

Solano County

2017

Crop and Livestock Report



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To: Karen Ross, Secretary
California Department of Food and Agriculture

and

The Honorable Board of Supervisors
County of Solano, California

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 2017.

This report is the 68th annual report issued by the Agricultural Commissioner. Overall production values grew from last year as the State drought receded. This report lists farm gate values only. Processing capacity allows some growers to add or recapture value, but this report is not a measure of profitability, nor does it account for the re-spending and support multipliers generated by this production in the local economy.

The gross value of Solano County's agricultural production for 2017 was \$362,822,000, representing a 4.5% (\$15,650,000) increase from 2016. The abatement of drought conditions contributed to increased values in animal production and field crops. The top three crops for Solano County remained in the same order as 2016, with Walnuts as the top crop, increasing in value by 5.7% to \$47,358,000; Nursery Products in second, increasing in value by 12.3% to \$44,627,000; and Almonds in third increased in value by 7.5% to \$38,619,000. Almonds increased in value with newer trees coming into production. Also maintaining the same ranking in the "Top Ten" were Tomatoes (Processing) in fourth at \$27,022,000 and Alfalfa (Hay) in fifth at \$25,612,000. Cattle & Calves jumped from ninth to sixth with an increase of 173.2% to a value of \$25,113,000 primarily attributable to rains to support beef stocker gains. Grapes (Wine), Sunflower (Seed), Wheat, and Sheep & Lambs finish out the final seventh through tenth positions.

This year's cover story highlights Solano County's flourishing seed industry and offers insight to the forces that impact this market. With an increasing number of seed producers calling Solano County home, the cover story also features how the Department of Agriculture promotes and supports this expanding agricultural industry.

I wish to extend my sincere appreciation to all of the farmers, ranchers, boards, commissions, and agencies who contributed vital data to make this report possible. I would also like to thank my staff for their diligent efforts in producing the crop report.

To see this or any of the previous crop reports online or to learn about the programs and services provided by the Solano County Department of Agriculture and Weights and Measures, please visit at www.solanocounty.com/ag.

Respectfully submitted,

Simone Hardy
Agricultural Commissioner/Sealer of Weights and Measures

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¹ Jim Allan retired 10/2/2017

² Simone Hardy became Agricultural Commissioner/Sealer of Weights & Measures on 10/2/2017

Solano County's Seed Industry

Crops produced for seed have been grown in Solano since long before the first Crop Report was published in 1949. Solano's climate, especially the Dixon Ridge, is ideal for seed production, as the hot dry summers inhibit moisture reliant pathogen's ability to infect plants during harvest time. In the late 1990's, seed production shifted from primarily Southern California to include Northern Central California, especially in vegetable and flower seed production. California is the king of seed production and has been the leading state for many decades. Approximately 13% of the United States' seed production occurs here, and Solano County's 9,700 acres are undoubtedly an important contribution.



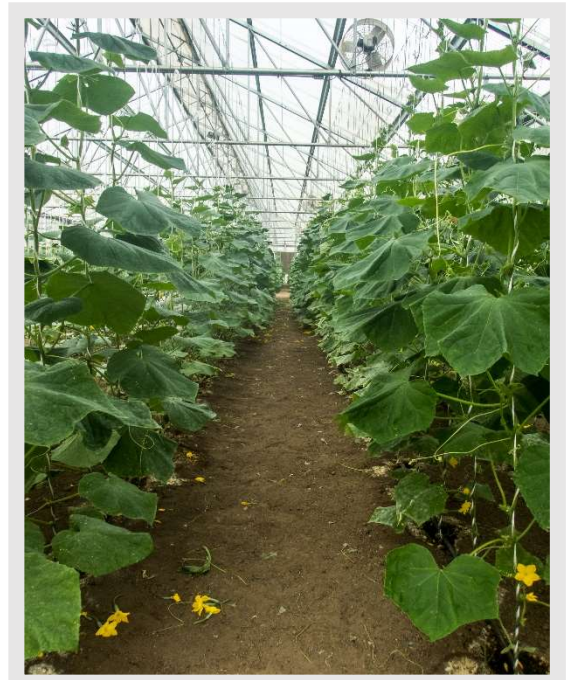
Most of the seed grown in the county is produced as part of a contract with seed companies. This is very beneficial as it provides guaranteed income for growers, despite losses that may be a result of weather and pest problems. However, seed production comes with its share of challenges. Contractors change the variety and type of seed produced every year, forcing producers to constantly adapt and adjust to different growing requirements and crop behaviors. This creates a unique challenge, because unlike other crops, where varietal and type do not change as frequently, historical data cannot be relied on for guidance. Cross pollination from other fields is also a concern, as it can affect the purity of seed produced and thus reduce crop value.

While the predominant types of seed produced in Solano are sunflower, watermelon and squash, there are many other types such as tomato, pepper, cucumber, corn, melons, onions, and asparagus. Much of this seed is exported all around the world with each country having their own set of phytosanitary import requirements. The Solano Agriculture Department assists seed companies in meeting these requirements by performing inspections throughout different stages of crop growth to look for specific diseases of concern. In 2017, almost 5,000 acres of seed crop were inspected.

