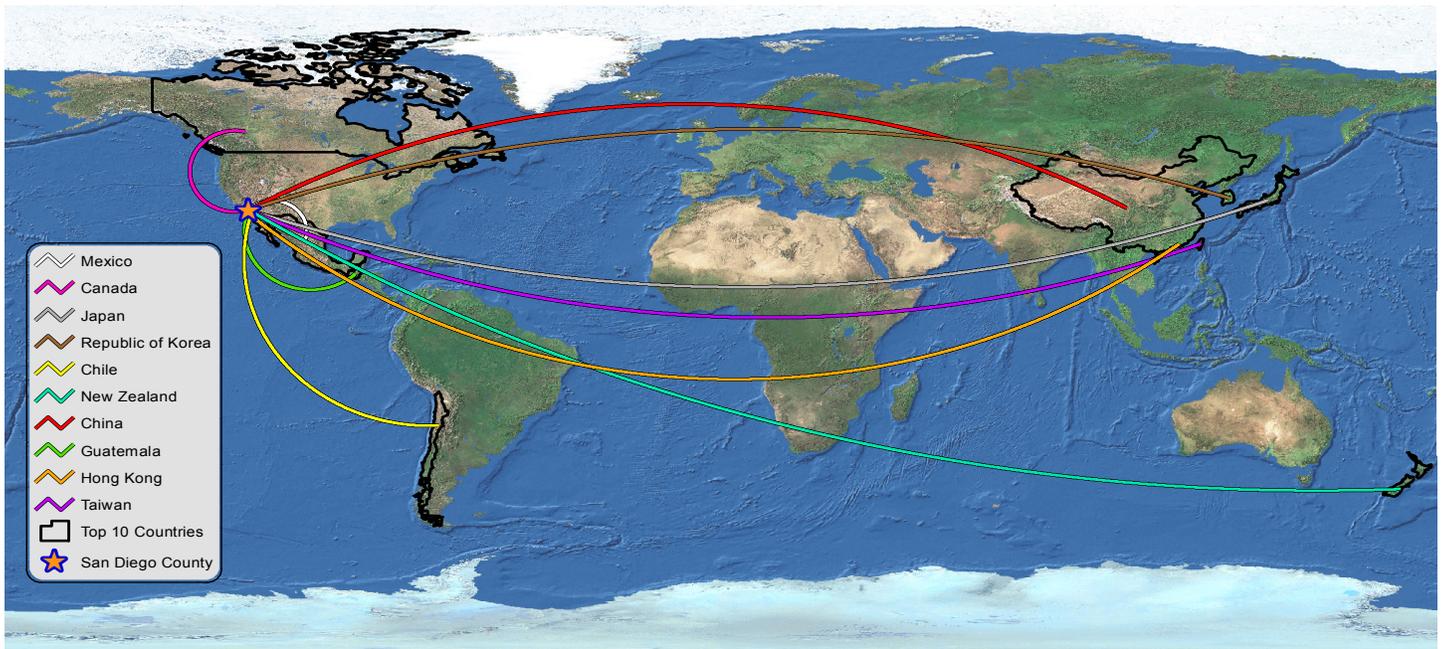
	Year	Number of Head	Total Weight CWT	US \$/CWT	Total Value
Cattle and Calves	2013	15,441	138,969	\$168	\$23,346,792
	2012	16,500	148,500	\$128	\$19,008,000
Hogs and Pigs	2013	1,300	3,250	\$61	\$198,250
	2012	653	1,633	\$60	\$97,653
Chickens	2013		86,200	\$60	\$5,172,000
	2012		86,200	\$57	\$4,913,400
Lambs and Sheep	2013	899	899	\$90	\$80,910
	2012	1,000	1,000	\$80	\$80,000
Total Livestock & Poultry	2013				\$28,797,952
	2012				\$24,099,053

# Livestock and Poultry Products

	Year	Number	Total Weight CWT	US \$/ Unit	Total Value
Milk, Market	2013		434,860	\$19	\$8,339,000
	2012		509,372	\$17	\$8,450,488
Eggs, Chicken Market	2013	63,064,255 dz		\$1	\$76,307,748
	2012	70,071,394 dz		\$1	\$67,268,538
Ratite Oil	2013	100 gal			\$64,000
	2012	1,000 gal			\$1,395,104
Total Livestock and Poultry Products	2013				\$84,710,748
	2012				\$77,114,131



