

Solano County 2018

Crop and Livestock Report



JOSE A. ARRIAGA

Interim Agricultural Commissioner /
Sealer of Weights and Measures

www.solanocounty.com

**COUNTY AGRICULTURAL COMMISSIONER/
SEALER OF WEIGHTS AND MEASURES**



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To: Karen Ross, Secretary
California Department of Food and Agriculture
and
The Honorable Board of Supervisors of Solano County

Pursuant to the provisions of Sections 2279 and 2272 of the California Food and Agricultural Code, I am pleased to present the Solano County Crop and Livestock Report for 2018.

This report is the 69th annual Crop Report issued by the Agricultural Commissioner. Overall production values grew from last year as growers continued to enjoy favorable growing weather. It is important to remember that this report lists farm gate values only. Although processing capacity allows some growers to add or recapture value, this report is not a measure of profitability and does not account for the re-spending and support multipliers generated by agricultural production in the local economy.

The gross value of Solano County's agricultural production for 2018 was \$363,977,000, representing an increase from 2017 values by \$11,550,000 or 1% from 2017. High crop diversity allowed Solano County to remain competitive as market demands rapidly change. Nursery Products was the top crop, though decreasing in value by 3% to \$43,248,000. Tomatoes (processing) ranked second with a 28% increase in value to \$34,720,000, and Alfalfa (Hay) in third with a 24% value increase to \$31,746,000. Cattle & Calves moved up two places to fourth with a 21% rise in value to \$30,367,000 due to expanded grazing from good seasonal rain patterns. Other commodities that rose in rank due to higher yields and market values were Grapes (Wine), which jumped 44% into fifth place at \$29,404,000, and Sunflower (Seed), which climbed one rank into seventh at \$25,203,000, or a 46% increase. Almonds dropped to sixth place representing a 3% decrease to \$29,299,000. Notably, Walnuts fell from first place in 2017 to eighth place, a 47% drop to \$25,133,000 due to reduced production and market values from years of strong production in the region. Wheat remained in ninth with a 4% increase to \$7,580,000. Not seen in the "Top Ten" since 2006 and taking tenth place are Prunes (Dried), which rose by 34% to \$5,886,000 from higher yields. It is important to note that Sheep & Lambs ended its three-year run in the "Top Ten", falling by 38% to \$3,721,000 from reduced overall production in favor of Cattle & Calves as grazing conditions improved.

I would like to express my sincere appreciation to all the farmers, ranchers, boards, commissions, and agencies who contributed vital data without which this report would not have been possible. I also thank my staff for their dedication and teamwork in compiling and producing this report.

This report, and all previous crop reports, along with information about the programs and services provided by the Solano County Department of Agriculture, Weights and Measures may be viewed online at www.solanocounty.com/ag.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "J. A.", with a stylized flourish.

Jose A. Arriaga
Interim Agricultural Commissioner / Sealer of Weights and Measures



Table of Contents

2	Agricultural Commissioner's Letter
3	Table of Content
4	Staff
5	Weights and Measures Division
6	General Information
7	Top Ten Commodities
8	Value Summary
9	Livestock and Poultry
10	Livestock and Poultry Products
11	Apiary Products
12	Field and Forage Crops
13	Fruit and Nut Crops
14	Nursery Products
15	Seed Crops
16	Vegetable Crops
17	Sustainable Agriculture
19	Export Markets

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WEIGHTS & MEASURES DIVISION



How long is a lick? Has a foot always been 12 inches? What is the weight of one bushel? Can you be certain a bushel from Connecticut weighs as much as a bushel from New Jersey? In California, the unit of length was a wooden stick called a vara and it was a different length depending where in California you lived. These were the problems our young nation faced. Fair and honest trade needs accurate and standardized weights and measures.

After the Revolutionary War, the United States had measurements from several European countries which made trade difficult. And to further complicate things, one unit of measurement may not be the same from one colony to another. To solve this problem, Congress and the House of Representatives urged Thomas Jefferson to draft a system to standardize weights and measures across the nation in 1790. And the rest is history.