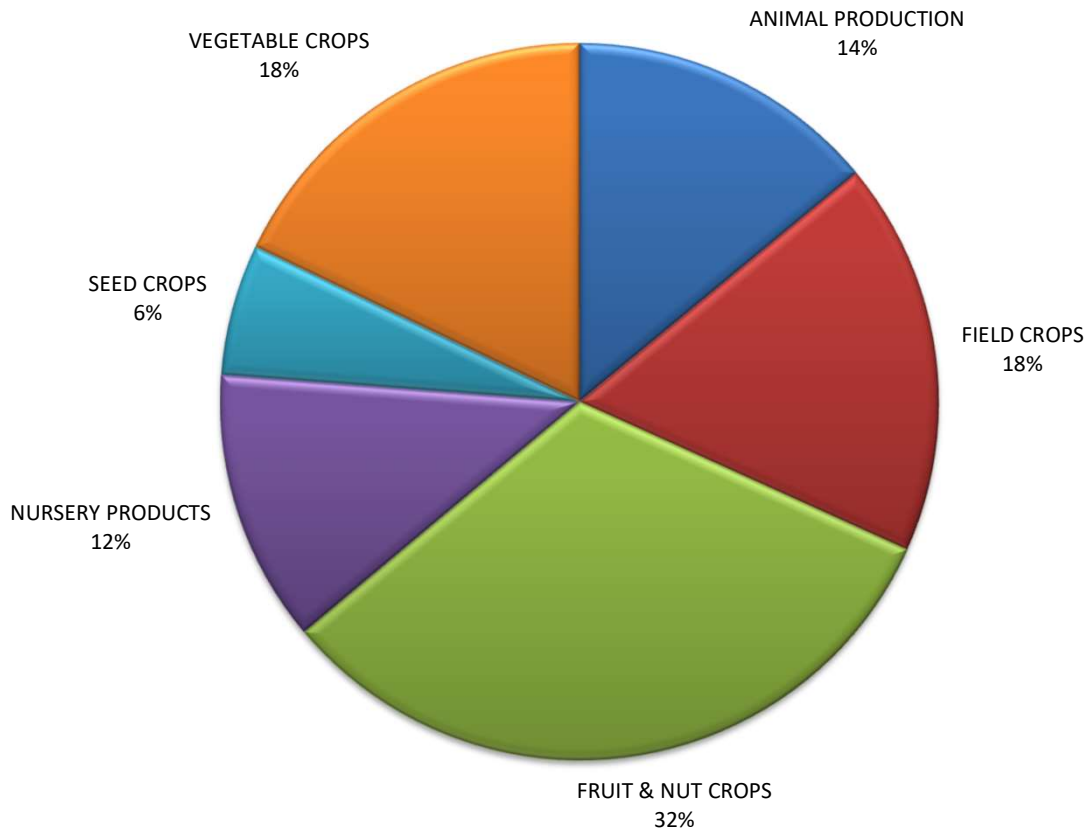
Solano County is also home to many producers of certified seed. Certified seed is seed that has been rigorously vetted by the California Crop Improvement Association (CCIA) for genetic purity and characteristics consistent with seed type. Field inspections are performed by CCIA inspectors to assure that these standards are met, and harvesters are inspected for seed cleanliness by Solano County Agriculture Department staff when varieties or seed class are changed.

Breeding and hybridization are other major components of Solano's seed production profile. This seed is bred in accordance with both domestic and foreign market demands. Pest resistance, vigor, durability, and flavor are a few of the many enhanced traits for new varieties of crops being developed in Solano County every day.

Seed production may not be Solano's top crop, but it has proven to be as valuable a commodity as any. In the last three years, almost 4000 new acres of crops for seed have been planted and its popularity continues to grow. With no signs of slowing down, we look forward to even more robust and bountiful seed harvests for years to come.



2017 Value by Crop Group



Value Summary

YEAR	ANIMAL PRODUCTION ¹	FIELD CROPS	FRUIT & NUT CROPS	NURSERY PRODUCTS	SEED CROPS	VEGETABLE CROPS	TOTAL VALUE
2017	50,756,000	64,474,000	116,619,000	44,627,000	21,459,000	64,887,000	\$362,822,000
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
2007	54,820,000	54,812,000	43,430,000	56,611,000	10,821,000	47,762,000	\$268,256,000

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



* Image sizes in chart are proportionate to 2017 Crop Value Amount

Top Ten Million Dollar Commodities

CROP	2017 CROP VALUE	2017 CROP RANKING	2016 CROP RANKING
Walnuts	47,358,000	1	1
Nursery Products	44,627,000	2	2
Almonds	38,619,000	3	3
Tomatoes (Processing)	27,022,000	4	4
Alfalfa (Hay)	25,612,000	5	5
Cattle & Calves	25,113,000	6	9
Grapes (Wine)	20,369,000	7	6
Sunflower (Seed)	17,233,000	8	7
Wheat	7,261,000	9	10
Sheep & Lambs	6,032,000	10	8



