



2017 REPORT ON Agriculture

Contents

Commissioner's Letter	1
Top Fifteen Commodities	2
Fruit & Nut Crops	3
Fruit & Nut Acreage Planting	3
Commodity Value Crop Comparison	4
Livestock & Poultry Products	5
Livestock & Poultry Production	5
Seed Crops	5
Field Crops	7
Nursery Products	7
Vegetable Crops	9
Bee Industry	9
Other Agriculture	9
Flooding	10
Rainfall 1967–2017	11
Sustainable Agriculture	12
Pest Prevention	
Pest Eradication	
Biological Control	
Organic Farming 	14
Certified Producers	14
Nutria	15
Countries Of Export	16
Products Of Export	16
Staff	17



Karen Ross, Secretary
California Department of Food and Agriculture
And

The Honorable Board of Supervisors, County of Merced

Jerry O'Banion, Chairman

Rodrigo Espinoza Lee Lor

Jerry O'Banion Lloyd Pareira

James L. Brown, County Executive Officer

In accordance with the provisions of Sections 2272 and 2279 of the California Food and Agricultural Code, I am pleased to submit the 2017 Merced County Report of Agriculture. This report summarizes the acreage, production, and gross value of Merced County's agricultural commodities.

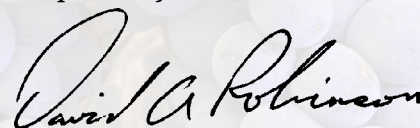
Merced County agricultural commodities grossed \$3,408,866,000 in 2017. Price value decreased, which contributed to the overall decrease in commodity values for Merced County during the 2017 production season. These figures represent gross returns to the producer and do not take into account the costs of production, marketing, or transportation. Net income of the producer is not reflected in this report.

SIGNIFICANT EVENTS OF THE 2017 CROP YEAR:

- Market milk and processed milk remained Merced County's leading commodities, with an overall gross value of \$1,026,270,000. 2017 saw an increase in production milk manufacturing along with an increase in value for both categories.
- Chicken Egg Market moved three positions with a gross production value of \$69,798,000. This is an 11% increase from the 2016 production year.
- Almond acreage continued to increase county-wide, growing 5% in 2017. On the west side, historically dominated by row crops, improvements to root stock variety and crop management are now changing the commodity landscape to include tree crops.
- The miscellaneous vegetable category moved to the 11th position. This category experienced a substantial increase in acreage among asparagus, carrots, cilantro and endive. Prices increased across the table for the commodities in this section.
- Sweet potatoes remained the number five commodity in Merced County, but production in 2017 decreased by 55 cartons per acre. Growers saw prices fall 6% to \$1.08 per 40 pound carton.
- Pima cotton acreage had a substantial increase in production acres. In 2017, acres of pima cotton increased 10,230 acres from the previous year. A price increase led to an increase of total gross production of \$48,812,000. This is a 69% increase.

I wish to express my sincere thanks to our growers, ranchers, and industry representatives who assisted in providing the data for this report. I would also like to thank my staff, particularly Kelcie Baptista, Derrik Hunger, Carrie Mitchell, Yvette Pellman, and Dillon White, for all the dedication into compiling this report.

