



HONEY BEES AND CROP POLLINATION



2011 AGRICULTURAL CROP REPORT

MADERA COUNTY
DEPARTMENT OF AGRICULTURE

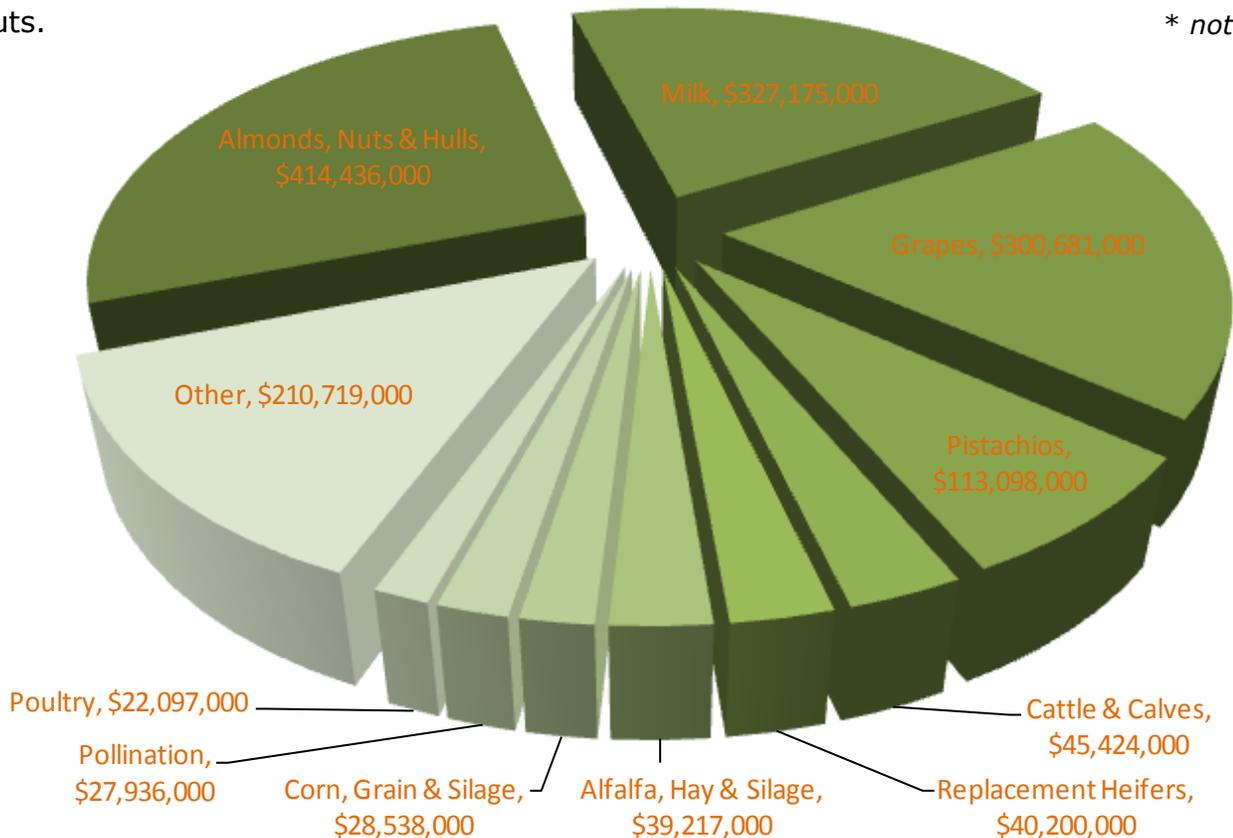


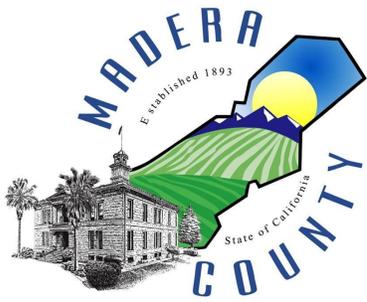
TEN LEADING CROPS MADERA COUNTY 2011

Commodity	2011 Rank	2011 Dollar Value	2010 Rank
Almonds, Nuts & Hulls	1	\$414,436,000	1
Milk	2	\$327,175,000	3
Grapes	3	\$300,681,000	4
Pistachios	4	\$113,098,000	2
Cattles & Calves	5	\$45,424,000	5
Replacement Heifers	6	\$40,200,000	6
Alfalfa, Hay & Silage	7	\$39,217,000	8
Corn, Grain & Silage	8	\$28,538,000	*
Pollination	9	\$27,936,000	7
Poultry	10	\$22,097,000	10

Diversity, which serves to strengthen the agricultural economy of Madera County, is evident in this listing of our Ten Leading Crops, which include fruit and nut crops, milk, dairy and beef cattle, nursery stock, field crops, poultry and apiary pollination. The wide range of commodities produced in our county is further underscored by that segment on the chart entitled "Other," which includes such diverse products as berries, citrus, cotton, olives, stone fruits, timber, vegetable crops and walnuts.