# Top Ten International Trading Partners



## A Total of 6,666 Shipments Were Sent to 48 Different Countries

Mexico	4,762	Singapore	8	France	2
Canada	801	Honduras	8	Italy	1
Japan	664	Spain	6	Colombia	1
Korea, Republic of	71	Israel	5	South Africa	1
Chile	59	United Kingdom	4	Qatar	1
New Zealand	44	Trinidad and Tobago	3	Belgium	1
China	42	Jamaica	3	French Polynesia	1
Guatemala	29	Russian Federation	3	Philippines	1
Hong Kong	26	Morocco	3	Barbados	1
Taiwan	21	Ecuador	3	Cayman Islands	1
Netherlands	16	United Arab Emirates	2	Guadeloupe	1
Australia	13	Ukraine	2	Myanmar (Burma)	1
Costa Rica	12	India	2	Norway	1
Thailand	12	Micronesia, Federated States of	2	Panama	1
Germany	10	Brazil	2	Peru	1
El Salvador	9	Curacao	2	Turkey	1

# Sustainable Agriculture

Sustainable Agriculture promotes the economic viability of agriculture while preserving natural resources and the environment. Pest prevention activities are essential to inhibiting the spread of exotic pests and ensuring a sustainable agricultural industry in California.

The Department of Agriculture, Weights and Measures administers programs for the detection, control and eradication of insect pests, plant diseases and invasive weeds, as well as for the enforcement of quarantines to prevent the spread of invasive pests.

"A" Rated Finds	Common Name	Finds
Aspidiotus destructor	coconut scale	1
Bactrocera dorsalis	Oriental fruit fly	1
Ceroplastes floridensis	Florida wax scale	2
Ceroplastes rubens	red wax scale	2
Ceroplastes rusci	fig wax scale	5
Diaphorina citri	Asian citrus psyllid	3
Epiphyas postvittana	light brown apple moth	24
Euphorbia esula	Leafy spurge	1
Fusarium oxysporum f. sp. canariensis	Fusarium wilt	24
Howardia biclavis	mining scale	1
Lopholeucaspis cockerellii	cockerel scale	1
Parlatoria proteus	sansevieria scale	1
Pinnaspis strachani	lesser snow scale	7
Potato spindle tuber viroid (PSTVd)		3
Pseudaulacaspis cockerelli	Magnolia White Scale	25
Solenopsis invicta	red imported fire ant	5



Overall pest significance rating is the basis for determining which pest prevention activities are appropriate. Each pest rating represents the California Department of Food and Agriculture's view of the statewide importance of the pest to the agricultural, horticultural, forestry, and public health interests of California.

Pest ratings are intended as aids to inform county agricultural commissioners and other interested persons as to a particular pest's environmental, agricultural and biological significance, as well as its importance to the general public, and the action recommended by the California Department of Food and Agriculture to deal with the pest.

"Q" Rated Finds	Common Name	Finds
Acari	aloe eriophyid mite	2
Acari: Tarsonemidae	tarsonemid mite	1
Ceroplastes sp.	wax scale	3
Euschistus quadrator	stink bug	1
Gastropoda: Hydrobiidae	hydrobiid snail	2
Gastropoda: Subulinidae	subulinid snail	1
Hemiptera: Fulgoridae	planthopper	1
Homoptera: Coccidae	soft scale	1
Homoptera: Diaspididae	diaspid scale	4
Homoptera: Orthezia sp.	greenhouse orthezia	1
Homoptera: Pseudococcidae	mealybug	3
Lepidoptera: Nymphalidae	brush-footed butterfly	1
Loxa flavicollis	spined stink bug	1
Milviscutulus mangiferae	mango shield scale	7
Orthoptera: Tettigoniidae	katydid egg	1
Paracoccus hamoni	mealybug	1
Paracoccus sp.	agave mealybug	44
Phalacrocooccus howertoni	soft scale	1
Philephedra tuberculosa	scale	1
Pinnaspis sp.	armored scale	1
Planococcus minor	pacific mealybug	1
Planococcus sp.	mealybug	1
Pratylenchus sp.	lesion nematode	4
Pseudococcus jackbeardsleyi	Jack Beardsley mealybug	2
Pseudococcus sp.	mealybug	5
Pulvinaria sp.	flocculent soft scale	1
Rhizoecus sp.	soil mealybug	1
Ripersiella hibici	root mealybug	1
Singhiella simplex	figus whitefly	6
Technomyrmex albipes	white-footed ant	2
unknown	insect eggs	5
unknown	mealybug	5
Zachrysia provisoria	Cuban land snail	3