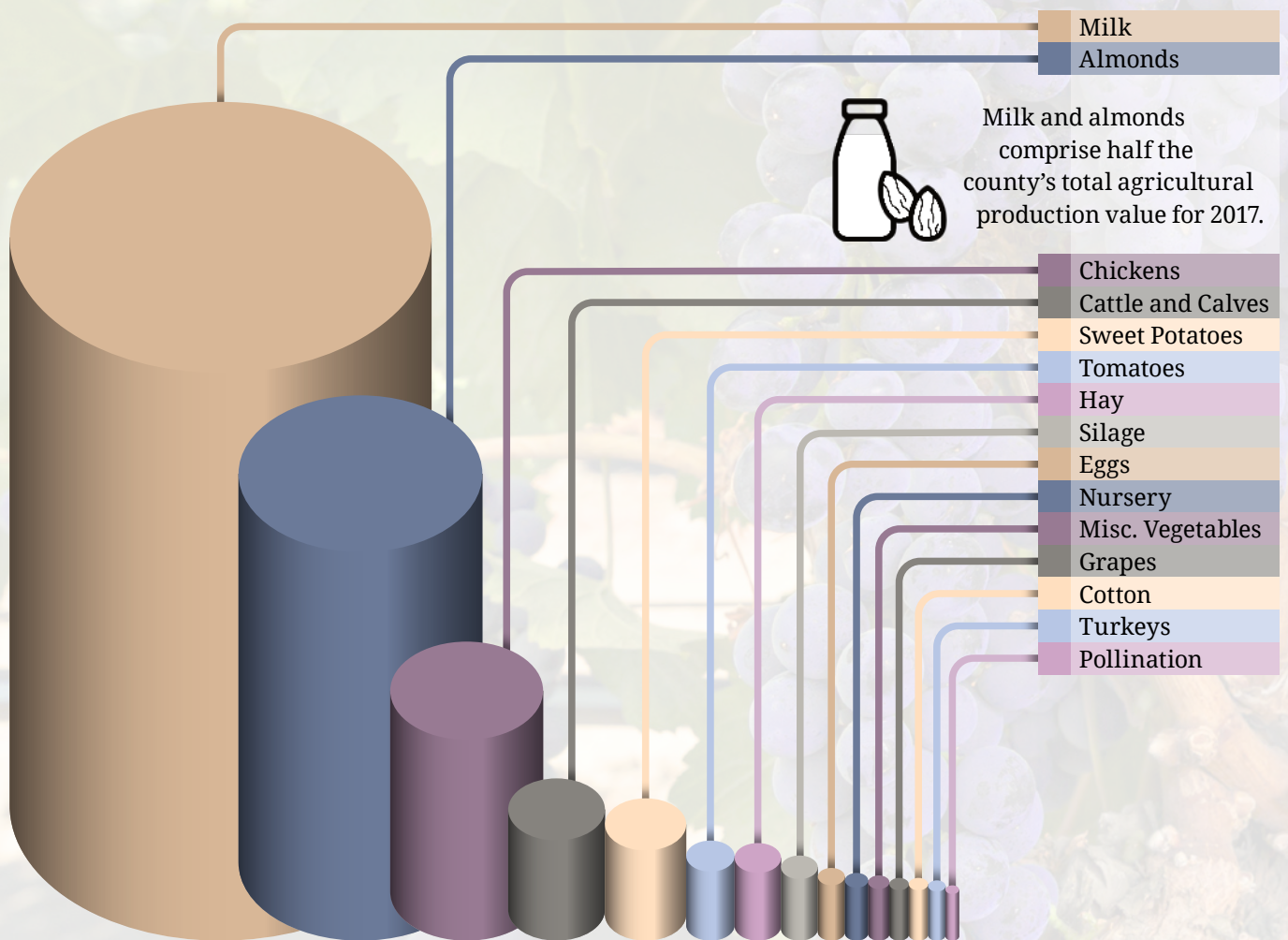
Respectfully submitted,



David A. Robinson
Agricultural Commissioner

Top Fifteen Commodities

RANK	CROP		VALUE	PREVIOUS RANK
1	Milk	<i>incl. Market and Manufacturing</i>	\$1,026,270,000	<i>no change</i>
2	Almonds	<i>Kernel Basis</i>	\$596,075,000	<i>no change</i>
3	Chickens	<i>incl. Fryers and Other Chickens</i>	\$374,934,000	<i>no change</i>
4	Cattle and Calves		\$235,487,000	<i>no change</i>
5	Sweet Potatoes		\$200,016,000	<i>no change</i>
6	Tomatoes	<i>incl. Market and Processing Tomatoes</i>	\$118,435,000	<i>no change</i>
7	Hay	<i>Alfalfa</i>	\$115,056,000	9 ↑↑↑
8	Silage	<i>Corn</i>	\$92,877,000	7 ↓↓↓
9	Eggs, Chicken	<i>Market</i>	\$69,798,000	11 ↑↑↑
10	All Nursery Products		\$57,648,000	<i>no change</i>
11	Misc. Vegetables		\$55,748,000	15 ↑↑↑↑↑
12	Grapes	<i>Wine</i>	\$49,254,000	8 ↓↓↓↓↓
13	Cotton	<i>Pima</i>	\$48,812,000	11 ↓↓↓
14	Turkeys		\$44,411,000	13 ↓
15	Pollination		\$33,832,000	14 ↓
TOP FIFTEEN TOTAL			\$3,118,653,000	



Fruit & Nut Crops

CROP	YEAR	ACRES HARVESTED	PRODUCTION PER ACRE	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Almonds (Hulls)	2017	—	—	198,288	Ton	\$65.40	\$12,968,000
	2016	—	—	183,979		\$56.85	\$10,459,000
Almonds (Kernel Basis)	2017	108,800	1.13	122,400	Ton	\$4,869.89	\$596,075,000
	2016	103,577	1.14	118,078		\$4,900.00	\$578,581,000
Grapes (Wine)	2017	13,606	10.37	141,108	Ton	\$349.05	\$49,254,000
	2016	13,550	11.23	152,177		\$524.99	\$79,891,000
Miscellaneous ⁽¹⁾	2017	3,991	—	—	—	—	\$23,470,000
	2016	4,080	—	—		—	\$19,972,000
Peaches (Clingstone)	2017	1,406	17.69	24,863	Ton	\$467.69	\$11,628,000
	2016	1,346	16.74	22,532		\$490.18	\$11,045,000
Peaches (Freestone)	2017	1,534	9.37	14,374	Ton	\$434.05	\$6,239,000
	2016	1,457	24.57	35,808		\$463.01	\$16,579,000
Pistachios	2017	—	0.64	4,038	Ton	\$4,598.88	\$18,568,000
	2016	6,205	1.39	8,643		\$3,367.31	\$29,105,000
Plums, Dried	2017	1,436	3.42	4,913	Ton	\$2,049.87	\$10,070,000
	2016	1,477	3.91	5,780		\$1,051.25	\$6,077,000
Walnuts (English)	2017	6,365	1.86	11,834	Ton	\$2,333.36	\$27,612,000
	2016	6,303	1.61	10,141		\$2,903.30	\$29,442,000
Total	2017	143,401					\$755,884,000
	2016	137,996					\$781,150,000

⁽¹⁾ For 2017: Includes Apple, Apricot (Process), Blueberry, Cherry, Fig (Dry & Fresh), Fruit Juice, Grape (Raisin, Raisin to Wine, Table), Grapefruit, Kiwi, Olive (Oil), Orange, Organic Fruit & Nut, Pear, Pecan, Persimmon, Plum, Pluot, Pomegranate & Strawberry.
For 2016: Includes Apple, Apricot (Process), Blueberry, Cherry, Fig (Dry & Fresh), Grape (Raisin, Raisin to Wine, Table), Grapefruit, Kiwi, Olive, Olive (Oil), Orange, Organic Fruit & Nut, Pear, Pecan, Persimmon, Plum, Pluot, Pomegranate & Strawberry.

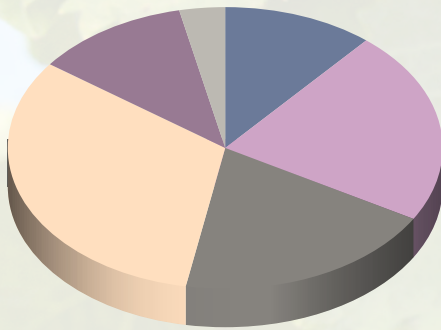
Fruit & Nut Acreage Planting

CROPS	BEARING 2017	NON-BEARING 2017	BEARING 2012	NON-BEARING 2012
Almonds	103,720	6,001	98,522	2,002
Apples	1	0	2	0
Apricots	328	0	389	0
Cherries	321	0	366	42
Figs	899	21	946	381
Grapes (Raisin)	117	0	420	0
Grapes (Table)	6	0	5	0
Grapes (Wine)	13,606	334	12,243	920
Jujube	0	0	0	0
Kiwi	16	0	26	0
Mandarins	0	0	16	0
Nectarines	29	0	41	0
Olives	118	25	55	22
Oranges	4	0	9	0
Peaches (Clingstone)	1,426	74	2,222	36
Peaches (Freestone)	1,554	27	1,728	9
Pears	7	0	7	0
Pecans	29	10	26	0
Persimmon	20	13	35	0
Pistachios	6,824	681	5,577	76
Plums	16	0	74	0
Plums (Dried)	1,436	0	1,681	204
Pluot	15	0	15	0
Pomegranate	304	1	355	12
Walnuts (English)	6,492	341	5,257	509
Total	137,288	7,528	130,017	4,213