* not in Top 10





Madera County Department of Agriculture Weights and Measures

Jay Seslowe, Assistant Agricultural Commissioner/Sealer

Karen Ross, Secretary
California Department of Food and Agriculture

and

The Honorable Board of Supervisors

Frank Bigelow, Ronn Dominici, Max Rodriguez, David Rogers, and Tom Wheeler

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the 2011 Agricultural Crop Report for Madera County. It must be emphasized that the values presented in this report reflect gross returns only and do not in any manner reflect net income or loss to producers.

The gross value of Madera County's agricultural production in 2011 was \$1,569,521,000. This represents an overall increase of \$221,016,000 (16.39%) over the 2010 production levels.

Almonds continued to be the leading crop in Madera County for the second straight year with a value of \$414,436,000. This is an increase of \$127,944,000 from 2010 due to favorable conditions and an excellent crop set. Milk increased by 38.28% to \$327,175,000 with increases in both production and price per unit of market milk. Grapes moved up to the number three leading crop with a 29.19% increase to \$300,681,000. Pistachios, an alternate-bearing crop, dropped to number four with a decrease in production value to \$113,098,000. Cattle and Calves remained Madera County's fifth highest individual commodity at \$45,424,000.

The preparation of a report of this type requires extensive collaboration, and I sincerely appreciate the contributions of our growers, the UC Cooperative Extension, and my staff. In particular, I would like to thank Senior Agricultural & Standards Inspector, Cha Vang, for his assistance with crop surveys throughout the year and for compilation of this report.

Respectfully Submitted,

Jay Seslowe
Assistant Agricultural Commissioner/
Sealer of Weights and Measures

MADERA COUNTY DEPARTMENT OF AGRICULTURE

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Madera County Board of Supervisors

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David Rogers

District 2

Ronn Dominici

District 3

Max Rodriguez

District 4

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Kathy Keatley Garvey

MADERA COUNTY HIGHLIGHTS

County Established	March 11, 1893
County Seat	Madera (city)
Population ^a	152,925

Total County Acreage	1,366,925
2011 Harvested Acreage	669,490
Field Crop Acreage	97,000
Fruit and Nut Acreage	214,920
Nursery Acreage	440
Vegetable Acreage	4,130
Rangeland Acreage	353,000
Forest Acreage	414,300
U. S. Parkland Acreage	83,000

Bordering Counties

Merced County	Northwest
Mariposa County	North
Mono County	East
Fresno County	South and West

Ranking of Madera County Among Counties of California

Population ^a	33
Total Acreage	24
Total Agricultural Production ^b	14
Commodity, by Value	
Figs	1
Grapes, Raisin Variety	2
Pistachios	4
Almonds	5
Grapes, Table Variety	5
Cattles & Calves	7
Corn, Silage	7
Grapes, Wine Variety	7
Olives	7
Milk, Market	9

Ranking of Madera County Among Counties of the United States

Total Agricultural Production ^c	21
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a/ US Bureau of Census, 2011 Estimate
b/ County Agricultural Commissioner's Data, 2010
c/ USDA Ag Census, 2007

Madera County Crop Reports from 2001 to 2011 are available at:
<http://www.madera-county.com/agcommissioner/cropreports/index.html>