Fruit & Nut Crops

CROP	YEAR	BEARING ACRES	PRODUCTION		UNIT	VALUE			
			PER ACRE	TOTAL		PER UNIT	TOTAL	% CHANGE	
Almonds (Meats)	2017	17,790	0.50	8,970	Ton	4,305	38,619,000	8%	
	2016	9,000	0.89	8,020	Ton	4,480	35,917,000		
Grapes (Wine)¹	Red Varieties	2017	-	-	9,340	Ton	1,350	12,568,000	22%
		2016	-	-	11,300	Ton	910	10,318,000	
	White Varieties	2017	-	-	9,630	Ton	810	7,801,000	-16%
		2016	-	-	12,500	Ton	737	9,242,000	
	Total Grapes	2017	4,110	4.62	18,970	Ton	-	20,369,000	4%
		2016	4,110	5.79	23,800	Ton	-	19,560,000	
Olives²	2017	215	1.51	324	Ton	2,485	806,000	23%	
	2016	170	1.63	277	Ton	2,370	656,000		
Prunes (Dried)	2017	1,135	2.00	2,270	Ton	1,935	4,399,000	32%	
	2016	1,190	1.46	1,740	Ton	1,920	3,336,000		
Walnuts	2017	13,685	1.72	23,600	Ton	2,005	47,358,000	6%	
	2016	11,400	1.84	20,900	Ton	2,140	44,822,000		
Miscellaneous³	2017	950	-	-	-	-	5,068,000	50%	
	2016	1,090	-	-	-	-	3,377,000		
TOTAL FRUIT & NUT CROPS	2017	37,885					\$116,619,000	-8%	
	2016	26,800					\$127,228,000		

Figures may not add due to rounding.

¹Includes acreage not harvested or sold.

²Value per unit based on oil value.

³Includes almond hulls, apples, apricots, blackberries, cherries, citrus, figs, grapes (table), kiwi, nectarines, peaches, pears, persimmons, pistachios, plums, pomegranates, and strawberries.



Field & Forage Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION		UNIT	VALUE		
			PER ACRE	TOTAL		PER UNIT	TOTAL	% CHANGE
Beans, Dry	2017	3,430	1.08	3,700	Ton	1,070.00	3,959,000	21%
	2016	2,430	1.12	2,720	Ton	1,209.00	3,284,000	
Corn (Grain)	2017	5,210	4.65	24,200	Ton	149.00	3,616,000	11%
	2016	4,410	4.72	20,800	Ton	157.00	3,262,000	
Hay Alfalfa	2017	28,400	5.01	142,000	Ton	180.00	25,612,000	15%
	2016	30,500	5.24	160,000	Ton	139.00	22,267,000	
Grain	2017	3,150	3.35	10,552	Ton	143.00	1,510,000	-9%
	2016	4,650	3.71	17,300	Ton	96.00	1,657,000	
Ryegrass	2017	5,830	2.98	17,400	Ton	122.00	2,116,000	162%
	2016	4,610	2.50	11,500	Ton	70.00	807,000	
Sudangrass	2017	7,210	3.08	22,200	Ton	164.00	3,640,000	51%
	2016	4,550	2.50	11,375	Ton	144.00	2,417,000	
Grass/Forage ¹	2017	4,040	2.19	8,840	Ton	132.00	1,171,000	-21%
	2016	3,620	3.50	12,700	Ton	118.00	1,491,000	
Pasture, Irrigated ²	2017	21,500	-	-	Acre	117.00	2,516,000	1%
	2016	21,600	-	-	Acre	116.00	2,498,000	
Pasture, Rangeland ³	2017	187,000	-	-	Acre	23.00	4,294,000	6%
	2016	189,000	-	-	Acre	21.34	4,035,000	
Safflower	2017	4,900	0.87	4,260	Ton	352.00	1,501,000	4%
	2016	2,980	1.12	3,340	Ton	431.00	1,438,000	
Triticale	2017	2,520	2.14	5,380	Ton	148.00	795,000	-63%
	2016	6,060	2.58	15,600	Ton	136.40	2,134,000	
Wheat ⁴	2017	20,700	2.21	45,700	Ton	159.00	7,261,000	-2%
	2016	19,400	2.61	50,600	Ton	147.00	7,428,000	
Miscellaneous ⁵	2017	7,590	-	-	-	-	6,483,000	3%
	2016	5,810	-	-	-	-	6,289,000	
TOTAL FIELD CROPS	2017	301,000					\$64,474,000	9%
	2016	300,000					\$59,006,000	

Figures may not add due to rounding.

¹Previously reported as Other.

²Acreage from the 2017 permit data.

³Acreage calculated using data from the California Department of Conservation 2014-2016 Land Use Conversion Report.

⁴Includes irrigated and dryland wheat.

⁵Includes barley, barley silage, corn silage, oat grain, safflower grain, sorghum/milo, straw and sunflower oil.

