



* Image sizes in chart are proportionate to 2016 Crop Value Amount

Top Ten Million Dollar Commodities

CROP	2016 CROP VALUE	2016 CROP RANKING	2015 CROP RANKING
Walnuts	44,822,000	1	2
Nursery Products	39,754,000	2	3
Almonds	35,917,000	3	6
Tomatoes (Processing)	33,843,000	4	1
Alfalfa (Hay)	22,267,000	5	4
Grapes (Wine)	19,560,000	6	7
Sunflower (Seed)	11,414,000	7	9
Sheep & Lambs	9,339,000	8	10
Cattle & Calves	9,192,000	9	5
Wheat	7,428,000	10	8



Fruit & Nut Crops

CROP	YEAR	BEARING ACRES	PRODUCTION		UNIT	VALUE		% CHANGE
			PER ACRE	TOTAL		PER UNIT	TOTAL	
Almonds (Meats)	2016	9,000	0.89	8,020	Ton	4,480	35,917,000	52%
	2015	6,880	0.65	4,470	Ton	5,300	23,603,000	
Grapes (Wine) ¹	Dark Varieties 2016	-	-	11,300	Ton	910	10,318,000	33%
	Dark Varieties 2015	-	-	7,660	Ton	1,010	7,737,000	
	White Varieties 2016	-	-	12,500	Ton	737	9,242,000	27%
	White Varieties 2015	-	-	10,270	Ton	706	7,251,000	
Total Grapes	2016	4,110	5.79	23,800	Ton	-	19,560,000	31%
	2015	4,440	4.04	17,930	Ton	-	14,988,000	
Olives ²	2016	170	1.63	277	Ton	2,370	656,000	4%
	2015	180	1.37	247	Ton	2,560	631,000	
Prunes (Dried)	2016	1,190	1.46	1,740	Ton	1,920	3,336,000	-41%
	2015	893	2.56	2,286	Ton	2,470	5,647,000	
Walnuts	2016	11,400	1.84	20,900	Ton	2,140	44,822,000	18%
	2015	10,510	1.50	15,800	Ton	2,400	37,912,000	
Miscellaneous ³	2016	1,090	-	-	-	-	3,377,000	-32%
	2015	1,190	-	-	-	-	4,960,000	
TOTAL FRUIT & NUT CROPS		2016	26,800				\$127,228,000	45%
2015							\$87,741,000	

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	2016	2,430	1.12	2,720	Ton	1,209.00	3,284,000	-1%
	2015	2,850	1.09	3,110	Ton	1,100.00	3,332,000	
Corn (Grain)	2016	4,410	4.72	20,800	Ton	156.73	3,262,000	-24%
	2015	4,540	5.06	23,000	Ton	186.00	4,269,000	
Hay	Alfalfa	2016	30,500	5.24	160,000	Ton	139.28	22,267,000
		2015	31,270	6.01	188,000	Ton	185.00	34,821,000
	Grain	2016	4,650	3.71	17,300	Ton	95.97	1,657,000
		2015	2,150	3.34	7,160	Ton	124.00	885,000
	Ryegrass	2016	4,610	2.50	11,500	Ton	70.01	807,000
		2015	7,230	3.35	24,200	Ton	110.00	2,666,000
	Sudangrass	2016	4,550	2.50	11,375	Ton	143.58	2,417,000
		2015	6,330	3.85	24,400	Ton	152.00	3,705,000
	Grass/Forage¹	2016	3,620	3.50	12,700	Ton	117.83	1,491,000
		2015	2,580	3.17	8,180	Ton	165.00	1,348,000
Pasture, Irrigated²	2016	21,600	-	-	Acre	115.83	2,498,000	-38%
	2015	31,600	-	-	Acre	128.00	4,046,000	
Pasture, Rangeland³	2016	189,000	-	-	Acre	21.34	4,035,000	1%
	2015	178,000	-	-	Acre	22.00	4,012,000	
Safflower	2016	2,980	1.12	3,340	Ton	431.00	1,438,000	42%
	2015	1,630	1.20	1,960	Ton	517.00	1,013,000	
Triticale	2016	6,060	2.58	15,600	Ton	136.40	2,134,000	-41%
	2015	9,170	2.16	19,800	Ton	184.00	3,647,000	
Wheat⁴	2016	19,400	2.61	50,600	Ton	146.86	7,428,000	-18%
	2015	17,750	2.78	49,400	Ton	184.00	9,092,000	
Miscellaneous⁵	2016	5,810	-	-	-	-	6,289,000	12%
	2015	5,130	-	-	-	-	5,618,000	
TOTAL FIELD	2016	300,000					\$59,006,000	
CROPS	2015	300,230					\$78,454,000	-25%

Figures may not add due to rounding.