Field Crops

PRODUCTION

VALUE

Item	Year	Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Alfalfa							
Hay	2011	20,200	7.64	154,328	Ton	\$236.00	\$36,421,000
	2010	28,900	6.09	176,001	Ton	133.00	23,408,000
	2009	30,000	7.00	210,000	Ton	113.00	23,730,000
Silage^a	2011			52,764	Ton	53.00	2,796,000
	2010			62,522	Ton	34.00	2,126,000
	2009			52,710	Ton	30.00	1,581,000
Total	2011	20,200					39,217,000
	2010	28,900					25,534,000
	2009	30,000					25,311,000
Beans, Dry^b							
	2011	-	-	-	-	-	-
	2010	-	-	-	-	-	-
	2009	620	1.51	936	Ton	742.00	695,000
Corn							
Grain	2011	1,300	6.89	8,957	Ton	244.00	2,186,000
	2010	1,100	5.49	6,039	Ton	192.00	1,159,000
	2009	1,100	5.51	6,061	Ton	178.00	1,079,000
Silage	2011	24,400	27.00	658,800	Ton	40.00	26,352,000
	2010	21,300	26.94	573,822	Ton	30.00	17,215,000
	2009	19,700	25.25	497,425	Ton	25.00	12,436,000
Total	2011	25,700					28,538,000
	2010	22,400					18,374,000
	2009	20,800					13,515,000
Cotton							
Lint	2011	5,500	1,554^c	17,806	Bale^d	1.11^e	9,487,000
	2010	4,100	1,561	13,334	Bale	1.20	7,680,000
	2009	330	1,123	772	Bale	0.72	267,000
Seed	2011			7,124	Ton	289.00	2,059,000
	2010			5,328	Ton	237.00	1,263,000
	2009			310	Ton	290.00	90,000
Oat							
Hay	2011	3,600	2.38	8,568	Ton	124.00	1,062,000
	2010	3,100	2.08	6,448	Ton	81.00	522,000
	2009	3,400	2.14	7,276	Ton	72.00	524,000
Pasture							
Irrigated	2011	2,700			Acre	150.00	405,000
	2010	3,300			Acre	150.00	495,000
	2009	3,300			Acre	150.00	495,000
Rangeland	2011	353,000			Acre	15.00	5,295,000
	2010	353,000			Acre	12.00	4,236,000
	2009	353,000			Acre	12.00	4,236,000

Photo: Corn silage harvest by Thomas Hagopian/Grower



Field Crops

PRODUCTION

VALUE

Item	Year	Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Wheat							
Grain	2011	7,600	2.84	21,584	Ton	\$244.00	\$5,266,000
	2010	14,200	2.40	34,080	Ton	182.00	6,203,000
	2009	6,000	2.46	14,760	Ton	245.00	3,616,000
Silage	2011	22,400	13.93	312,032	Ton	31.00	9,673,000
	2010	17,800	14.98	266,644	Ton	21.00	5,600,000
	2009	16,500	14.40	237,600	Ton	18.00	4,277,000
Total	2011	30,000					14,939,000
	2010	32,000					11,803,000
	2009	22,500					7,893,000
Winter Forage	2011	2,500	14.13	35,325	Ton	33.00	1,166,000
	2010	2,700	16.81	45,387	Ton	20.00	908,000
	2009	3,400	12.17	41,378	Ton	18.00	745,000
Miscellaneous ^f	2011	6,800					9,088,000
	2010	8,900					8,601,000
	2009	12,100					7,451,000
TOTAL	2011	450,000					\$111,256,000
	2010	458,400					79,416,000
	2009	449,450					61,222,000*

a/ Alfalfa acreage yields both hay and silage

b/ Includes Black-eyes, Kidneys and Limas.

2010 & 2011 acreage & value included in Misc.

c/ Pounds

d/ Bale: 480 pounds

e/ Price per pound

f/ Includes barley (hay & silage), dried beans, safflower, sorghum, seed crops, Sudan grass, wheat hay, field and stubble straw.

* Revised



Vegetable Crops

PRODUCTION

VALUE

Item	Year	Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Tomatoes							
Fresh	2011	400	16.06	6,424	Ton	\$440.00	\$2,827,000
	2010	320	16.22	5,190	Ton	425.00	2,206,000
	2009	400	15.80	6,320	Ton	441.00	2,787,000
Processed	2011	2,100	55.92	117,432	Ton	65.00	7,633,000
	2010	2,700	49.17	132,759	Ton	64.00	8,497,000
	2009	2,000	39.52	79,040	Ton	81.00	6,402,000
Miscellaneous ^a	2011	1,630					23,601,000
	2010	1,700					12,572,000
	2009	1,740					8,156,000
TOTAL	2011	4,130					\$34,061,000
	2010	4,720					23,275,000
	2009	4,140					17,345,000

a/ Includes artichokes, carrots, all cabbage, eggplant, herbs, melons, onions, all peppers, potatoes, all squash and miscellaneous truck crops