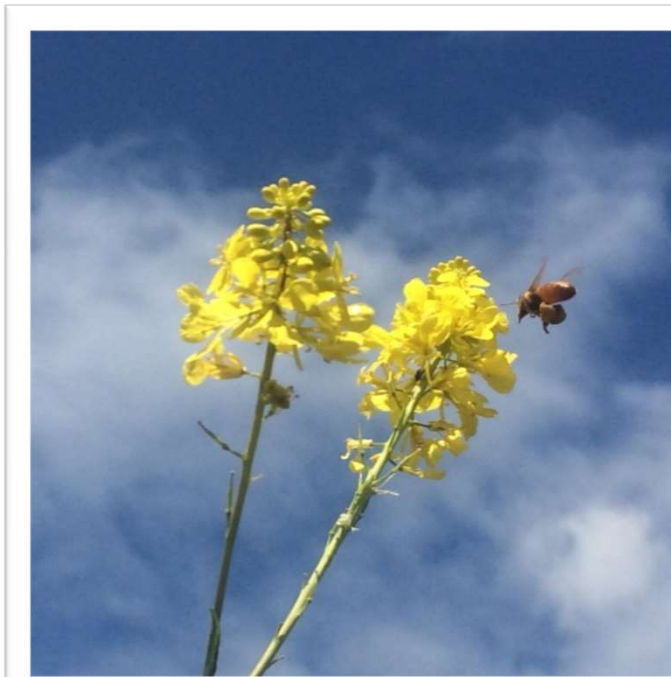
Apiary Production

ITEM	YEAR	PRODUCTION	UNIT	VALUE		
				PER UNIT	TOTAL	% CHANGE
Apiary Products ¹	2017	-	-	-	767,000	12%
	2016	-	-	-	687,000	
Pollination ²	2017	23,000	Colony	76.00	1,764,000	12%
	2016	14,000	Colony	113.00	1,579,000	
TOTAL APIARY PRODUCTION	2017				\$2,531,000	12%
	2016				\$2,266,000	

Figures may not add due to rounding.

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

²Value 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, kiwi, prune, sunflower, and vine seed.



Nursery Products

ITEM	YEAR	ACREAGE	TOTAL VALUE	% CHANGE
Nursery Stock ¹	2017	2,000	39,696,000	9%
	2016	1,970	36,373,000	
Propagative Stock ²	2017	118	4,931,000	46%
	2016	136	3,381,000	
TOTAL NURSERY PRODUCTS³	2017	2,118	\$44,627,000	12%
	2016	2,106	\$39,754,000	

Figures may not add due to rounding.

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

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

³The 2016 total nursery average was corrected from 1440 to 2106.

Vegetable Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION		UNIT	VALUE			
			PER ACRE	TOTAL		PER UNIT	TOTAL	% CHANGE	
Tomatoes (Processing)	2017	9,600	39.25	376,500	Ton	71.80	27,022,000	-20%	
	2016	10,400	46.40	455,000	Ton	74.40	33,843,000		
Vegetables	Processing ¹	2017	1,450	-	-	-	-	2,820,000	-55%
		2016	1,280	-	-	-	-	6,204,000	
	Fresh ²	2017	2,300	-	-	-	-	35,045,000	27%
		2016	1,900	-	-	-	-	27,538,000	
TOTAL VEGETABLE CROPS	2017	13,350					\$64,887,000	-4%	
	2016	13,500					\$67,447,000		

Figures may not add due to rounding.

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

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



Seed Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION		UNIT	VALUE		
			PER ACRE	TOTAL		PER UNIT	TOTAL	% CHANGE
Sunflower	2017	8,500	1,220	10,574,000	Lb	1.63	17,233,000	51%
	2016	7,920	1,540	12,200,000	Lb	0.94	11,414,000	
Watermelon ²	2017	320	280	91,000	Lb	6.04	551,000	
	2016	-	-	-	-	-	-	
Miscellaneous ^{1,3}	2017	880	-	-	-	-	3,675,000	-24%
	2016	1,030	-	-	-	-	4,846,000	
TOTAL SEED CROPS	2017	9,700					\$21,459,000	30%
	2016	9,090					\$16,478,000	

Figures may not add due to rounding.

¹Cucumber and squash have been added to Miscellaneous.

²Watermelon has been removed from Miscellaneous.

³Includes asparagus, bean, cucumber, melon, onion, squash and wheat.