¹Previously reported as Other.

²Acreage from the 2016 permit data.

³Acreage calculated using data from the California Department of Conservation 2012-2014 Land Use Conversion Report.

⁴Includes irrigated and dryland wheat.

⁵Includes barley, corn silage, safflower grain, straw and sunflower oil.



Apiary Production

ITEM	YEAR	PRODUCTION	UNIT	VALUE		
				PER UNIT	TOTAL	% CHANGE
Apiary Products¹	2016	-	-	-	687,000	0%
	2015	-	-	-	687,000	
Pollination²	2016	14,000	Colony	113.00	1,579,000	-4%
	2015	20,130	Colony	81.94	1,650,000	
TOTAL APIARY	2016				\$2,266,000	-3%
PRODUCTION	2015				\$2,337,000	

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 Stock¹	2016	1,970	36,373,000	9%
	2015	1,930	33,455,000	
Propagative Stock²	2016	136	3,381,000	-19%
	2015	224	4,193,000	
TOTAL NURSERY	2016	1,440	\$39,754,000	6%
PRODUCTS	2015	2,150	\$37,648,000	

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, and grapevine cuttings.



Vegetable Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION		UNIT	VALUE		
			PER ACRE	TOTAL		PER UNIT	TOTAL	% CHANGE
Tomatoes (Processing)	2016	10,400	46.43	455,000	Ton	74.38	33,843,000	-20%
	2015	11,800	44.42	524,000	Ton	80.44	42,156,000	
Misc. Vegetables	2016	1,280	-	-	-	-	6,204,000	-18%
	2015	1,350	-	-	-	-	7,532,000	
Fresh ²	2016	1,900	-	-	-	-	27,538,000	-12%
	2015	1,470	-	-	-	-	31,332,000	
TOTAL	2016	13,500					\$67,447,000	-17%
VEGETABLE CROPS	2015	14,620					\$81,020,000	

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	2016	7,920	1,540	12,200,000	Lb	0.94	11,414,000	65%
	2015	4,720	1,190	5,600,000	Lb	1.23	6,904,000	
Watermelon¹	2016	-	-	-	Lb	-	-	
	2015	309	405	125,000	Lb	4.74	594,000	
Cucumber²	2016	140	284	39,900	Lb	5	218,000	
	2015	-	-	-	-	-	-	
Squash¹	2016	-	-	-	Lb	-	-	
	2015	155	295	45,750	Lb	25	1,160,000	
Miscellaneous³	2016	1,030	-	-	-	-	4,846,000	58%
	2015	619	-	-	-	-	3,071,000	
TOTAL SEED CROPS	2016	9,090					\$16,478,000	40%
	2015	5,803					\$11,729,000	

Figures may not add due to rounding.

¹Watermelon and squash have been added to Miscellaneous.

²Cucumber has been removed from Miscellaneous.

³Includes asparagus, bean, cabbage, carrot, onion, and wheat.

Livestock & Poultry

ITEM	YEAR	NUMBER OF HEAD	TOTAL LIVEWEIGHT	UNIT	VALUE		
					PER UNIT	TOTAL	% CHANGE
Cattle & Calves ¹	2016	23,400	106,685	Cwt	96.50	9,192,000	-67%
	2015	25,000	131,219	Cwt	210.00	27,556,000	
Sheep & Lambs ²	2016	59,000	66,704	Cwt		9,339,000	40%
	2015	29,700	41,259	Cwt	162.00	6,684,000	
Miscellaneous ³	2016	1,150,000	-	-	-	1,074,000	-39%
	2015	-	-	-	-	1,773,000	
TOTAL LIVESTOCK & POULTRY		2016				\$19,605,000	-46%
		2015				\$36,013,000	

Figures may not add due to rounding.

¹Includes beef stocker gain, 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).