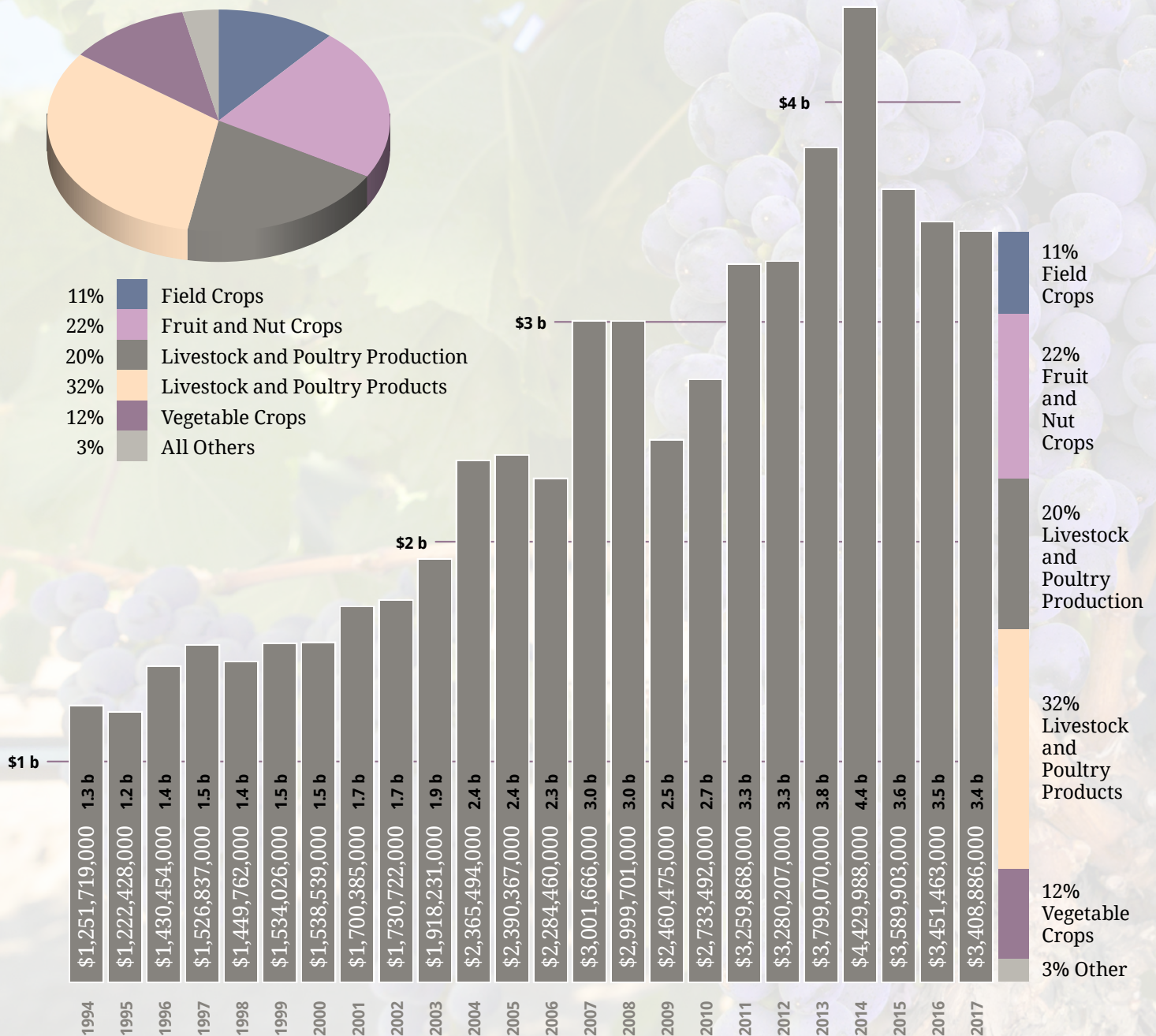


Commodity Value Crop Comparison

COMMODITIES	2017	2007	1997	1987
Aquaculture	—	\$3,312,000	\$1,280,000	—
Bee Industry	\$38,169,000	\$21,411,000	\$8,033,000	\$3,385,000
Field Crops	\$383,335,000	\$363,722,000	\$284,482,000	\$174,576,000
Fruit and Nut Crops	\$755,884,000	\$437,778,000	\$337,350,000	\$209,000,000
Livestock and Poultry Production	\$665,101,000	\$634,535,000	\$239,294,000	\$206,816,000
Livestock and Poultry Products	\$1,098,422,000	\$1,177,652,000	\$492,633,000	\$256,988,000
Nursery Products	\$57,648,000	\$29,629,000	\$15,833,000	\$8,244,000
Other Agriculture	\$15,320,000	\$11,951,000	\$11,429,000	—
Seed Crops	\$4,504,000	\$1,938,000	\$1,295,000	\$1,985,000
Vegetable Crops	\$390,502,000	\$319,737,000	\$135,208,000	\$81,488,000
Total	\$3,408,886,000	\$3,001,666,000	\$1,526,837,000	\$942,482,000

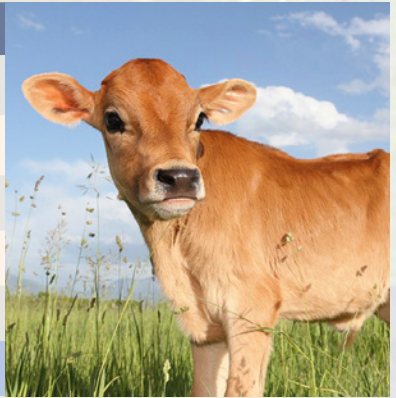


- 11% Field Crops
- 22% Fruit and Nut Crops
- 20% Livestock and Poultry Production
- 32% Livestock and Poultry Products
- 12% Vegetable Crops
- 3% All Others



Livestock & Poultry Products

CROP	YEAR	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Eggs, Chicken (Market) ⁽¹⁾	2017	68,373,976	Dozn	\$1.02	\$69,798,000
	2016	69,464,745		\$0.91	\$62,920,000
Milk (Goat)	2017	62,372	Cwt	\$35.91	\$2,240,000
	2016	62,185		\$36.83	\$2,290,000
Milk (Manufacturing)	2017	6,802,961	Cwt	\$18.39	\$125,138,000
	2016	4,736,601		\$17.02	\$80,601,000
Milk (Market)	2017	54,383,359	Cwt	\$16.57	\$901,132,000
	2016	56,909,837		\$15.08	\$858,441,000
Wool	2017	73,874	Lb	\$1.55	\$115,000
	2016	82,945		\$1.50	\$124,000
Total	2017				\$1,098,422,000
	2016				\$1,004,377,000



⁽¹⁾ For 2017 & 2016: Includes Conventional and Organic Chicken Eggs.

Livestock & Poultry Production

CROP	YEAR	NUMBER OF HEAD	PRODUCTION PER HEAD	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Cattle and Calves ⁽¹⁾	2017	341,164	8.63	2,945,912	Cwt	\$79.94	\$235,487,000
	2016	342,241	8.61	2,946,614		\$100.63	\$296,508,000
Chickens (Fryers and Broilers)	2017	84,222,499	5.16	434,661,203	Lb	\$0.86	\$374,934,000
	2016	82,727,830	5.79	479,191,084		\$0.80	\$381,036,000
Livestock (Miscellaneous) ⁽²⁾	2017	32,283	—	—	—	—	\$4,586,000
	2016	33,622	—	—	—	—	\$5,017,000
Poultry & Fish (Miscellaneous) ⁽³⁾	2017	287,979	—	—	—	—	\$1,794,000
	2016	259,018	—	—	—	—	\$1,627,000
Sheep and Lambs	2017	24,154	1.20	29,034	Cwt	\$133.97	\$3,890,000
	2016	25,530	1.24	31,597		\$121.46	\$3,838,000
Turkeys	2017	1,600,904	28.51	45,648,736	Lb	\$0.97	\$44,411,000
	2016	2,362,871	25.30	59,776,913		\$0.97	\$58,248,000
Total	2017	86,508,983					\$665,101,000
	2016	85,751,112					\$746,274,000

⁽¹⁾ For 2017 & 2016: Includes Calves, Cull Bulls (Dairy & Beef), Cull Cows (Dairy & Beef), Replacement Heifers (Dairy & Beef), and Stocker Cattle.

⁽²⁾ For 2017 & 2016: Includes Dairy & Meat Goats sold for meat.

⁽³⁾ For 2017 & 2016: Includes Chukar, Fish, Pheasant, & Squab.

Seed Crops

CROP	YEAR	ACRES HARVESTED	VALUE TOTAL
Seed Crops ⁽¹⁾	2017	6,970	\$4,504,000
	2016	5,684	\$3,937,000
Total	2017	6,970	\$4,504,000
	2016	5,684	\$3,937,000



⁽¹⁾ For 2017: Includes Certified, Common & Phytosanitary Seed from Barley, Lettuce, Oat, Triticale & Wheat.

For 2016: Includes Certified, Common & Phytosanitary Seed from Lettuce, Rye, Triticale & Wheat.