Today states have their own Weights and Measures departments to ensure the accuracy of commercial weighing and measuring devices. In California, each county has its own Weights and Measures Sealer to enforce these laws and regulations. The standards we use are calibrated against the standards held in Sacramento at the Division of Measurement Standards (DMS) at the metrology laboratory. Similarly, DMS can trace its standards to the National Institute of Standards and Technology (NIST), an agency within the United States Department of Commerce, located near Washington, D. C.

Presently 60 countries can trace their weights and measures standards to the International Bureau of Weights and Measures (BIPM, Bureau International des Poids et Mesures) headquartered near Paris, France. BIPM holds the globe's standards for weights and measures in underground laboratories. Solano County can trace our standards through the State's standards and in turn to the international standards in France.



Number of commercial devices registered in Solano County:

Fabric/Cordage/Wire Meters	37	Computing Scales	849
LPG (Propane) Meters	53	Counter Scales	118
Misc. Measuring Devices	10	Livestock Scales	18
Odometers	103	Crane Scales	4
Retail Motor Fuel Meters	4,245	Portable Platform Scales	1
Retail Water Meters	54	Hanging Scales	5
Taxi Meters	56	Hopper/Tank Scales	14
Elec., Vapor, Water Sub-Meters	10,572	Monorail Meat Beam	3
Vehicle Meters	20	Vehicle & Railway Scales	60
Wholesale Meters	47	Dormant Scales	91
CNG	1	Forklift	4

Weights and Measures serving California since 1850.

GENERAL INFORMATION

POPULATION¹

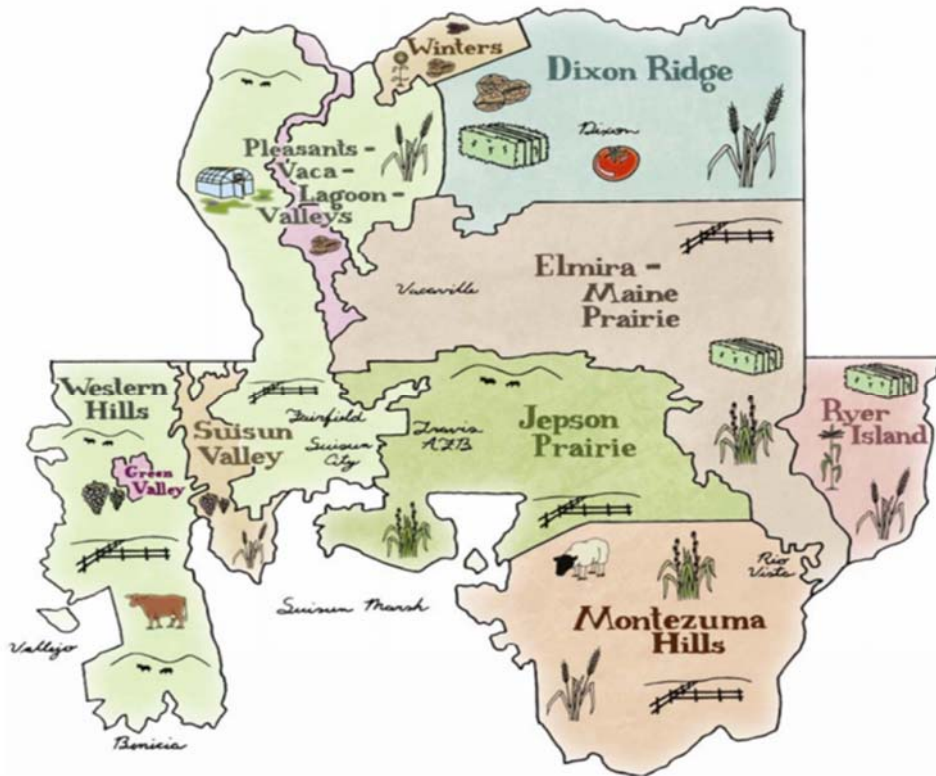
Solano County Population: 436,023

Benicia	Dixon	Fairfield	Rio Vista
27,499	19,896	116,156	9,188
Suisun City	Vacaville	Vallejo	Unincorporated
29,192	98,977	119,252	19,633