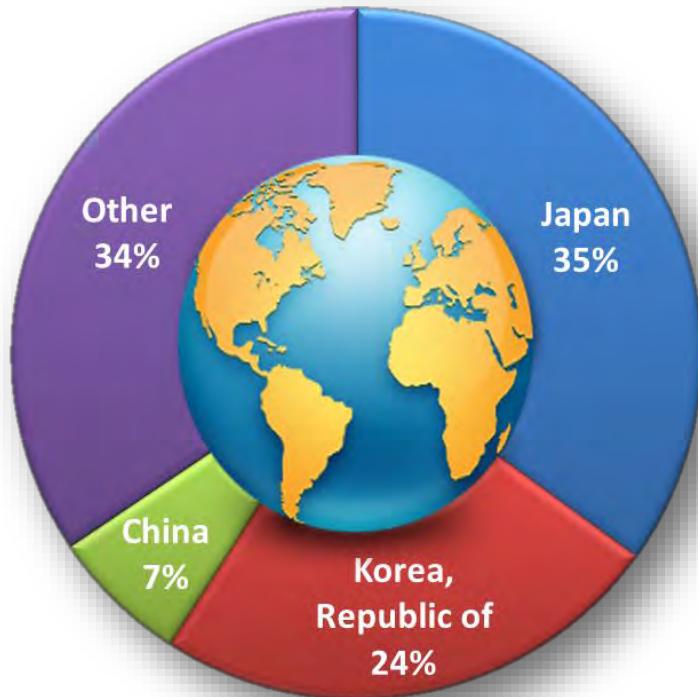
Livestock & Poultry Products

ITEM	YEAR	PRODUCTION	UNIT	VALUE		
				PER UNIT	TOTAL	% CHANGE
Eggs, Chicken	2016	113,000	Dozen	3.82	432,000	-5%
	2015	144,000	Dozen	3.14	453,000	
Wool	2016	198,000	Lb	1.62	321,000	221%
	2015	213,000	Lb	0.47	100,110	
Miscellaneous ⁴	2016	-	-	-	14,635,000	-20%
	2015	-	-	-	18,374,000	
TOTAL LIVESTOCK & POULTRY PRODUCTS		2016			\$15,388,000	-19%
		2015			\$18,927,110	

Figures may not add due to rounding.

⁴Includes alpaca fiber, goat milk, and market milk.

Solano County Export Market



In 2016, the Solano County Agricultural Department issued 1096 phytosanitary certificates for commodities bound for export markets in 38 countries

Argentina
Australia
Brazil
Canada
Chile
China
Colombia
Dominican Republic
Egypt
Fiji
Germany

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

Netherlands
New Zealand
Panama
Peru
Philippines
Poland
Saudi Arabia
Singapore
Spain
Taiwan
Thailand

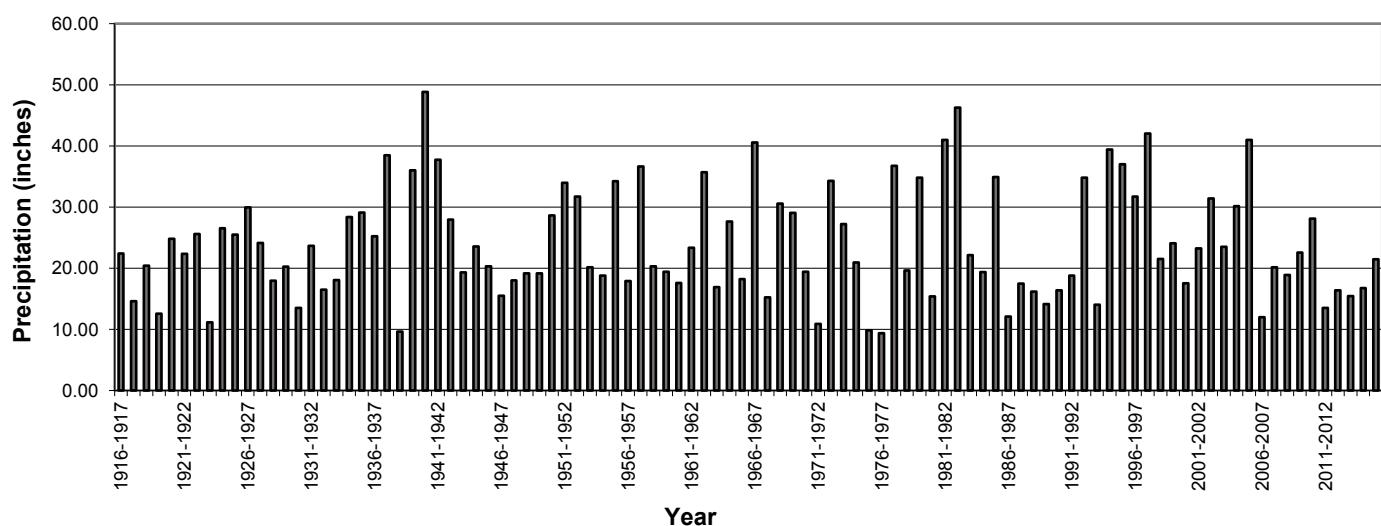
Uganda
United Arab Emirates
United Kingdom
Uruguay
Viet Nam