Field Crops

CROP	YEAR	ACRES HARVESTED	PRODUCTION PER ACRE	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Barley	2017	1,651	2.11	3,488	Ton	\$180.83	\$631,000
	2016	1,167	2.55	2,976		\$195.00	\$580,000
Beans (Dry Lima)	2017	2,599	1.04	2,694	Ton	\$1,040.24	\$2,802,000
	2016	2,300	1.15	2,644		\$1,370.82	\$3,625,000
Corn (Grain) ⁽¹⁾	2017	6,775	4.92	33,364	Ton	\$240.93	\$8,038,000
	2016	5,303	5.71	30,282		\$279.21	\$8,455,000
Cotton (Acala)	2017	20,920	2.98	62,394	500 Lb Bale	\$462.05	\$28,829,000
	2016	25,245	3.30	83,186		\$428.45	\$35,641,000
Cotton (Pima)	2017	25,025	2.92	73,002	500 Lb Bale	\$668.63	\$48,812,000
	2016	14,795	2.95	43,670		\$662.44	\$28,929,000
Cotton (Seed)	2017	—	0.38	13,510	Ton	\$261.27	\$3,530,000
	2016	—	0.36	12,375		\$279.88	\$3,464,000
Hay (Alfalfa)	2017	58,122	9.48	550,739	Ton	\$208.91	\$115,056,000
	2016	62,251	7.25	451,355		\$170.60	\$77,003,000
Hay (Grain) ⁽²⁾	2017	33,498	4.24	141,939	Ton	\$116.49	\$16,534,000
	2016	35,238	3.91	137,844		\$144.36	\$19,900,000
Hay (Sudan)	2017	8,260	3.75	30,997	Ton	\$98.14	\$3,042,000
	2016	9,620	4.55	43,810		\$77.01	\$3,374,000
Misc. Field Crops ⁽³⁾	2017	2,295	—	—	—	—	\$1,656,000
	2016	2,831	—	—		—	\$2,213,000
Pasture (Irrigated)	2017	23,135	—	23,135	Acre	\$199.00	\$4,604,000
	2016	25,030	—	25,030		\$174.00	\$4,355,000
Pasture (Other)	2017	552,632	—	552,632	Acre	\$28.13	\$15,546,000
	2016	556,966	—	556,966		\$23.41	\$13,039,000
Silage (Alfalfa)	2017	—	1.96	113,919	Ton	\$54.50	\$6,209,000
	2016	—	1.31	81,599		\$43.00	\$3,509,000
Silage (Corn)	2017	89,377	25.09	2,242,025	Ton	\$41.43	\$92,877,000
	2016	91,128	28.20	2,569,643		\$38.47	\$98,842,000
Silage (Other) ⁽⁴⁾	2017	75,620	14.59	1,103,192	Ton	\$25.64	\$28,290,000
	2016	79,638	15.37	1,223,936		\$24.72	\$30,256,000
Straw ⁽⁵⁾	2017	—	—	1,460	Ton	\$99.87	\$146,000
	2016	—	—	1,241		\$86.53	\$107,000
Stubble (Pasture)	2017	—	—	4,650	Acre	\$10.00	\$47,000
	2016	—	—	4,980		\$10.00	\$50,000
Wheat	2017	12,892	3.19	41,066	Ton	\$162.86	\$6,688,000
	2016	10,920	2.29	25,000		\$168.10	\$4,202,000
Total	2017	912,801					\$383,335,000
	2016	922,432					\$337,545,000

⁽¹⁾ For 2017, 2016: Includes Human Consumption Corn (but not Fresh Market Corn) & Grain for feed.

⁽²⁾ For 2017: Includes Forage Mix, Oat, Ryegrass, Triticale & Wheat.

For 2016: Includes Barley, Forage Mix, Oat, Ryegrass, Triticale & Wheat.

⁽³⁾ For 2017: Includes Beans, Organic Grain & Silage, Rice & Safflower.

For 2016: Includes Organic Barley, Beans, Organic Human Consumption Corn, Organic Grain Hay, Rice & Safflower.

⁽⁴⁾ For 2017: Includes Barley, Forage Mix, Oat, Ryegrass, Sorghum, Sudan, Triticale, Wheat & Winter Forage.

For 2016: Includes Oat, Ryegrass, Sorghum, Sudan, Triticale, Wheat & Winter Forage.

⁽⁵⁾ For 2017, 2016: Includes Straw from Barley, Oat, Rice, Rye & Wheat.

Nursery Products

CROP	YEAR	ACRES HARVESTED	VALUE TOTAL
All Nursery Products ⁽¹⁾	2017	1,305	\$57,648,000
	2016	1,478	\$74,189,000
Total	2017	1,305	\$57,648,000
	2016	1,478	\$74,189,000



⁽¹⁾ For 2017 & 2016: Includes Cane Berries, Christmas Trees, Crown & Cuttings, Decorative Plants, Transplants (Vegetable), & Turf. The separate production & value are not shown to avoid disclosing individual operations.



Vegetable Crops

CROP	YEAR	ACRES HARVESTED	PRODUCTION PER ACRE	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Melons (Cantaloupe)	2017	3,050	828.89	2,528,112	40lb Ctn	\$4.75	\$12,014,000
	2016	4,517	671.65	3,033,845		\$4.87	\$14,784,000
Melons (Other)	2017	472	26.38	12,453	Ton	\$344.43	\$4,289,000
	2016	1,511	33.26	50,257		\$258.20	\$12,976,000
Misc. Vegetables	2017	8,887	—	—	—	—	\$55,748,000
	2016	5,169	—	—		—	\$31,694,000
Sweet Potatoes ⁽¹⁾	2017	16,956	698.00	11,835,288	40lb Ctn	\$16.90	\$200,016,000
	2016	17,156	753.36	12,924,576		\$17.98	\$232,399,000
Tomatoes (Market)	2017	5,900	1,430.84	8,441,942	25lb Ctn	\$5.98	\$50,493,000
	2016	5,707	1,738.80	9,923,617		\$6.79	\$67,352,000
Tomatoes (Processing)	2017	21,237	46.16	980,338	Ton	\$69.30	\$67,942,000
	2016	22,956	51.32	1,178,133		\$71.82	\$84,611,000
Total	2017	56,502					\$390,502,000
	2016	57,017					\$443,817,000

⁽¹⁾ For 2016: Unit = \$ per Bin

Bee Industry

CROP	YEAR	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Beeswax ⁽¹⁾	2017	24,160	Lb	\$2.36	\$57,000
	2016	24,681		\$3.81	\$94,000
Bulk Bees ⁽²⁾	2017	52,244	Lb	\$24.63	\$1,287,000
	2016	55,549		\$23.89	\$1,327,000
Honey ⁽³⁾	2017	1,207,987	Lb	\$1.93	\$2,331,000
	2016	1,234,044		\$1.81	\$2,234,000
Pollination ⁽⁴⁾	2017	206,688	Colony	\$163.69	\$33,832,000
	2016	201,896		\$173.61	\$35,051,000
Queens ⁽⁵⁾	2017	38,426	Each	\$17.23	\$662,000
	2016	37,670		\$13.41	\$505,000
Total	2017				\$38,169,000
	2016				\$39,211,000



⁽¹⁾ For 2017: Beeswax produced by 31295 resident colonies. For 2016: Beeswax produced by 34,279 resident colonies.

⁽²⁾ For 2017 & 2016: Includes Bees sold as Bulk Bees, Nuclei, & Packaged Bees produced by resident colonies.

⁽³⁾ For 2017 & 2016: Honey produced by resident colonies.

⁽⁴⁾ For 2017 & 2016: Pollination colonies include all required to pollinate crops grown in Merced County.