AREA

Land Area (Square Miles) ²	910	Urban and Built Up Land Area (Acres) ²	60,826
Land Area (Acres) ²	582,370	Land Area in Farms (Acres) ³	342,593
Water Area (Square Miles) ²	87	Total Cropland (Acres) ³	152,139
Water Area (Acres) ²	55,590	Irrigated Cropland (Acres) ³	115,902

FARMING REGIONS



STATE RANKING³

County Ranked 28th in Gross Value of Agricultural Production (2017)

FARMS

Average US Size (Acres) ⁴	443	Number of Farms in United States ⁴	2,029,200
Average California Size (Acres) ⁴	350	Number of Farms in California ³	69,400
Average Solano County Size (Acres) ⁴	404	Number of Farms in Solano County ³	849

¹Source: California Department of Finance, E-1: City/County Population Estimates as of January 1, 2018

²Source: California Department of Conservation 2014-2016 Land Use Conversion

³Source: CDFA California Agricultural Statistics California County Agricultural Commissioners' Reports 2017

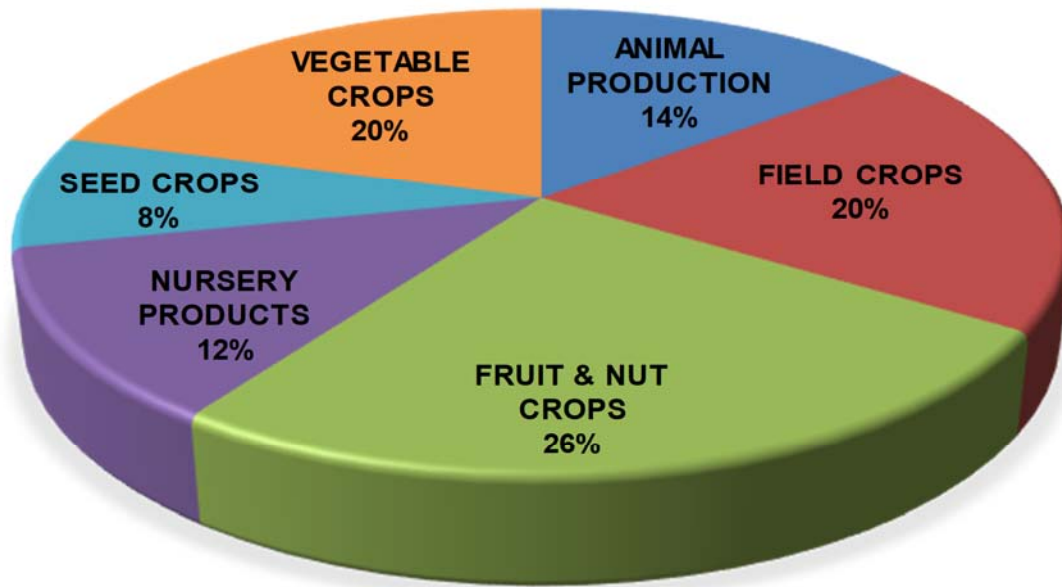
⁴Source: USDA National Agricultural Statistics Service 2017 Census of Agriculture



Top Ten Commodities

	2018 CROP VALUE	2018 CROP RANKING	2017 CROP RANKING
Nursery Products	\$43,248,000	1	2
Tomatoes (Processing)	\$34,720,000	2	4
Alfalfa (Hay)	\$31,746,000	3	5
Cattle & Calves	\$30,367,000	4	6
Grapes (Wine)	\$29,404,000	5	7
Almonds	\$29,299,000	6	3
Sunflower (Seed)	\$25,203,000	7	8
Walnuts	\$25,133,000	8	1
Wheat	\$7,580,000	9	9
Prunes (dried)	\$5,886,000	10	-