Livestock & Poultry

ITEM	YEAR	NUMBER OF HEAD	TOTAL LIVELWEIGHT	UNIT	VALUE		
					PER UNIT	TOTAL	% CHANGE
Cattle & Calves ¹	2017	25,400	180,400	Cwt	139.20	25,113,000	173%
	2016	23,400	106,700	Cwt	96.50	9,192,000	
Sheep & Lambs ²	2017	41,000	38,200	Cwt	158.00	6,032,000	-35%
	2016	59,000	66,700	Cwt	-	9,339,000	
Miscellaneous ^{3,4}	2017	1,106,000	-	-	-	1,890,000	76%
	2016	1,150,000	-	-	-	1,074,000	
TOTAL LIVESTOCK & POULTRY	2017					\$33,035,000	69%
	2016					\$19,605,000	

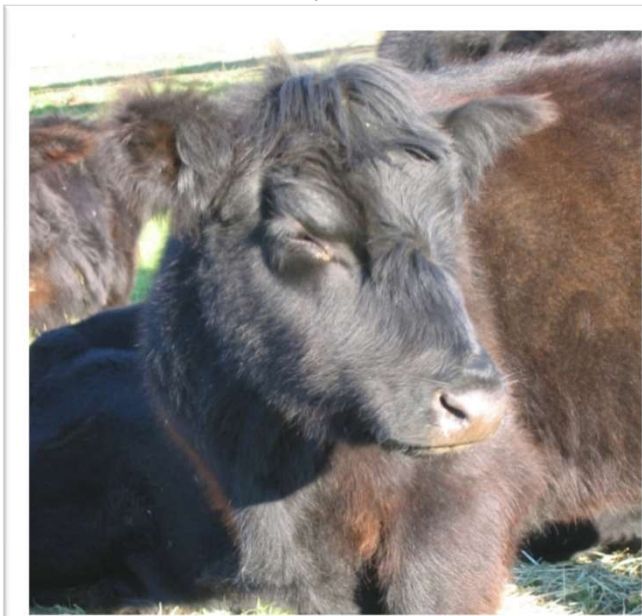
Figures may not add due to rounding.

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

²Includes feeder lamb gain.

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

⁴2016 miscellaneous value does not include hogs.



Livestock & Poultry Products

ITEM	YEAR	PRODUCTION	UNIT	VALUE		
				PER UNIT	TOTAL	% CHANGE
Eggs, Chicken	2017	75,600	Dozen	2.83	214,000	-50%
	2016	113,000	Dozen	3.82	432,000	
Wool	2017	259,000	Lb	1.25	332,000	3%
	2016	198,000	Lb	1.62	321,000	
Miscellaneous ⁵	2017	-	-	-	14,644,000	0%
	2016	-	-	-	14,635,000	
TOTAL LIVESTOCK & POULTRY PRODUCTS	2017				\$15,190,000	-1%
	2016				\$15,388,000	

Figures may not add due to rounding.

⁵Includes alpaca fiber, goat milk, and market milk.

Sustainable Agriculture – 2017 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 2017, a total of 188 premise visits occurred at shipping terminals, nurseries, and residences. During these visits 1,028 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 22 production nurseries, encompassing 1,830 acres for pests and diseases. These 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 2017, Department personnel inspected 561 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. Insect traps are placed throughout the county and monitored to detect whether a pest is present. In 2017, 27,584 trap inspections were conducted on a total of 2,825 traps in service throughout the county.

Mediterranean
Fruit Fly
(*Ceratitidis capitata*)



Pest Detection Trapping			
TARGET PEST	HOSTS	# OF TRAPS	# OF TRAP SERVICINGS
ASIAN CITRUS PSYLLID (<i>Diaphorina citri</i>)	Ornamental & nursery plants	352	1,942
APPLE MAGGOT (<i>Rhagoletis pomonella</i>)	Fruit trees	47	351
EUROPEAN GRAPEVINE MOTH (<i>Lobesia botrana</i>)	Vineyards	469	5,427
GLASSY-WINGED SHARPSHOOTER (<i>Homalodisca vitripennis</i>)	Nursery & urban landscape plants	803	8,120
GYPSY MOTH (<i>Lymantria dispar</i>)	Shade trees	240	1,556
JAPANESE BEETLE (<i>Popillia japonica</i>)	Turf & roses	207	1,357
LIGHT BROWN APPLE MOTH (<i>Epiphyas postvittana</i>)	Nursery & urban ornamental plants	214	2,509
MEDITERRANEAN FRUIT FLY (<i>Ceratitidis capitata</i>)	Fruit trees	231	2,256
MELON FLY (<i>Bactrocera cucurbitae</i>)	Vegetable gardens	88	1,269
ORIENTAL FRUIT FLY (<i>Bactrocera dorsalis</i>)	Fruit trees	86	955
OTHER FRUIT FLIES	Fruit trees & vegetables	88	1,842

Pests Found via Detection Trapping

In late summer of 2017, an infestation of Mediterranean Fruit Fly (Medfly) was found in the Fairfield and Suisun area using detection traps. Medflies can destroy more than 250 types of fruits and vegetables, causing severe losses in California’s agricultural production, impacting exports and backyard gardens. A regulatory quarantine that covered 108 square miles was enacted to prevent the spread of Medflies. Fruit was removed from trees in hot-spot areas and more than 100 million sterile Medflies were released to disrupt the reproduction life cycle of the invasive pest.