# Sustainable Agriculture

## High Risk Pest Exclusion

- ☞ 4,146 incoming plant shipments were inspected
- ☞ 129 Notices of Rejection (NORs) were issued
- ☞ 126 pests were found (39 A-rated, 44 B-rated, 43 Q-rated)
- ☞ 6 international border operations were conducted with Homeland Security, Customs and Border Protection and U.S. Department of Agriculture

## Detector Dog Teams

- ☞ The detector dogs alerted their handlers to 7,766 packages shipped through FedEx and UPS
- ☞ 485 of those packages were not marked as containing plant material and of those, 437 actually contained plant material (90% accuracy rate)
- ☞ 62 inspections were conducted at the USPS main shipping terminal in San Diego County resulting in hits on 767 parcels
- ☞ 547 shipment rejections were issued to people sending plant material to San Diego County in violation of the Food and Agricultural Code

# Organic Farming

Top 10 Organic Crops	Acres
Avocado	2,424
Orange, Valencia	829
Lemon	578
Grapefruit	468
Orange, Navel	177
Tangerine	127
Blueberry	108
Tangelo	107
Pomegranate	58
Tomato	34

San Diego County is at the forefront of organic farming with 379 registered organic producers. In 2013, organic growers produced more than 125 different crops, from avocados to pineapple. The majority of organic produce grown locally is sold to wholesalers who in turn sell it to markets across the United States. A portion of the produce is sold directly to local restaurants and natural food stores. Organic growers also sell directly to the public through produce stands, Certified Farmers' Markets throughout the County of San Diego, and Community Supported Agriculture (CSA) programs. The USDA's National Organic Standards Board defines "organic agriculture" as an ecological production management system that promotes and enhances biodiversity, biological cycles, and soil biological activity.

San Diego County has 13% of the total number of Certified Organic growers in the state!

# Invasive Weed Control

Weed Species	Rating	Removal Method	Acreage Surveyed/Treated
Yellow starthistle, <i>Centaurea solstitialis</i>	C	Herbicides/Hand Removal	100.84



# Asian Citrus Psyllid

## *the biggest “little” threat to our citrus industry*

### No More Citrus in San Diego County?

This could happen! A tiny four millimeter insect called the Asian citrus psyllid (ACP), has the potential to devastate the California citrus industry. This insect attacks all types of citrus and related plants in the Rutaceae family and is a carrier of the deadly bacterial plant disease, Huanglongbing (HLB).

### What is HLB?

HLB, also known as citrus greening disease, is a bacterial plant disease that while not harmful to humans or animals is fatal for citrus trees. The disease destroys the production, appearance and economic value of citrus trees. Diseased trees produce bitter, hard, misshapen fruit and die within a few years of being infected. HLB is considered to be one of the most serious plant diseases in the world and currently there is no cure.

When an Asian citrus psyllid feeds on an HLB-infected tree, it can pick up the bacteria that cause the disease. That psyllid carries the disease-causing bacteria for life and can transfer the disease when feeding on other citrus trees. An important way to control the spread of HLB is to suppress the Asian citrus psyllid population.

The disease can also be spread by grafting infected plant tissue onto another plant.

For this reason, it is important to only use registered budwood with documentation that demonstrates it came from a certified disease-free tree.

Currently, there is only one positive find for HLB which is in Los Angeles County. If HLB becomes established in San Diego County, this would mean not only an economical loss but also the physical loss of commercially grown citrus and the potential loss of all backyard citrus grown throughout the county. Once a tree is infected with HLB, there is no cure, the tree must be removed and disposed of properly. Removal of infected trees would be at the cost of the grower or homeowner.