100 Years of Annual Precipitation at Vacaville, CA

YEAR	INCHES	YEAR	INCHES	YEAR	INCHES	YEAR	INCHES
1916-1917	22.40	1941-1942	37.72	1966-1967	40.54	1991-1992	18.77
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

The average annual precipitation over the 100 year period from October 1, 1916 to September 30, 2016 is 23.97 inches.

Annual Precipitation (Vacaville, CA)



Annual Precipitation is from October 1 to September 30

Source: NOAA National Climatic Data Center

Sustainable Agriculture – 2016 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.

A total of 147 premise visits occurred at shipping terminals, nurseries, and residences in 2016. During these visits 911 shipments of plant material, seed, and household goods were inspected. Eleven 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 17 production nurseries, comprising 1,945 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 North American countries.

The **Pierce's Disease Control Program** works to prevent the spread of the Glassy-winged Sharpshooter (GWSS) into Solano County, which is the main insect vector of Pierce's Disease. Department personnel inspected 595 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 and monitored to detect whether a pest is present in a particular location. In 2016, 29,075 trap inspections were conducted.

Pest Detection Trapping			
TARGET PEST	HOSTS	# OF TRAPS	# OF TRAP SERVICINGS
ASIAN CITRUS PSYLLID (<i>Diaphorina citri</i>)	Ornamental & nursery plants	385	1,198
APPLE MAGGOT (<i>Rhagoletis pomonella</i>)	Fruit trees	47	304
EUROPEAN GRAPEVINE MOTH (<i>Lobesia botrana</i>)	Vineyards	480	6,411
GLASSY-WINGED SHARPSHOOTER (<i>Homalodisca vitripennis</i>)	Nursery & urban landscape plants	806	9,781
GYPSY MOTH (<i>Lymantria dispar</i>)	Shade trees	240	1,570
JAPANESE BEETLE (<i>Popillia japonica</i>)	Turf & roses	207	1,305
LIGHT BROWN APPLE MOTH (<i>Epiphyas postvittana</i>)	Nursery & urban ornamental plants	214	1,893
MEDITERRANEAN FRUIT FLY (<i>Ceratitis capitata</i>)	Fruit trees	231	2,330
MELON FLY (<i>Bactrocera cucurbitae</i>)	Vegetable gardens	88	1,270
ORIENTAL FRUIT FLY (<i>Bactrocera dorsalis</i>)	Fruit trees	86	846
OTHER FRUIT FLIES (McPhail traps)	Fruit trees & vegetables	88	2,167

Pests Found via Detection Trapping



Mediterranean Fruit Fly (*Ceratitis capitata*)

Found October 13, 2016,
Vacaville, CA



Asian Citrus Psyllid (*Diaphorina citri*)

Found November 14, 2016,
Fairfield, CA

Sustainable Agriculture – 2016 Highlights

The **Phytosanitary Certification Program** ensures that plants and plant commodities exported to other states or foreign countries from Solano County are free from injurious pests. Solano County staff performed 401 Phytosanitary Field Inspections on 4,515 acres of seed crops. A total of 1,650 Phytosanitary Certificates for plant commodities exported to international and interstate destinations, and consisting of 1,096 Federal Certificates for international exports and 554 California State Certificates for interstate shipments.

The **Sudden Oak Death** program works to prevent the spread of Sudden Oak Death, the disease caused by the pathogen *Phytophthora ramorum*. Department personnel conducted 61 inspections at 5 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 problem 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. Since then, mitigation, monitoring and eradication efforts have resulted in the field being declared eradicated in August 2016.

A processing tomato field neighboring the initial detection was found to have Egyptian Broomrape in August 2016. The newly identified field has been placed on hold and is

undergoing similar processes as the initial Egyptian Broomrape detection field, which includes herbicide treatment and burning of the infected host crop followed by methyl bromide fumigation treatment of the field and at least three plantings of trap crops. Solano County Agriculture Department and California Department of Food and Agriculture staff cooperatively monitor all eradication efforts of this parasitic plant pest.