⁽⁵⁾ For 2017 & 2016: Includes Mated Queens & Queen Cells.

Other Agriculture

CROP	YEAR	PRODUCTION TOTAL	PRODUCTION UNIT	VALUE PER UNIT	VALUE TOTAL
Almond (Hash)	2017	1,050	Ton	\$2,180.00	\$2,289,000
	2016	569		\$2,300.00	\$1,310,000
Almond (Shells)	2017	53,490	Ton	\$5.57	\$298,000
	2016	53,156		\$6.13	\$326,000
Firewood	2017	14,550	Cord	\$165.00	\$2,401,000
	2016	16,915		\$165.42	\$2,798,000
Fuel (Cogeneration)	2017	54,918	Ton	\$22.50	\$1,236,000
	2016	74,334		\$22.50	\$1,673,000
Manure	2017	1,766,251	Ton	\$5.15	\$9,096,000
	2016	1,653,006		\$5.17	\$8,552,000
Total	2017				\$15,320,000
	2016				\$14,658,000



Flooding

During the rainy season of 2017 Merced County experienced historical amounts of rainfall which lead to extensive flooding in several communities within the county. From December 2016 to March 2017 the total rainfall reached 11.03 inches of precipitation. The average amount of rainfall throughout the last 50 years during that time span has been 6.42 inches. Flooding occurred in the communities of Le Grand along the Mariposa Creek, Merced along Bear Creek, Snelling and Stevinson along the Merced River. After the previous six years of drought residents were relieved with much needed water. With continuous rainfall for several months, multiple reservoirs hit maximum capacity. Mandatory releases led to extremely high flows of water in the tributaries of Merced County.

The community of Le Grand experienced severe flooding when the Mariposa Creek flood control dam exceeded capacity and water went over the overflow. The levees could not handle the excess water and Mariposa Creek overflowed in multiple sections. After midnight on February 10, 2017, flood waters moved into Le Grand damaging houses and agricultural farmland. This community has not experienced similar flooding since the 1950's. Consistent flows caused multiple breaches along several waterways. Homes and farmland remained flooded for days.

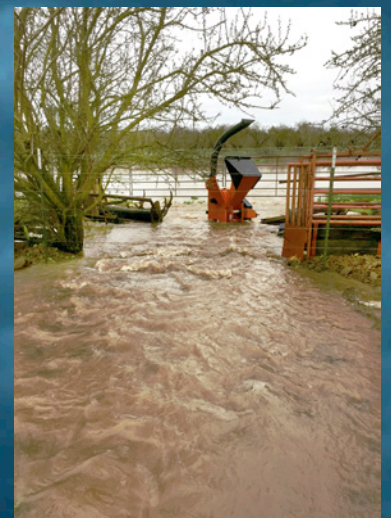
Due to mandatory releases, increased flows throughout the rivers and creeks in Merced County put the community of Stevinson as an area of concern. The Merced River and the San Joaquin River both converge here. Agricultural land located near the river bottom was submerged for days, some even months. As a result, numerous orchards and vineyards had to be replanted.



STEVINSON



MERCED



LE GRAND

Rainfall

MERCED COUNTY

1967-2017



YEAR	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOT
1967-68	0	0	0.06	0.03	1.34	0.86	1.39	1.93	1.43	0.49	0.01	0	7.54
1968-69	0	0	0	0.92	3.08	3.12	7.07	4.74	0.89	2.08	0	0	21.9
1969-70	0.07	0	0	1.25	2.24	0.96	3.94	1.41	2.52	0.13	0	0.07	12.59
1970-71	0	0	0	0.66	3.19	2.13	0.56	0.31	0.92	1.16	1.22	0	10.15
1971-72	0	0	0.06	0.28	1	2.33	0.6	0.56	0	0.71	0	0	5.54
1972-73	0	0	0.11	0.69	4.91	1.58	3.12	4.72	3.16	0.11	0	0	18.4
1973-74	0	0	0	2.1	1.65	3.15	1.95	0.5	2.37	1.44	0	0.06	13.22
1974-75	0.42	0	0	1.06	0.66	2.14	0.5	3.99	3.11	0.95	0	0	12.83
1975-76	0.1	0.11	0.02	0.92	0.17	0.13	0.14	2.01	0.41	1.14	0	0.07	5.22
1976-77	0.02	0.22	0.97	0.16	1.06	0.57	0.66	0.29	1.05	0.02	0.9	0.44	6.36
1977-78	0	0	0	0	0.44	2.75	4.93	3.78	4.22	3.48	0	0	19.6
1978-79	0	0	0.74	0	2.13	1.06	4.35	3.02	1.73	0.49	0.19	0	13.71
1979-80	0.21	0	0	0.84	1.09	1.79	3.83	3.45	1.19	0.77	0.46	0	13.63
1980-81	0	0	0	0.13	0	0.72	2.83	1.42	3.27	0.75	0.1	0	9.22
1981-82	0	0	0	1.13	3.63	0.59	1.6	2.08	5.39	1.85	0	0.05	16.32
1982-83	0	0	1.14	0.98	2.84	2.7	4.89	3.43	5.47	2.01	0.44	0	23.9
1983-84	0	0.1	2.77	0.43	2.12	2.63	0.12	0.88	0.33	0.08	0	0.02	9.48
1984-85	0.03	0.03	0.17	0.54	1.1	1.65	0.56	0.98	1.91	0.06	0	0.12	7.15
1985-86	0	0	0	0.6	3.28	1.26	0.92	3.72	3.9	0.64	0.25	0	14.57
1986-87	0	0	0.3	0	0.06	1.65	1.7	2.96	2.97	0.08	0.11	0	9.83
1987-88	0	0	0	0.47	0.89	2.46	1.6	0.87	0.29	2.03	0.38	0.01	9
1988-89	0	0	0	0	1.33	2.43	0.62	1.57	2.24	0.1	0	0	8.29
1989-90	0	0.05	1.34	1.55	0.48	0.1	2.08	1.64	0.68	0.59	1.62	0	10.13
1990-91	0	0	0	0.18	0.36	0.64	0.16	1.68	5.15	0.34	0.09	0.01	8.61
1991-92	0	0.11	0	1.59	0.53	1.46	1.56	3.77	2.02	0.02	0	0.06	11.12
1992-93	0.18	0	0	0.9	0.08	2.44	5.7	3.44	2.53	0.33	1.06	0.61	17.27
1993-94	0	0	0	0.18	0.68	1.3	2.29	3.3	0.18	1.1	1.38	0	10.41
1994-95	0	0	0.22	0.58	1.6	0.92	6.71	0.37	4.31	1.35	1.1	0.59	17.75
1995-96	0.02	0	0	0	0	3.25	3.15	3.43	1.84	0.84	1.03	0	13.56
1996-97	0	0	0	1.27	2.37	4.49	4.58	0.26	0	0.14	0.01	0.05	13.17
1997-98	0	0	0.07	0.07	2.44	1.63	4.89	6.1	4.81	0.99	2.13	0.48	23.61
1998-99	0	0	0.02	0.76	1.11	0.85	2	2.59	1.13	1.34	0.19	0	9.99
1999-00	0	0	0	0	0.9	0.27	3.28	4.8	0.95	2.06	0.79	0.18	13.23
2000-01	0	0	0.1	3.52	0.12	0.15	3.14	2.19	1.4	1.7	0	0	12.32
2001-02	0	0	0.14	0.33	2.27	2.59	1.01	0.88	1.47	0.15	0.47	0	9.31
2002-03	0	0	0	0	1.81	3.69	0.75	1.04	0.91	1.28	0.94	0	10.42
2003-04	0	0.1	0.02	0	0.8	3.05	0.89	3.77	0.77	0	0.19	0	9.59
2004-05	0	0	0.11	2.91	1.2	3.37	4.18	2.5	2.87	1.17	1.11	0.02	19.44
2005-06	0	0	0.22	0.11	0.15	2.81	2.75	1.01	3.36	2.47	1.07	0	13.95
2006-07	0	0	0	0.23	0.68	1.75	0.48	1.93	0.31	0.75	0.01	0	6.14
2007-08	0.01	0	0.25	0.85	0.22	1.23	4.26	1.86	0.06	0.01	0.07	0	8.82
2008-09	0	0	0	0.12	0.83	1.25	1.82	2.15	1.02	0.45	0.046	0.013	7.699
2009-10	0	0	0.17	1.68	0.16	2.72	2.73	2.82	1.07	3.36	0.46	0	15.17
2010-11	0	0	0	0.82	2.02	3.33	1.6	1.93	4.11	0.2	0.76	1.16	15.93
2011-12	0	0	0	0.95	0.88	0.06	0.73	0.69	2.02	1.69	0.01	0.37	7.4
2012-13	0.02	0	0.02	0.23	1.6	2.96	1.04	0.38	0.74	0.43	0.1	0.09	7.61
2013-14	0	0	0	0.1	0.62	0.29	0.31	1.65	1.41	0.53	0.06	0	4.97
2014-15	0	0	0	0.66	0.7	3.39	0.02	1.05	0.19	0.44	0.74	0	7.19
2015-16	0	0.06	0	0.41	2	1.23	4.27	0.7	2.31	2.47	0.55	0	14
2016-17	0	0	0	1.43	0.89	1.91	5.61	3.51	1.29	1.15	0.19	0.05	16.03
AVERAGE ➡	0.022	0.016	0.18	0.69	1.31	1.84	2.40	2.20	1.95	0.96	0.40	0.09	12.07