2018 Value by Crop Group



Value Summary

YEAR	ANIMAL PRODUCTION ¹	FIELD CROPS	FRUIT & NUT CROPS	NURSERY PRODUCTS	SEED CROPS	VEGETABLE CROPS	TOTAL VALUE
2018	52,118,000	71,781,000	93,360,000	43,248,000	28,720,000	74,750,000	\$363,977,000
2017 ²	50,756,000	64,474,000	108,353,000	44,627,000	21,459,000	64,887,000	\$354,556,000
2016	37,259,000	59,006,000	127,228,000	39,754,000	16,478,000	67,447,000	\$347,172,000
2015	57,277,000	78,454,000	87,741,000	37,648,000	11,729,000	81,020,000	\$353,869,000
2014	62,387,000	98,672,000	86,624,000	35,594,000	16,900,000	78,468,000	\$378,645,000
2013	51,340,000	88,744,000	97,150,000	35,144,000	16,628,000	59,209,000	\$348,215,000
2012	63,425,000	84,604,000	87,368,000	32,707,000	17,680,000	56,911,000	\$342,695,000
2011	52,458,000	83,812,000	63,420,000	23,630,000	14,671,000	53,668,000	\$291,659,000
2010	46,011,000	57,072,000	54,874,000	23,352,000	14,391,000	63,698,000	\$259,398,000
2009	40,116,000	50,073,000	48,191,000	33,499,000	15,859,000	64,184,000	\$251,922,000
2008	49,873,000	89,365,000	44,037,000	43,056,000	10,828,000	55,624,000	\$292,783,000

¹Includes livestock and poultry, livestock and poultry products, and apiary production.

²2017 data reflect correction made for production and value.



Livestock & Poultry

	Year	Number of Head	Total Live-weight (Cwt)	Value per Cwt	Total Value (\$)	Change
Cattle & Calves¹	2018	27,000	218,100	138.10	30,367,000	21%
	2017	25,400	180,400	139.20	25,113,000	
Sheep & Lambs²	2018	28,000	23,600	158.00	3,721,000	-38%
	2017	41,000	38,200	158.00	6,032,000	
Miscellaneous^{3,4}	2018	1,131,000	-	-	1,123,000	-41%
	2017	1,106,000	-	-	1,890,000	
Total Livestock & Poultry	2018				\$35,211,000	7%
	2017				\$33,035,000	

Figures may not add due to rounding.

¹ Includes beef stocker gain value, dairy calves, dairy yearlings, dairy replacement heifers, and dairy cull cows.

² Includes feeder lamb gain.

³ Includes goats and poultry (chickens, doves, geese, and turkeys).

⁴ 2018 miscellaneous value does not include hogs.





Livestock & Poultry Products

	Year	Production	Value per Unit	Total Value (\$)	Change
Eggs, Chicken	2018	45,000 Dozen	6.27/dozen	282,000	32%
	2017	75,600 Dozen	2.83/dozen	214,000	
Wool	2018	100,000 lb	2.28/lb	227,000	-32%
	2017	259,000 lb	1.25/lb	332,000	
Miscellaneous¹	2018	-	-	14,253,000	-3%
	2017	-	-	14,644,000	
Total Livestock & Poultry Products	2018			\$14,762,000	-3%
	2017			\$15,190,000	

Figures may not add due to rounding.
¹ Includes alpaca fiber, goat milk, and market milk.



Apiary Products

	Year	No. of Colonies	Value Per Colony	Total Value (\$)	Change
Apiary Products¹	2018	-	-	759,000	-1%
	2017	-	-	767,000	
Pollination²	2018	18,000	75	1,386,000	-21%
	2017	23,000	76	1,764,000	
Total Apiary Production	2018	-	-	\$2,145,000	-15%
	2017	-	-	\$2,531,000	

Figures may not add due to rounding.