The **Phytosanitary Certification Program** ensures that plants and plant commodities

Sustainable Agriculture – 2017 Highlights

shipped to other states or foreign countries from Solano County are free from injurious pests. Solano County personnel performed 500 Phytosanitary Field Inspections on 4,956 acres of seed crops. A total of 1,317 Phytosanitary Certificates were issued for plant commodities shipped to international and interstate destinations, which consisted of 932 Federal Certificates for international exports and 385 California State Certificates for interstate shipments.

The **Sudden Oak Death** program's purpose is to prevent the spread of the disease caused by the pathogen *Phytophthora ramorum*. Department personnel conducted 64 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.

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.

A processing tomato field neighboring the initial detection was also found to have Egyptian Broomrape around the same time as the initial field was declared eradicated in August 2016. The newly identified field has been placed on hold and is undergoing similar processes as the initial Egyptian Broomrape detection field. This process includes herbicide treatment and burning of the infected host crop followed by methyl bromide fumigation treatment of the field for at least three plantings of host crops to

determine if the pest is still present. Solano County Agriculture Department and the California Department of Food and Agriculture personnel cooperatively monitor all eradication efforts of this parasitic plant pest.

Organic Farming

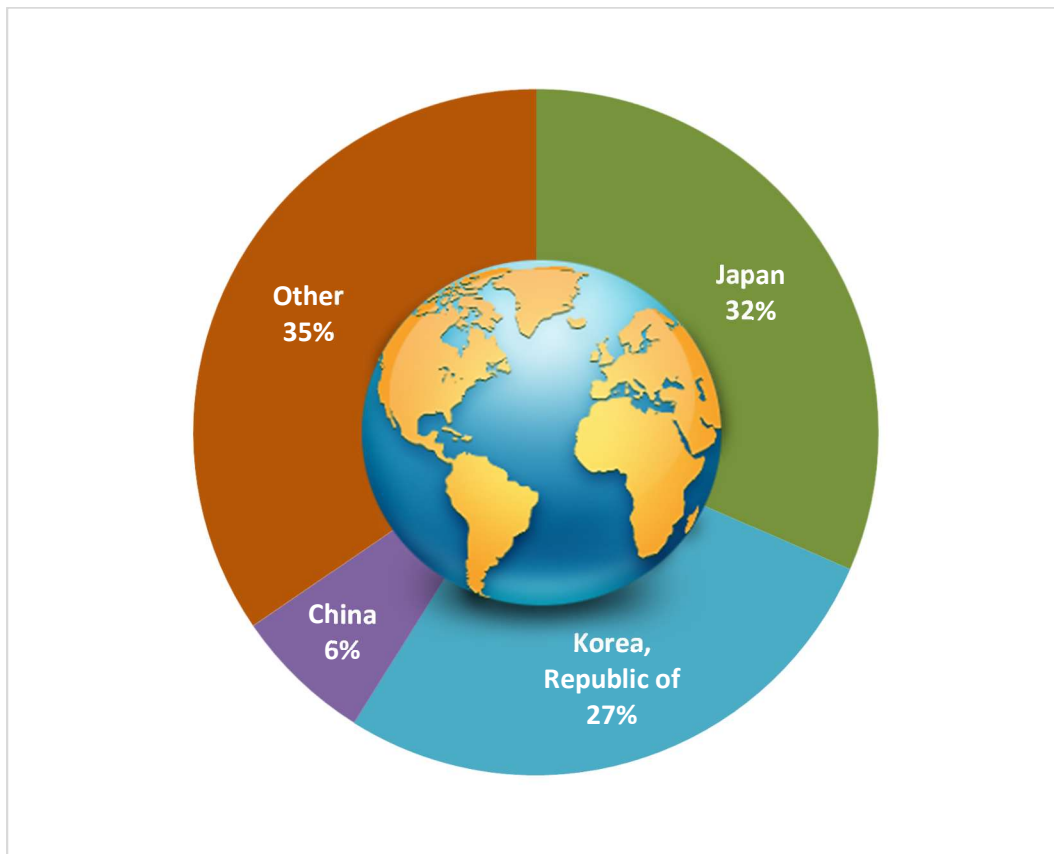
Solano County had 42 registered organic farms in 2017 which produced assorted organic berries, herbs, fruits, vegetables, microgreens, nuts, cut flowers, olive oil, ryegrass, eggs, and poultry. The gross organic production sales for Solano County were \$18,899,109.



Certified Farmers Markets

The purpose of certified farmers' markets is to 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 produce was grown. Solano County certificates were issued to 40 producers in 2017, and seven farmers' markets were certified by the Agricultural Commissioner to market local and regional produce in Solano County.

Solano County Export Market



In 2017, the Solano County Agricultural Department issued 1317 phytosanitary certificates: 932 Federal Certificates for commodities bound for export markets in 37 countries and 385 State Certificates for commodities bound for other states.