Sustainable Agriculture

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 Federal Phytosanitary Certification Program.

PEST EXCLUSION PROGRAM

Pest Exclusion is the first line of defense to prevent the introduction of pests, injurious to agriculture, that are not of common occurrence in Merced County.

A total of 5,341 shipments of incoming plant material were inspected in 2017. Shipments are inspected at United Parcel Service, United States Post Offices, Federal Express and trucking terminals. One shipment was rejected for live pests, material not properly certified, or improper container markings.

PIERCE'S DISEASE CONTROL PROGRAM

To prevent the introduction of the Glassy-winged Sharpshooter (GWSS) into Merced County, which is the main insect vector of Pierce's Disease, all shipments of nursery stock from infested counties, shipped by nurseries under a Master Compliance Agreement, are inspected. GWSS has the ability to spread Pierce's Disease rapidly among grape vines with devastating results. Three hundred twenty-two shipments of nursery stock from infested counties were inspected in 2017.

In addition, all nurseries receiving nursery stock from GWSS infested areas and residential yards were inspected

for GWSS presence for a total of 2,853 inspections during 2017. No GWSS were detected.

FEDERAL PHYTOSANITARY CERTIFICATION PROGRAM

This program ensures that plants and plant commodities exported to foreign countries from Merced County are free from injurious pests. In 2017, the Merced County staff inspected and issued Phytosanitary Certificates for 4,171 export shipments.

PEST DETECTION PROGRAM

Pest Detection uses visual inspection and insect traps that target specific exotic insects of high agricultural and economic importance.

The trapping program in Merced County targeted the following pests:

- Asian Citrus Psyllid (*Diaphorina citri Kuwayama*)
- Apple Maggot (*Rhagoletis pomonella*)
- European Pine Shoot Moth (*Rhyacionia buoliana*)
- Glassy-winged Sharpshooter (*Homalodisca vitripennis*)
- Light Brown Apple Moth (*Epiphyas postvittana*)
- Khapra Beetle (*Trogoderma granarium*)
- Melon Fly (*Dacus cucurbitae*)
- Oriental Fruit Fly (*Dacus dorsalis*)
- Vine Mealy Bug (*Planococcus ficus*)
- European Corn Borer (*Ostrinia nubilalis*)
- European Grapevine Moth (*Lobesia botrana*)
- Gypsy Moth (*Lymantria dispar*)
- Japanese Beetle (*Popillia japonica*)
- Mediterranean Fruit Fly (*Ceratitis capitata*)
- Mexican Fruit Fly (*Anastrepha ludens*)
- Sweet Potato Weevil (*Cylas formicarius elegantulus*)

A total of 2,922 pest detection traps were placed in Merced County and inspected a total of 34,038 times during the 2016 trapping season.



GLASSY-WINGED SHARPSHOOTER



Pest Eradication

The Pest Eradication Program endeavors to eliminate infestations of significant agricultural pests with limited distribution before they are able to cause ongoing economic cost to California agriculture.

Successful eradication projects include Sweet Potato Weevil, Banana Waterlily, Japanese Dodder, and European Grapevine Moth (EGVM).

Only limited detection and eradication efforts for the invasive weeds South American Sponge Plant ("A" Rated), Purple Loosestrife ("B" Rated), and Perennial Peppergrass ("B" Rated) were conducted during 2017, due to funding constraints.

Detection and eradication efforts for the insect pest Pink Bollworm continues.

There were no Pink Bollworm moths detected in Merced County during 2017.

The Pink Bollworm is a major cotton pest. Eradication efforts included a State operated trapping program of 45,945 acres in conjunction with County enforcement of the host free period from January 1 through March 10, also known as Cotton Plowdown. Treatment is accomplished by mating disruption utilizing pheromones and sterile moths.



Biological Control

The Biological Control (Biocontrol) Program uses natural enemies to suppress pest populations to economically and environmentally acceptable levels. Once the biocontrol agent becomes established it is self-perpetuating, reducing the need to use pesticides. The following are pests found in Merced County and their Biocontrol Agents.

PEST	ORGANISM
Ash Whitefly (<i>Siphoninus phillyreae</i>)	Parasitoid Wasp (<i>Encarsia inaron</i>)
Grapeleaf Skeletonizer (<i>Harrisina brillians</i>)	Parasitic Fly (<i>Ametadoria misella</i>)
	Virus (<i>WGLS Granulosis</i>)
	Parasitic Wasp (<i>Apanteles harrisinae</i>)
Italian Thistle (<i>Carduus sp.</i>)	Seed Head Weevil (<i>Rhinocyllus conicus</i>)
Klamath Weed (<i>Hypericum perforatum</i>)	Leaf Beetle (<i>Chrysolina quadrigemina</i>)
Milk Thistle (<i>Silybum marianum</i>)	Seed Head Weevil (<i>Rhinocyllus conicus</i>)
Puncture Vine (<i>Tribulus terrestris</i>)	Seed Weevil (<i>Microlarinus laevis</i>)
	Stem Weevil (<i>Microlarinus lypriformis</i>)
Red Gum Lerp Psyllid (<i>Glycaspis brimblecombei</i>)	Parasitoid Wasp (<i>Psyllaephagus bliteus</i>)
Russian Thistle (<i>Salsola sp.</i>)	Casebearer Moth (<i>Coleophora klimeschiella</i>)
	Russian Thistle Borer (<i>Coleophora parthenica</i>)
Yellowstar Thistle (<i>Centaurea solstitialis</i>)	Seed Head Weevil (<i>Bangasternus orientalis</i>)
	Seed Head Gall Fly (<i>Urophora sirunaseva</i>)
	Hairy Weevil (<i>Eustenopus villosus</i>)
	False Peacock Fly (<i>Chaetorellia succinea</i>)
	Rust Fungus (<i>Puccinia jaceae</i> var. <i>solstitialis</i>)

Organic Farming

Merced County had 59 organic producers, 11 organic handlers, and 4 organic processors in 2017. The 59 organic producers grew over 120 assorted organic commodities within Merced County including: asparagus, leeks, cabbage, beets, pumpkin, corn, lavender, pears, apples, oranges, guava, beans, eggs, and milk. The 59 organic producers had 328 different production sites making up over 55,000 acres of organic production. Reported estimated gross sales of organic commodities in 2017 were over \$275,000,000. These crop values are reflected in each respective category.