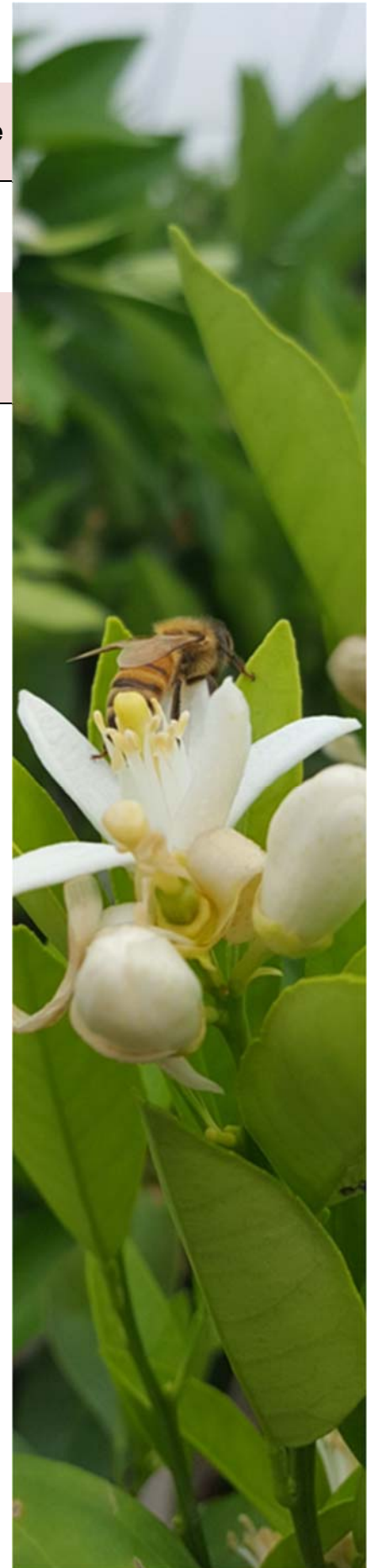
¹ Apiary products include beeswax, honey, honeycomb, packaged bees, and queen bees.

² Value based on acreage of crops requiring bees for pollination and number of colonies required for adequate pollination. Colony fee varies by crop. Crops pollinated include almond, asparagus, cherry, cucumber, melon, prune, pumpkin, squash, sunflower, vine seed, and watermelon.



In September 2018, a bill was passed in California that included changes to the laws governing the registration of the location of apiary colonies (bee hives) within the state. These changes to California law requires beekeepers to annually register bees with their local County Agricultural Commissioners (CACs) and notify the county of any relocation movement. This registration enables communication efforts between beekeepers, pesticide applicators, and county CACs to reduce pesticide incidents with bees.

To facilitate registration and hive relocation notification, Bee Where (<https://beewherecalifornia.com/>) has been implemented for use as an online resource. Bee Where is a collaborative initiative to bring beekeepers and pesticide applicators together to share best practices by tracking and safeguarding hive locations across the state using innovative mapping tools. Bee Where offers a dynamic, real-time GIS mapping system where users can mark hives with a simple pin drop in the field using a mobile app. These locations are also used by CACs as part of the hive registration and relocation notification requirements.





Field & Forage Crops

	Year	Bearing Acres	Tons Per Acre	Production Total (Tons)	Value Per Ton	Total Value (\$)	Change	
Beans, Dry	2018	2,550	1.22	3,100	939	2,918,000	-26%	
	2017	3,430	1.08	3,700	1,070	3,959,000		
Corn (Grain)	2018	5,290	4.44	23,500	159	3,743,000	4%	
	2017	5,210	4.65	24,200	149	3,616,000		
HAY	Alfalfa	2018	28,400	5.79	164,500	193	31,746,000	24%
		2017	28,400	5.01	142,000	180	25,612,000	
	Grain	2018	3,150	3.73	12,300	127	1,633,000	8%
		2017	3,150	3.35	10,552	143	1,510,000	
	Ryegrass	2018	7,030	2.98	21,000	111	2,335,000	10%
		2017	5,830	2.98	17,400	122	2,116,000	
	Sudangrass	2018	5,350	3.48	18,600	147	2,732,000	-25%
		2017	7,210	3.08	22,200	164	3,640,000	
	Grass/Forage	2018	4,440	2.77	12,300	127	1,162,000	-1%
		2017	4,040	2.19	8,840	132	1,171,000	
Safflower	2018	4,170	1.36	5,660	403	2,285,000	52%	
	2017	4,900	0.87	4,260	352	1,501,000		
Triticale	2018	5,370	2.24	12,030	161	1,940,000	144%	
	2017	2,520	2.14	5,380	148	795,000		
Wheat	2018	17,630	2.36	41,600	182	7,580,000	4%	
	2017	20,700	2.21	45,700	159	7,261,000		
Miscellaneous ³	2018	7,910	-	-	-	6,488,000	0%	
	2017	7,590	-	-	-	6,483,000		
Pasture Acreage			Value Per Acre					
Irrigated ¹	2018	21,500			105	2,258,000	-10%	
	2017	21,500			117	2,516,000		
Rangeland ²	2018	187,000			21	3,920,000	-9%	
	2017	187,000			23	4,294,000		
Total Field Crops	2018	299,000				\$ 71,781,000	11%	
	2017	301,000				\$ 64,474,000		