### What Symptoms Should We Look For?

Detection of HLB can be difficult, as symptoms may not show up for more than a year after the tree has become infected. The first



symptoms are yellowed leaves. However, citrus trees often have yellow leaves because of nutritional deficiencies. HLB leaf symptoms are somewhat unique in that the yellow pattern is not the same on both sides of the leaf. Additionally, the disease can cause entire shoots or branches of the tree to become yellow.

Later symptoms of HLB-infected trees include lopsided, small fruit, and premature and excessive fruit drop. The lower half of the fruit



may remain green, which is why this disease is also sometimes called citrus greening. HLB also causes the fruit to have aborted seeds and bitter juice.

### How Are We Protecting Commercial Citrus in the County?

The Asian citrus psyllid is currently established in the County and is being actively managed through suppression efforts. In addition to detection trapping, efforts are being made to map the commercial citrus areas in the county. This will aid in the tracking of treatments for the control of the ACP and determining neglected groves which pose a higher risk for supporting an ACP population. The larger the population of ACP, the higher the risk for trees to become infected with HLB. San Diego County Department of Agriculture, Weights & Measures has provided working space at our Chula Vista Insectary for the Citrus Research Board to conduct organic pesticide screening to determine an effective product for use in organic citrus orchards. We are also working with our County Grower Liaison, San Diego County Farm Bureau, and commercial growers to coordinate treatments to suppress the Asian citrus psyllid population.



### Why is it Important to Protect Our Citrus Trees?

California is the number-one economic citrus state in the nation, ranking first in the U.S. in terms of economic value and second (after Florida) in terms of production. California produces approximately 80 percent of the nation's fresh fruit citrus and also supplies 87 percent of the nation's lemons. Currently, San Diego County growers have 13,244 acres of citrus valued at \$136,977,845.

### How Can I Protect My Citrus Trees?

Do not move citrus plants, plant material or fruit in or out of a quarantine area or across state or international borders. Plant trees from reputable, licensed California nurseries. Use only registered bud wood that comes with source documentation. Inspect trees for ACP and HLB monthly, and whenever watering, spraying, pruning or tending trees. Dry out or double bag plant clippings prior to disposal. As part of your tree care, visit your local nursery or garden center to get advice on products that can help protect your citrus. Inspect your tree monthly for the Asian citrus psyllid. If you think you've found an Asian citrus psyllid or symptoms of HLB, act fast! Call the [California Department of Food and Agriculture](https://www.cdafs.ca.gov/) hotline at 1-800-491-1899.

Remember, the best way to protect your citrus tree from HLB is prevention.

# Programs and Services

Plant Health and Pest Prevention is the first line of defense in keeping unwanted pests out of our County. Inspections of incoming and outgoing plant shipments and production nurseries look for invasive pests harmful to agricultural production, ornamental landscapes and the environment here or at the shipment destination.

Highlights for 2013:

- ✧ 4146 incoming plant shipments inspected with 126 actionable pest finds
- ✧ 437 unmarked parcels containing plant material intercepted by Detector Dog Teams
- ✧ 276 nurseries comprising 3,076 acres inspected and certified as free from Sudden oak death disease
- ✧ 621 nurseries inspected comprising 9,124 acres for pests and diseases

Pest Detection is a critical component of our statewide pest prevention network and is our County's second line of defense against the introduction and spread of invasive insect pests, such as exotic fruit flies, Japanese beetle, Gypsy moth, and Glassy-winged sharp shooter. 321,537 trap inspections were conducted in 2013.

Pesticide Regulation enforces state pesticide safety laws and regulations. Inspections, complaint and illness investigations, evaluations of restricted material use, and outreach serve to ensure pesticides are used safely to protect human and animal health, as well as the environment.