Argentina
Australia
Belgium
Brazil
Canada
Chile
China
Colombia
Costa Rica
Dominican Republic
Egypt

Fiji
Germany
India
Indonesia
Israel
Italy
Japan
Jordan
Korea, Republic of
Malaysia
Mexico

Morocco
Netherlands
New Zealand
Pakistan
Philippines
Poland
Saudi Arabia
Spain
Switzerland
Taiwan
Taiwan

Thailand
Turkey
United Arab Emirates
United Kingdom
Vietnam

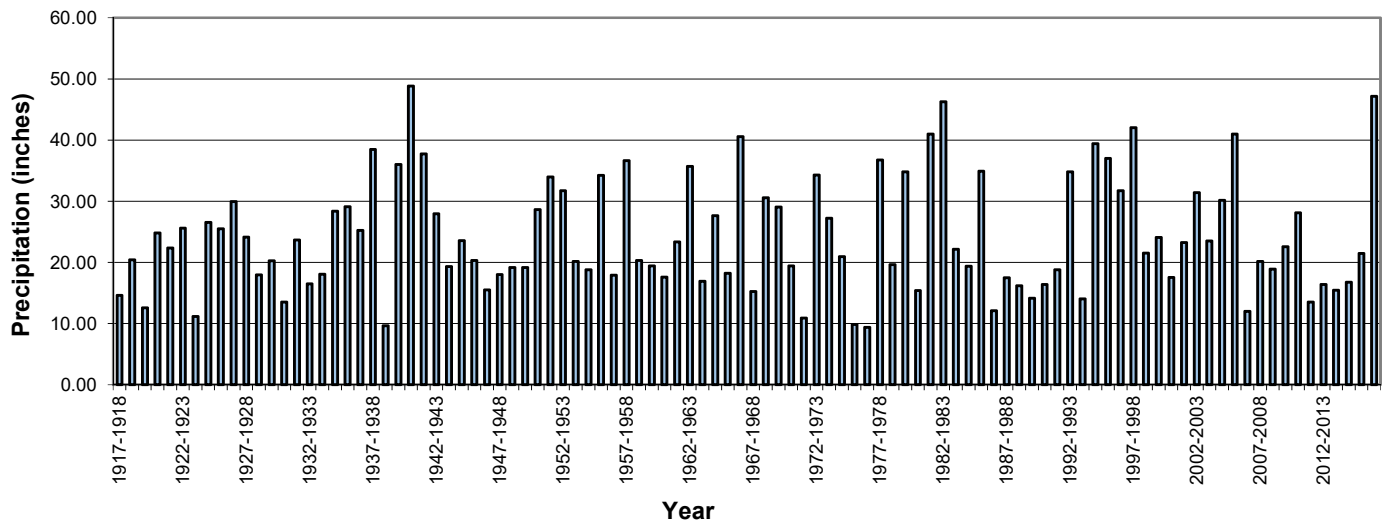
Arizona
Florida
Idaho
Pennsylvania
Texas

100 Years of Annual Precipitation at Vacaville, CA

YEAR	INCHES	YEAR	INCHES	YEAR	INCHES	YEAR	INCHES
1917-1918	14.61	1942-1943	27.94	1967-1968	15.26	1992-1993	34.79
1918-1919	20.41	1943-1944	19.33	1968-1969	30.56	1993-1994	14.01
1919-1920	12.58	1944-1945	23.55	1969-1970	29.07	1994-1995	39.43
1920-1921	24.79	1945-1946	20.32	1970-1971	19.42	1995-1996	36.99
1921-1922	22.34	1946-1947	15.47	1971-1972	10.89	1996-1997	31.74
1922-1923	25.62	1947-1948	17.99	1972-1973	34.30	1997-1998	42.01
1923-1924	11.15	1948-1949	19.15	1973-1974	27.23	1998-1999	21.52
1924-1925	26.53	1949-1950	19.16	1974-1975	20.93	1999-2000	24.09
1925-1926	25.48	1950-1951	28.61	1975-1976	9.84	2000-2001	17.56
1926-1927	29.96	1951-1952	33.99	1976-1977	9.38	2001-2002	23.24
1927-1928	24.14	1952-1953	31.72	1977-1978	36.75	2002-2003	31.42
1928-1929	17.98	1953-1954	20.17	1978-1979	19.64	2003-2004	23.49
1929-1930	20.26	1954-1955	18.81	1979-1980	34.79	2004-2005	30.14
1930-1931	13.49	1955-1956	34.24	1980-1981	15.39	2005-2006	40.98
1931-1932	23.64	1956-1957	17.90	1981-1982	41.00	2006-2007	12.01
1932-1933	16.50	1957-1958	36.64	1982-1983	46.26	2007-2008	20.17
1933-1934	18.06	1958-1959	20.30	1983-1984	22.12	2008-2009	18.89
1934-1935	28.35	1959-1960	19.40	1984-1985	19.37	2009-2010	22.55
1935-1936	29.12	1960-1961	17.58	1985-1986	34.89	2010-2011	28.12
1936-1937	25.22	1961-1962	23.36	1986-1987	12.09	2011-2012	13.53
1937-1938	38.46	1962-1963	35.71	1987-1988	17.48	2012-2013	16.39
1938-1939	9.64	1963-1964	16.93	1988-1989	16.15	2013-2014	15.42
1939-1940	36.02	1964-1965	27.63	1989-1990	14.12	2014-2015	16.74
1940-1941	48.82	1965-1966	18.24	1990-1991	16.36	2015-2016	21.47
1941-1942	37.72	1966-1967	40.54	1991-1992	18.77	2016-2017	47.18

The average annual precipitation over the 100 year period from October 1, 1917 to September 30, 2017 is 24.62 inches.