Figures may not add due to rounding.

¹ Acreage from 2018 permit data.

² Calculated using data from California Department of Conservation 2014-2016 Land Use Conversion Report.

³ Includes barley, barley silage, corn silage, oat grain, safflower grain (bird seed), sorghum/milo, straw and sunflower oil.



Fruit & Nut Crops

		Year	Bearing Acres	Ton Per Acre	Production Total (Tons)	Value Per Ton	Total Value (\$)	Change
Almonds (Meats)¹		2018	13,010	0.57	6,170	4,750	29,299,000	
		2017	13,983	0.50	7,050	4,305	30,353,000	-3%
Wine Grapes	Red Varieties	2018	-	-	11,460	1,500	17,175,000	
		2017	-	-	9,340	1,350	12,568,000	37%
	White Varieties	2018	-	-	12,510	980	12,229,000	
		2017	-	-	9,630	810	7,801,000	57%
	Total Grapes ²	2018	3,720	6.44	23,970	-	29,404,000	
		2017	4,110	4.62	18,970	-	20,369,000	44%
Olives³		2018	170	1.61	276	4,410	1,218,000	
		2017	215	1.51	324	2,485	806,000	51%
Prunes (Dried)		2018	1,200	2.49	2,980	1,975	5,886,000	
		2017	1,135	2.00	2,270	1,935	4,399,000	34%
Walnuts		2018	10,590	1.67	17,700	1,420	25,133,000	
		2017	13,685	1.72	23,600	2,005	47,358,000	-47%
Miscellaneous⁴		2018	965	-	-	-	2,420,000	
		2017	950	-	-	-	5,068,000	-52%
Total Fruit & Nut Crops		2018	29,655				\$93,360,000	
		2017	37,885				\$108,353,000	-14%

Figures may not add due to rounding.

¹ 2017 bearing acreage reduced from 17,790 to 13,983 to account for non-bearing acreage. Accordingly, Total Production was reduced from 8,970 to 7,050, and total value was reduced from 38,619,000 to 29,299,000.

² Includes acreage not harvested or sold.

³ Value per unit based on oil value.

⁴ Includes almond hulls, apples, apricots, blackberries, cherries, citrus, figs, grapes (table), kiwi, nectarines, peaches, pears, persimmons, pistachios, plums, pomegranates and strawberries.



Nursery Products

	Year	Acreage	Total Value (\$)	Change
Nursery Stock¹	2018	1880	37,368,000	-6%
	2017	2000	39,696,000	
Propagative Stock²	2018	98	5,880,000	19%
	2017	118	4,931,000	
Total Nursery Production	2018	1978	\$43,248,000	-3%
	2017	2118	\$44,627,000	

Figures may not add due to rounding.

¹ Includes Christmas trees, cut flowers, greenhouse plants, herbaceous and woody ornamentals, and turf.

² Includes grafted grapevines, grapevine rootstock, grapevine cuttings, and propagated fruit and nut trees.