Highlights for 2013 include:

- ✧ Conducted 1,340 inspections
- ✧ Conducted 128 hazardous materials inventory inspections
- ✧ Completed 143 pesticide/antimicrobial investigations
- ✧ Investigated 106 complaints
- ✧ Issued 305 restricted material permits
- ✧ Conducted 31 outreach events involving over 1,000 people
- ✧ 20 stakeholder meetings were held
- ✧ Issued 18 Cease & Desist Orders
- ✧ 57 enforcement actions were taken

Agricultural Water Quality performs inspections at nurseries, greenhouses, golf courses, cemeteries, and pest control businesses ensuring compliance with the County's Stormwater Permit, mandated by the San Diego Regional Water Quality Control Board. Inspections, investigations and outreach are aimed at minimizing the illegal discharge of pollutants such as fertilizers, pesticides, and sediment into local waterways.

Highlights for 2013 include:

- ✧ 310 inspections completed
- ✧ investigated 19 complaints

Entomology and Plant Pathology Labs provide rapid insect and plant disease identification allowing for a quick response in the fight against pests. Lab staff also provides information to homeowners and commercial growers through outreach events.

Highlights for 2013:

- ✧ Entomology Lab performed 16,489 determinations
- ✧ Plant Pathology Lab processed 1,758 samples
- ✧ Participated in 24 outreach events combined

Integrated Pest Control works under the Board of Supervisors' policy mandating the use of integrated pest management. Integrated Pest Control's (IPC) weed control work preserves road visibility and clearance; reduces fire danger along roadways and intersections; enhances drainage to prevent flooding; and keeps safety pull-over areas visible and easy to access. IPC also performs habitat restoration and structural pest control at county facilities.

Highlights for 2013 include:

- ✧ 3,631 acres of weeds within the County were treated with herbicides or manually removed
- ✧ 161 County facilities treated for structural pests

Environmental Services prepares crop statistics and information, provides agricultural expertise on land use projects, performs verification of agriculture inspections for farm worker housing, coordinates media and outreach, performs apiary inspections for ordinance compliance, and maintains AWM's website and Facebook page.

Civil Actions advocates for the department on civil penalty actions in an effort to gain regulatory compliance.

Highlights for 2013 include:

- ✧ 52 civil actions against certified farmers' markets/roadside markets
- ✧ 2 civil actions against organic growers
- ✧ 350 civil actions for weights & measures violations
- ✧ 48 civil actions for agricultural pesticide use violations
- ✧ 13 civil actions for structural pesticide use violations
- ✧ 2 civil actions for quarantine violations

Standards Enforcement protects consumers by testing commercial weighing and measuring devices, performing price verification on Point-of-Sale systems (scanners), inspecting certified producers and farmers' markets, roadside produce stands, and conducting organic registrations, shell egg quality inspections, and fruit, nut, and vegetable standardization.

Highlights for 2013 include:

- ✧ 52,309 commercial weighing and measuring devices inspected with a 90% compliance rate
- ✧ 370 consumer complaints investigated regarding commercial scales, meters, petroleum, or price overcharges
- ✧ 1,726 point-of-sale inspections
- ✧ 54 active farmers' markets and 240 local growers certified in San Diego County
- ✧ 379 growers registered as organic
- ✧ 496,126 dozens of eggs inspected at 246 egg facilities
- ✧ 93 fruit & vegetable standardization inspections conducted



**Shared Vision**

Community partnerships for the advancement of agriculture, the environment and consumer confidence.

**Shared Mission**

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.

**Shared Values**

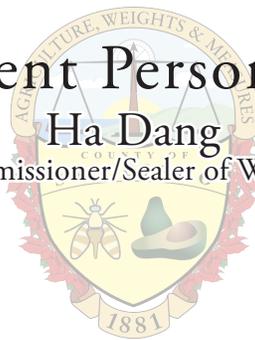
- Service:** We are dedicated to an informed community.
- We are passionate about delivering excellent customer service and outreach.
  - We provide resources to ensure our knowledgeable employees succeed.
  - We strive to deliver timely results through exceptional communication, innovation and technology.
- Trust:** We are committed to building beneficial relationships.
- We respect the dignity of every person and role.
  - We demonstrate a high level of integrity with our customers, partners and employees.
  - We work efficiently and are mindful of the impact of our work on industry and the public.
- Leadership:** We are devoted to a robust community.
- We listen to community concerns to find solutions that get positive results.
  - We encourage initiative and innovation to accomplish our mission.
  - We keep commitments, provide direction and set the example.