All of Merced County's organic producers, handlers, and processors were certified in the California Organic Program through California Department of Food and Agriculture. The California Organic Products Act was enacted in 2003 and provides statutes that protect consumers, producers, handlers, processors and retailers by the establishment of standards under which agricultural products may be label and sold as "organic."

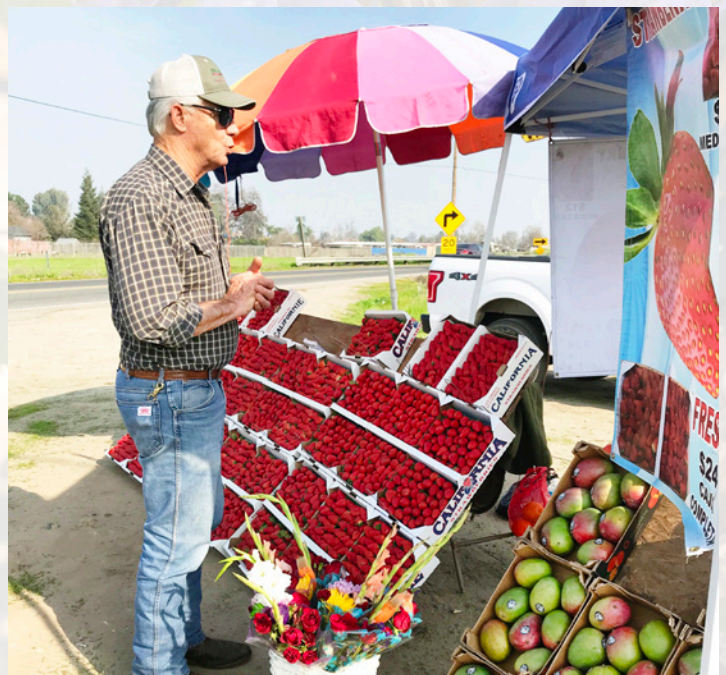


Certified Producers

The Certified Producers Program, also known as Direct Marketing, provides an opportunity for communities to have high quality produce provided by local growers through farmers' markets certified through the California Department of Agriculture, each with a unique set of market rules to provide consumers with a wide selection of agricultural commodities. Certified producers participating in certified farmers' markets must apply with the Agricultural Commissioner's Office and show the staff of the Commissioner's Office that they grow what they sell.

In 2017, Merced County had 68 certified producers who grew within the county and four certified farmers' markets:

- **LOS BANOS CERTIFIED FARMERS' MARKET**
Henry Miller Plaza, Los Banos, June through September on Tuesdays @ 4:30pm-9pm
- **LIVINGSTON FARMERS' MARKET**
Main Street & C Street, Livingston, May through October on Thursdays @ 5pm-9pm
- **THE ORIGINAL MERCED CO. CERTIFIED FARMERS' MARKET**
16th & Canal Street, Merced, year-round on Saturdays @ 8am-12pm
- **DP CHAMBER FARMERS MARKET**
1600 Block of Center Avenue, Dos Palos, July through August on Thursdays 5:30pm-8:30pm



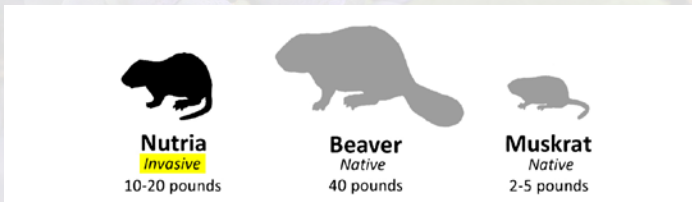
Nutria

HISTORY

March 2017, a trapper conducting a beaver management survey captured a pregnant female Nutria. Nutria are a restricted species in California, thus they cannot be imported, transported, or possessed without a permit. Originally Nutria were introduced into California for the fur trade business. Nutria farms were operating from the 1930s through the 1940s. Also, this species was promoted as a means to control aquatic vegetation. It was quickly determined that Nutria were not beneficial and were destructive to the environment and eradication plans were implemented. It was originally believed this pest had been completely eradicated until the recent capture of a live female in Merced County. The capture took place in the western portion of Merced County in the grasslands outside of Gustine.

DAMAGES

Damages occur while they burrow into levees, causing water retention and flooding. Nutria consume 25% of their body weight each day. In the process they also destroy or waste 10 times that amount of beneficial habitat. Damage occurs to the soil structure, native plants, agricultural commodities, and severe soil erosion from the burrowing. Destructive feeding habits threaten populations of rare, threatened or endangered species occupying the same habitat. Nutria are also hosts for Tuberculosis and Septicemia which all can be transmitted to humans, livestock and pets. They can also carry tapeworms, along with blood and liver flukes.



IDENTIFICATION & SIGNS OF NUTRIA

Nutria strongly resembles a native muskrat or beaver, but can be identified by a white muzzle with white whiskers and light brown coloring around the ears. They are larger than a muskrat but smaller than a beaver. The body length ranges from 2' to 2.5', with a tail length of 12" to 18". The tail is rounded and sparsely covered in hair. Preferred habitat consists of permanent water areas such as: rivers, streams, lakes, ponds and wetlands. They have been found living in cattails and tule marshes, ponds, sloughs and rivers throughout the San Joaquin Valley.

Signs that Nutria are in the area include burrows below the water lines. They also tend to pile cuttings



of vegetation to create feeding and grooming platforms. The tracks show 4 visible toes, hind feet with webbing between 4 of the 5 toes, and typically drag marks in the tracks from the narrow tail.