Seed Crops

	Year	Acreage	Yield Per Acre	Production Total	Value Per lb	Total Value (\$)	Change
Sunflower	2018	8,575	1,650	14,165,000	1.78	25,203,000	46%
	2017	8,500	1,220	10,574,000	1.63	17,233,000	
Miscellaneous¹	2018	750	-	-	-	3,517,000	-4%
	2017	880	-	-	-	3,675,000	
Total Seed Crops	2018	9,325				\$28,720,000	34%
	2017	9,700				\$21,459,000	

Figures may not add due to rounding.

¹Includes asparagus, bean, cucumber, melon, onion, squash, wheat and watermelon.



Vegetable Crops

		Year	Acreage	Yield per Acre	Production Total	Value per Ton	Total Value (\$)	Change
Tomatoes (Processing)		2018	11,200	42.00	472,000	73.50	34,720,000	28%
		2017	9,600	39.25	376,500	71.80	27,022,000	
Vegetables	Processing ¹	2018	1,310	-	-	-	4,224,000	50%
		2017	1,450	-	-	-	2,820,000	
	Fresh ²	2018	693	-	-	-	35,806,000	2%
		2017	2,300	-	-	-	35,045,000	
Total Vegetable Crops		2018	13,203				\$74,750,000	13%
		2017	13,350				\$64,887,000	

Figures may not add due to rounding.

¹ Includes cucumbers (pickling), garlic, onion and peppers.

² Includes beans, brassicas, carrot, corn, cucumber, endive, garlic, herbs, leafy greens, melons, mushrooms, onions, peas, peppers, pumpkins, root vegetables, salad greens, sprouts, squash, sweet corn, tomatoes, tubers, and watermelon.



Sustainable Agriculture – 2018 Highlights

Pest Prevention

The California Food and Agricultural Code mandates pest prevention programs to prevent the introduction and spread of pests in California. Pest prevention involves Pest Exclusion, Pest Detection, Pierce's Disease Control, and the State Export Certification Program.

Pest Exclusion is the first line of defense to prevent detrimental, non-native pests from entering the county.

In 2018, a total of 215 premise visits occurred at shipping terminals, nurseries, and residences. During these visits 1,714 shipments of plant material, seed, and household goods were inspected. Three shipments were rejected for live pests, material not properly certified, or improper container markings. Rejected plant material is returned to the shipper, reconditioned and released, or destroyed.

Department personnel inspected 28 production nurseries, encompassing approximately 2,118 acres for pests and diseases. Local nurseries produce a variety of nursery stock, including ornamental plants, sod (turfgrass), vegetable plants, and fruit trees, for sale within California as well as to other states and countries.

The **Pierce's Disease Control Program** works to prevent the spread of the Glassy-winged Sharpshooter into Solano County, which is the main insect vector of Pierce's Disease. In 2018, Department personnel inspected 383 shipments of nursery stock arriving from infested counties in California.

Pest Detection is Solano County's second line of defense against the introduction and spread of insect pests of concern. Insect traps are placed throughout the county and monitored to detect whether a pest is present. In 2018, 26,141 trap inspections were conducted on a total of 2,666 traps in service throughout the county.

Pest Detection Trapping			
TARGET PEST	HOSTS	# OF TRAPS	# OF TRAP SERVICINGS
ASIAN CITRUS PSYLLID (<i>Diaphorina citri</i>)	Ornamental & nursery plants	297	1725
APPLE MAGGOT (<i>Rhagoletis pomonella</i>)	Fruit trees	47	384
EUROPEAN GRAPEVINE MOTH (<i>Lobesia botrana</i>)	Vineyards	468	4794
GLASSY-WINGED SHARPSHOOTER (<i>Homalodisca vitripennis</i>)	Nursery & urban landscape plants	755	7766
GYPSY MOTH (<i>Lymantria dispar</i>)	Shade trees	252	1599
JAPANESE BEETLE (<i>Popillia japonica</i>)	Turf & roses	217	1394
LIGHT BROWN APPLE MOTH (<i>Epiphyas postvittana</i>)	Nursery & urban ornamental plants	133	2179
MEDITERRANEAN FRUIT FLY (<i>Ceratitis capitata</i>)	Fruit trees	231	2406
MELON FLY (<i>Bactrocera cucurbitae</i>)	Vegetable gardens	88	1036
ORIENTAL FRUIT FLY (<i>Bactrocera dorsalis</i>)	Fruit trees	89	991
OTHER FRUIT FLIES	Fruit trees & vegetables	89	1,867



Insect detection trap placement in Solano County.