Program	Services	Number
Entomology	Insect identification; apiary registration; pest surveys	(858) 614-7738
Environmental Services	Crop statistics; land use issues; public information	(858) 614-7776
Integrated Pest Control	Invasive weed control; structural pest control for county owned buildings	(858) 614-7750
Plant Health & Pest Prevention	Licenses to sell nursery products, flowers & foliage; shipping certificates; Inspections: incoming/outgoing shipments; detector dog teams; nursery; glassy-winged sharpshooter; sudden oak death Inspection Request Line	(760) 752-4700 (760) 752-4713
Pest Detection	Exotic insect trapping	(858) 614-7770 (800) 300-TRAP
Pesticide Regulation	Agricultural inspections, structural pest control inspections; registration; operator identification numbers; pesticide use reporting; restricted materials permits; employee pesticide training requirements; pesticide complaints; agricultural hazardous material storage	(858) 694-8980
Plant Pathology	Plant disease diagnostic services; plant disease surveys	(858) 614-7734
Agricultural Standards	Certified farmers' markets; certified producer certificates; organic handler/producer; egg producer/handler; agricultural water quality; fruit, vegetable, honey, and nut standardization	(858) 614-7786
Weights & Measures	Scanner registration; commercial weighing & measuring devices; device serviceperson; weighmaster	(858) 694-2778

The 2013 Crop Statistics and Annual Report was produced by Supervising Agricultural/Standards Inspector Vince Acosta and Senior Agricultural/Standards Inspector Colleen Carr with assistance from GIS Analyst John Taylor.

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.

# Department Personnel 2013



Ha Dang

Agricultural Commissioner/Sealer of Weights & Measures

**Sandy Parks**  
Assistant Director

**Megan Moore**  
Deputy Director

## Administration

Veronica Allen, Prin Admin Analyst  
Armando Belenzo, Accounting Tech  
Shirley Chin, Senior HR Officer  
Erlinda Espiritu, Purchasing Clerk  
Aida Foronas, Senior Accountant  
Linda Goff, Admin Analyst I

Mark Lindstrom, Admin Analyst III  
Sandra Luck, Office Asst  
Eileen Oleson, Office Asst  
Cirila Pieper, Account Clerk  
Marci Powell, Admin Sec IV  
Belinda Rushton, HR Specialist

## Standards Enforcement

**Marco Mares, Deputy Commissioner & Sealer**

Nancy Stalnaker, Supv ASI  
Cindy Davis, Supv ASI  
Mazen Stevens, Supv ASI

Mark Roughton, Sr Office Asst  
Ris Burton, Office Asst  
Elinor Weed, Office Asst

## Plant Health & Pest Prevention

**Jim Wynn, Deputy Commissioner & Sealer**  
**Jose Arriaga, Deputy Commissioner & Sealer**

Delores Brandon, Supv ASI  
Katie Dobbins, Supv ASI  
Travis Elder, Supv ASI  
Robert Roma, Supv ASI  
Tracy Ellis, Ag Scientist  
Pat Nolan, Ag Scientist  
Merle Van Cleve, Sr IDS

Charity McGuire, Admin Sec II  
Robin Royall, Office Asst  
Kathy Dawson, Student  
Leah Taylor, Student  
Avery Throop, Student  
Sandy West, Sr. Office Asst

## Agricultural/Standards Inspectors

Paul Broding  
Glenn Braaten  
Randy Carrera  
Neil Connelly  
Janice Deguzman  
Louis Deneau  
Paula Dewall  
Lynn Gordon

Mark Griffin  
Lee Guidry  
Edith Heaton  
Veronica Heredia  
Gabriel Hernandez  
Atlaw Kebede  
John Kinkaid  
Craig Lawson

Mark Lyles  
Dinna Morris  
Quang Ong  
Brad Shipley  
Annie Silva  
Claudia Verdugo  
Bill Winans