AGENCIES INVOLVED

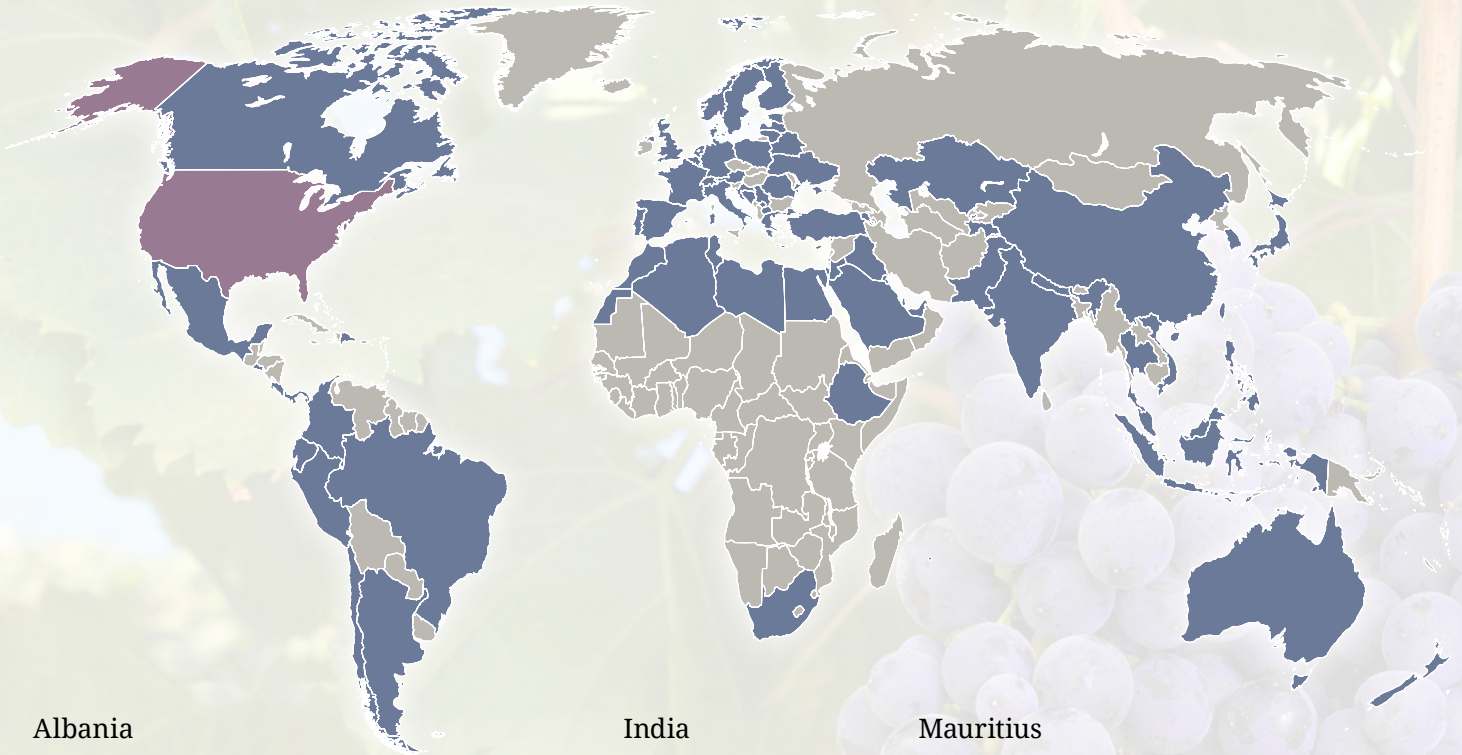
Several agencies are currently working together to eradicate this destructive species. These agencies include: California Department of Fish and Wildlife, California Department of Food and Agriculture, California Department of Parks and Recreation, California Department of Water Resources, United States Department of Agriculture, United States Fish and Wildlife, and several county agricultural commissioner's offices. There is a small window of opportunity to eradicate Nutria from California. As the population increases and the geographic area widens, the possibility of eradication decreases. This makes it even more crucial to focus efforts to eradicate this invasive species.

If you suspect a Nutria, document any potential observations or signs of damage to CDFW's Invasive Species Program by email at invasive@wildlife.ca.gov or by phone at (866) 440-9530. If observations are on state or federal land it should be reported immediately to the local agency located on the property. For more information regarding nutria, you can visit the CDFW website at www.wildlife.ca.gov/Conservation/Invasives/Species/Nutria/Infestation.

References

- Bounds, D.L., Mollett, T.A., Sherfy, M.F., 2001. The Nutria Nuisance in Maryland and the Search for Solutions. Aquatic Invasive Species Digest. v.4, no3.
- InvasiveSpecies Specialist Group(ISSG). Myocastor coypus. Global Invasive Species Database. Last modified 13 April 2008. <http://www.issg.org/database/species/ecology.asp?si=99&fr=1&sts=sss&lang=EN>
- U.S Geological Survey-National Wetlands Research Center. Worldwide Distribution, Spread of, and Efforts to Eradicate the Nutria (Myocastor coypus). Available at <http://www.nwrc.usgs.gov/special/nutria/index.htm>
- Fuller, Pam. 2016. Myocastor coypus. USGS Nonindigenous Aquatic Species Database, Gainesville, FL. <http://nas.er.usgs.gov/queries/factsheet.aspx?speciesID=1089> Revision Date: 5/19/2005

Countries Of Export



Albania
Algeria
Argentina
Armenia
Australia
Austria
Bahrain
Belarus
Belgium
Bosnia and
Herzegovina
Brazil
Canada
Chile
China
Colombia
Costa Rica
Croatia

Cyprus
Czech Republic
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Estonia
Ethiopia
Finland
France
Germany
Greece
Honduras
Hong Kong

India
Indonesia
Iraq
Israel
Italy
Japan
Jordan
Kazakhstan
Korea, Republic of
Kuwait
Latvia
Lebanon
Libya
Lithuania
Macedonia
Malaysia
Malta

Mauritius
Mexico
Montenegro
Morocco
Nepal
Netherlands
New Zealand
Norway
Pakistan
Panama
Peru
Philippines
Poland
Portugal
Qatar
Romania
Saudi Arabia

Serbia
Singapore
South Africa
Spain
Sweden
Switzerland
Taiwan
Tajikistan
Thailand
Tunisia
Turkey
Ukraine
United
Arab Emirates
United Kingdom
Vietnam

Products Of Export

Alfalfa Hay
Almond
Black
Walnut Logs
Blackberry

Blueberry
Cantaloupe
Celery
Chicory
Edible Fig

Eucalyptus Logs
Fennel
Melon
Oat Hay
Onion

Pistachio
Prune
Radicchio
Raspberry
Rice

Rye Grass Hay
Strawberry
Sudan Grass Hay
Sweet Potato
Tomato

Treviso
Walnut
Walnut Wood

Staff

Agricultural Commissioner/Director of Weights and Measures

David A. Robinson

Assistant Agricultural Commissioner

Sean Runyon

Deputy Agricultural Commissioners

Fred Michaelis

Cari Gansberger

Jon Chapman

Special Projects Coordinator

Mark Smith

Agricultural Biologists

Robert Aguilar
Kelcie Baptista
Sandra Brasil
Jennifer Dimapasoc
Milford Esau

Derrik Hunger
Nils Johnson
Loren Lamb
Larry Lima
Carrie Mitchell

Kenneth Miyamoto
Colleen Murray
Yvette Pellman
Cameron Stevens
Dillon White

Supervising Weights and Measures Inspector

Mark Conover

Weights and Measures Inspectors

Agustin Diaz

Derrell Smith

Administrative Support Staff

Jamie Kucius, Staff Services Analyst

Vanessa Enciso, Office Assistant II

Jill McCabe, Office Assistant II

Margaret Kohn, Office Assistant III

Bhavana Naik, Office Assistant II

Bee Xiong, Office Assistant III

Integrated Pest Management Specialist

Juventino Magana

Agricultural and IPM Technicians – Seasonal

Jonathan Brower
Cliff Freitas
Jose Laguna

Jesus Molina
Michelle Nunes
Ramiro Perez

Carol Rakes
Sheila Worthley
Carl Youngborg