Sustainable Agriculture – 2018 Highlights

The **Phytosanitary Certification Program** ensures that plants and plant commodities shipped to other states or foreign countries are free from injurious pests. Solano County personnel performed approximately 822 Phytosanitary Field Inspections on 7,637 acres of seed crops. A total of 841 Phytosanitary Certificates were issued for plant commodities shipped to international destinations.

The **Sudden Oak Death** program's purpose is to prevent the spread of the disease caused by the pathogen *Phytophthora ramorum*. Department personnel conducted 56 inspections at 9 production shipping nurseries and found zero incidences of Sudden Oak Death.

Pest Eradication

The primary objective of the Pest Eradication Program is to quickly and efficiently eliminate infestations of serious agricultural pests with limited distribution before they are able to establish and spread in California.

The 2017 Mediterranean Fruit Fly (Medfly, *Ceratitis capitata*) quarantine that encompassed 108 square miles of Solano County was declared eradicated on August 3, 2018 by the California Department of Food and Agriculture and the Solano County Agricultural Commissioner's Office. Medflies can destroy more than 250 types of fruits and vegetables, causing severe losses in California's agricultural production, impacting exports and backyard gardens. Eradication efforts included fruit removal from trees in hot spot areas, organic insecticidal bait treatments and the release of over 100 million sterile Medflies to disrupt the reproduction cycle of the invasive pest.

Egyptian Broomrape (*Orobanche aegyptiaca*) is a parasitic plant that infects many economically important crops, such as tomato, sunflower, bell pepper, carrot, and various legumes. It is a major pest in the Middle East and eastern Europe.

The first U.S. detection of Egyptian Broomrape was found in a processing tomato field in Solano County in July 2014. Through mitigation, monitoring, and eradication efforts, this field was declared to have Egyptian Broomrape eradicated in August 2016.

In July 2016, A processing tomato field neighboring the initial detection was also found to have Egyptian Broomrape. The newly identified field was placed on hold and underwent similar eradication efforts as the initial field find. In October 2018, the second field was deregulated, and Egyptian Broomrape was declared eradicated by the United State Department of Agriculture and the California Department of Food and Agriculture.



Egyptian Broomrape (Orobanche aegyptiaca)

Organic Farming

Solano County had 39 registered organic farms in 2018 which produced assorted organic berries, herbs, fruits, vegetables, microgreens, nuts, cut flowers, olive oil, ryegrass, eggs, and poultry. The gross organic production sales in 2018 for Solano County were **\$17,492,341**.

Certified Farmers Markets

Certified farmers' markets allow producers of agricultural commodities to sell directly to the public. Anyone who wishes to sell at a certified farmers' market must obtain a Certified Producers Certificate from the Agricultural Commissioner in the county where the commodity was grown. Certificates were issued to 39 producers and seven farmers' markets in 2018 by the Agricultural Commissioner's Office to market local and regional produce in Solano County.

Solano County Export Market



In 2018, the Solano County Agricultural Department issued 841 Phytosanitary Federal Certificates for commodities bound for export markets in 31 countries

Argentina
 Australia
 Brazil
Canada
 Chile
China
 Colombia
 Dominican Republic
 Ethiopia
 Fiji
 France

Germany
 Hong Kong
 India
 Indonesia
 Israel
 Italy
Japan
Korea, Republic of
 Malaysia
 Mexico

Morocco
 Netherlands
 Philippines
 Singapore
 Spain
 Taiwan
 Thailand
 United Arab Emirates
 United Kingdom
 Viet Nam