## Pest Detection

**Janet Taylor, Program Manager**

Sulpicio Agnes Jr., Sr IDS  
Linda Feeley, Sr IDS  
Charles Gross, Sr IDS

Cameron Guyot, Dept Clerk  
Morgan Ude, Student  
Bob Atkins, ACP Coordinator

## Agricultural/Standards Inspectors

Tony Avina  
Warren Bacon  
Chris Betschart  
Clark Bixby  
Paul Broding  
Jim Byers  
Randy Carrera  
Kristi Conway  
Robert Delaval  
Stephen Desserich  
Manige Farhoomand  
Mike Feeley

Kahsai Ghebretse  
Jaime Garza  
Nicole Goss  
Saiqa Javed  
Robert MacGregor  
Narriman McNair  
Ted Matsumoto  
Adrienne Moss  
David Navarro  
Jorge Olivares  
Ted Olsen  
Lynn Parker

Jeremy Partch  
Vicente Rodriguez  
Jason Sapp  
Kristina Scott  
Ann Sixtus  
Greg Terhall  
Lindsay Worcester  
Daniel Wristen  
Muluneh Wube  
Priscilla Yeaney

## Insect Detection Specialists

Victoria Alexander  
Orlando Alfaro  
Justin Aquino  
Richard Arne  
Linda Blank  
Brian Burkman  
Raul Burquez  
Manuel Casillas  
Vanessa Chavez  
Casey Choate

Jorge Fregoso  
Lynne Gardner  
Jimi Geanakos  
Josh Gomez  
Alberto Hernandez  
Kim Hock  
Mohamed Jama  
Roy Joseph  
Bill Leech  
Linda McCombs

Bob Miller  
Belinda Moss  
Mary Rowin  
Alan Sharon  
Ivonne Torres  
John Velardi  
Fran Wade  
Valerie Wagner

## Insect Detection Specialists

Guy Allingham  
Rishi Avila  
Shady Hajjar  
Steve Robinson

Chuck Rowe  
Austin Shepherd  
Shawna Simpson  
Dusko Pantovic

## Wildlife Services

Joe Albee  
Terry Cox  
Paul Martin

## Civil Actions

**Sally Lorang, Civil Actions Investigator**  
Paul Rushton, Office Asst  
Alison Schlick, Student

## Pesticide Regulation

**Karen Melvin, Deputy Commissioner & Sealer**

Tim Holbrook, Supv ASI  
Stasi Redding, Supv ASI  
Kevin Porter, Supv ASI  
Gemma Bilog, Sr Office Asst

Sabumon Joseph, Office Asst  
Suzanne Raymond, Office Asst  
Tina Thomas, Office Asst

## IT/GIS/Environmental Services

Vince Acosta, Supv ASI  
Jeff Westrick, Sr ASI  
Colleen Carr, Sr ASI

John Taylor, GIS Analyst  
James Jackson, Student

## Agricultural/Standards Inspectors

Abdel Amador  
Andrea Araujo  
Nick Basinski  
Daniel Desserich  
Chase Goodman  
Jennepher Murphy

Daniel Oluwasakin  
Alex Romo  
Nestor Silva  
Kathryn Springer  
Nancy Wickus  
Jason Schwartze

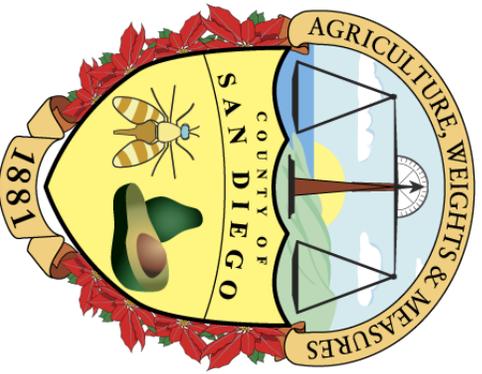
Ryan Wann  
Daniel Wristen  
Kara Waters

## Integrated Pest Control

**Janet Taylor, Program Manager**  
**Mark Martinez, Supv Tech**  
**Walter Graves, Planner**  
**Pest Management Technicians**

Paul Cadena  
Joshua Gomez  
Ethan Hagen  
Marshall Randol

Ivan Robles  
Ray Wood  
Dustin Hylton



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