Organic Farming

Solano County had 41 organic farms registered for organic production. These growers farmed a total of 2,009 acres to produce assorted organic berries, herbs, fruits, vegetables, microgreens, nuts, cut flowers, and olive oil. In addition, Solano County had over 5,002 acres of organic ryegrass, pastureland and rangeland. Organic eggs and poultry were also produced.



Certified Farmers Markets

The purpose of farmers' markets is to allow producers of agricultural commodities to sell directly to the public. Anyone who wishes to sell at a 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 34 producers in 2016, and six farmers' markets were certified by the Agricultural Commissioner to market local and regional produce in Solano County.

WEIGHTS & MEASURES DIVISION

Ever wonder how your Water, Electric, or Vapor (Gas) meter is tested? Residential meters are regulated by the Public Utilities Commission. However, meters used in sub-metering applications like mobile home parks or some apartment complexes fall under the county Weights and Measures jurisdiction which is the local regulatory authority for sub-metered devices within Solano County.



Water Bench

There are different methods for testing water, vapor, and electric meters. Water meters are tested on what is called a "Water Bench". Meters are loaded into the machine, then water is pumped through to purge air from the meters. Initial readings are taken, then water is pumped through the meters at a specific flow rate. The water is collected in a calibrated container. Once filled to the required volume, a final reading is taken from each meter and the percent error is calculated.

Vapor meters are first pressurized then submerged in a tub of water to



Vapor Lab

test for leaks. After passing the leak test, meters are placed in a temperature controlled lab to stabilize. Once stabilized the meters are connected to a "Bell Prover" that pushes an exact volume of air through the meter. Start and end readings are taken and percent error is calculated.



Electric Test Bench

Electric meters are also tested in a lab on a "Test Bench". The meters are inserted into the test socket and then connected to an automatic testing computer. The computer runs a program to test the meter and calculates percent error.

Weights and Measures inspects approximately 10% of the sub-meter inventory each year. Also inspected are any new meters and meters that are suspected of failing to read correctly. Weights and Measures also investigates sub-meter billing and meter complaints.

Solano County currently has 672 registered establishments with various commercial devices as shown below:

Fabric/Cordage/Wire Meters	38	Computing Scales	871
LPG (Propane) Meters	52	Counter Scales	142
Misc. Measuring Devices	10	Livestock Scales	20
Odometers	84	Crane Scales	3
Retail Motor Fuel Meters	4,249	Portable Platform Scales	58
Retail Water Meters	55	Hanging Scales	7
Taxi Meters	63	Hopper/Tank Scales	16
Elec., Vapor, Water Sub-Meters	10,551	Monorail Meat Beam	3
Vehicle Meters	28	Vehicle & Railway Scales	59
Wholesale Meters	44	Dormant Scales	46

The Solano County Weights & Measures Division in cooperation with the other 57 counties and the California Division of Measurement Standards promotes fair trade practices throughout California.

GENERAL INFORMATION

POPULATION¹

Solano County Population: 430,972

Benicia 27,574	Dixon 19,065	Fairfield 112,255	Rio Vista 8,623
Suisun City 29,168	Vacaville 96,946	Vallejo 117,629	Unincorporated 19,712

AREA

Land Area (Square Miles) ²	909.95	Urban and Built Up Land Area (Acres) ²	60,488
Land Area (Acres) ²	582,370	Land Area in Farms (Acres) ³	407,101
Water Area (Square Miles) ²	84.61	Total Cropland (Acres) ³	169,637
Water Area (Acres) ²	54,153	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 (2015)⁴

27th

Commodity Rank by Gross Value of Production (2015)⁴

1st - Triticale	3rd - Wool
4th - Sudan Hay	4th - Sunflower (Seed)

5th - Sheep & Lamb

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 (2016)⁵

\$49.2 Billion

TRANSPORTATION

Total Maintained County Road Miles

577

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, 2017

²Source: California Department of Conservation 2014 Land Use Conversion

³Source: USDA National Agricultural Statistics Service 2012 Census of Agriculture

⁴Source: CDFA California Agricultural Statistics California County Agricultural Commissioners' Reports 2015

⁵Source: 2016 Solano County Annual Report