Annual Precipitation (Vacaville, CA)



Annual Precipitation is from October 1 to September 30

Source: NOAA National Climatic Data Center

WEIGHTS & MEASURES DIVISION

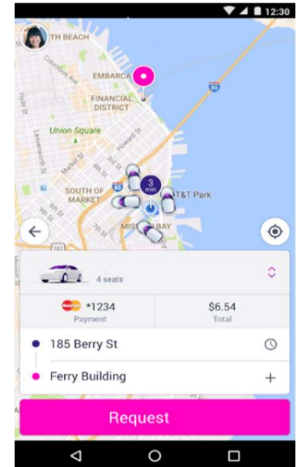
Technology is ever changing, and the world of weights and measures is no exception. Scales



Scale with Electronic Load-Cell

have evolved from lever-type devices to the now common load-cell design. The load-cell design is much more compact, simpler to construct, and less expensive than older scale types. The picture, *left* is an example of how a load-cell is attached to a scale platform. The load-cells connect into a central Scale Head that computes the total weight and displays it on a read-out screen.

New technology is not limited to devices. Transportation Network Systems, (TNS) like Uber or Lyft use a sophisticated computer database to calculate ride fees based on several factors. In this application, there is no device for Weights and Measures to inspect, so the California State Division of Measurement Standards (DMS) will verify accuracy of the software revision and in effect “Seal” it. Any changes, up-dates, etc. will have to be reviewed and “re-Sealed” by the State. County Weights and Measures officials will do spot checks and will investigate any complaints from customers.



TNS Screen Shot



Hydrogen Fulling Station

Other new devices that are already in service or that you will be seeing soon are Electric Vehicle (EV), Charging Stations, Compressed Natural Gas (CNG), fueling stations, and Hydrogen fueling stations. These new devices will require specialized training for Weights and Measures inspectors and the use of equipment specifically designed for the unique products dispensed. It is estimated that several hundred of these types of dispensers will be in use in California within the next few years.

Solano County currently has 679 registered establishments with various commercial devices as shown below:

Fabric/Cordage/Wire Meters	36	Computing Scales	853
LPG (Propane) Meters	52	Counter Scales	136
Misc. Measuring Devices	10	Livestock Scales	20
Odometers	84	Crane Scales	3
Retail Motor Fuel Meters	4229	Portable Platform Scales	31
Retail Water Meters	52	Hanging Scales	7
Taxi Meters	55	Hopper/Tank Scales	14
Elec., Vapor, Water Sub-Meters	10648	Monorail Meat Beam	3
Vehicle Meters	28	Vehicle & Railway Scales	62
Wholesale Meters	47	Dormant Scales	54
CNG	2	Forklift	5

Weights and Measures serving California since 1850.

GENERAL INFORMATION

POPULATION¹

Solano County Population: 436023

Benicia 27,695	Dixon 19,298	Fairfield 114,157	Rio Vista 9,019
Suisun City 29,295	Vacaville 98,456	Vallejo 118,280	Unincorporated 19,823

AREA

Land Area (Square Miles) ²	909.95	Urban and Built Up Land Area (Acres) ²	60,826
Land Area (Acres) ²	582,370	Land Area in Farms (Acres) ³	407,101
Water Area (Square Miles) ²	86.86	Total Cropland (Acres) ³	169,637
Water Area (Acres) ²	55,590	Irrigated Cropland (Acres) ³	130,909

FARMS

Average US Size (Acres) ³	434	Number of Farms in Solano County ³	860
Average California Size (Acres) ³	328	Full Time	462
Average Solano County Size (Acres) ³	473	Part Time	398

STATE RANKING

County Rank by Gross Value of Agricultural Production (2016)⁴

28th

Commodity Rank by Gross Value of Production (2016)⁴

3rd - Sheep & Lamb

5th - Sudan Hay

FARMING REGIONS

Dixon Ridge	Jepson Prairie	Suisun Valley
Elmira/Maine Prairie	Montezuma Hills	Western Hills
Green Valley	Pleasants/Vaca/Lagoon Valleys	Winters
	Ryer Island	

LOCAL ASSESSED PROPERTY VALUES (2017)⁵

\$52.1 Billion

TRANSPORTATION

Total Maintained County Road Miles

578

Major Roadways

Interstates 80, 505, 680, and 780
State Routes 12, 29, 37, 84, 113, and 220

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: USDA National Agricultural Statistics Service 2012 Census of Agriculture

⁴Source: CDFA California Agricultural Statistics California County Agricultural Commissioners' Reports 2016

⁵Source: 2017 Solano County Annual Report