FRUIT & NUT CROPS

PRODUCTION

VALUE

Item	Year	Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Almonds^a	2011	89,000	1.23	109,470^b	Ton	\$3,497.00	\$382,817,000
	2010	80,000	0.91	72,800	Ton	3,501.00	254,873,000
	2009	68,000	0.79	53,720	Ton	3,018.00	162,127,000
Almond Hulls	2011			234,215	Ton	135.00	31,619,000
	2010			155,758	Ton	103.00	16,043,000
	2009			114,936	Ton	86.00	9,884,000
Cherries	2011	440	3.72	1,637	Ton	3,456.00	5,657,000
	2010	400	5.23	2,092	Ton	2,713.00	5,676,000
	2009	380	4.84	1,839	Ton	2,648.00	4,870,000
Figs	2011	5,700	1.80	10,260	Ton	1,471.00	15,092,000
	2010	6,750	1.95	13,163	Ton	1,518.00	19,981,000
	2009	6,280	1.70	10,676	Ton	1,511.00	16,131,000
Grapes							
Raisin Varieties							
Crushed	2011	10,500	10.66	111,930	Ton	260.00	29,102,000
	2010	10,000	9.29	92,900	Ton	212.00	19,695,000
	2009	10,900	7.60	82,840	Ton	165.00	13,669,000
Dried	2011	22,300	2.58	57,534	Ton	1,530.00	88,027,000
	2010	21,000	2.60	54,600	Ton	1,321.00	72,127,000
	2009	21,100	2.80	59,080	Ton	1,139.00	67,292,000
Fresh	2011	1,000	10.90	10,900	Ton	1,417.00	15,445,000
	2010	900	10.30	9,270	Ton	1,001.00	9,279,000
	2009	1,020	10.05	10,251	Ton	856.00	8,775,000
Table Varieties	2011	2,250	9.72	21,870	Ton	1,578.00	34,511,000
	2010	2,300	9.41	21,643	Ton	1,424.00	30,820,000
	2009	2,060	9.90	20,394	Ton	1,510.00	30,795,000
Wine Varieties^c							
Red Varieties	2011	23,400	10.44	244,296	Ton	335.00	81,839,000
	2010	22,400	10.25	229,600	Ton	257.00	59,007,000
	2009	23,500	10.43	245,105	Ton	262.00	64,218,000
White Varieties	2011	15,000	11.54	173,100	Ton	299.00	51,757,000
	2010	15,200	11.32	172,064	Ton	243.00	41,812,000
	2009	15,900	10.42	165,678	Ton	248.00	41,088,000
Total Grapes	2011	74,450					300,681,000
	2010	71,800					232,740,000
	2009	74,480					225,837,000*
Olives Fresh & Oil	2011	1,100	1.76	1,936	Ton	618.00	1,196,000
	2010	1,380	4.76	6,569	Ton	793.00	5,209,000
	2009	1,100	0.57	627	Ton	1,116.00	700,000

* Revised



FRUIT & NUT CROPS

PRODUCTION

VALUE

Item	Year	PRODUCTION			VALUE		
		Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Oranges	2011	3,400	18.40	62,560	Ton	\$215.00	\$13,450,000
	2010	3,430	12.74	43,698	Ton	168.00	7,341,000
	2009	3,550	12.64	44,872	Ton	187.00	8,391,000
Peaches							
Cling	2011	260	15.30	3,978	Ton	291.00	1,158,000
	2010	320	16.00	5,120	Ton	310.00	1,587,000
	2009	340	16.21	5,512	Ton	318.00	1,753,000
Freestone	2011	630	15.99	10,074	Ton	621.00	6,256,000
	2010	740	12.84	9,502	Ton	493.00	4,684,000
	2009	770	11.48	8,840	Ton	527.00	4,659,000
Pistachios	2011	28,300	0.97	27,451^b	Ton	4,120.00	113,098,000
	2010	28,000	1.74	48,720	Ton	4,920.00	239,702,000
	2009	27,700	0.84	23,268	Ton	3,520.00	81,903,000
Plums^d	2011	-	-	-	-	-	-
	2010	-	-	-	-	-	-
	2009	180	8.55	1,539	Ton	904.00	1,391,000
Plums, Dried	2011	1,200	3.71	4,452	Ton	1,383.00	6,157,000
	2010	1,100	3.62	3,982	Ton	1,437.00	5,722,000
	2009	1,290	3.45	4,451	Ton	1,445.00	6,431,000
Walnuts	2011	1,340	1.54	2,064	Ton	2,749.00	5,674,000
	2010	1,250	1.78	2,225	Ton	1,867.00	4,154,000
	2009	1,200	1.53	1,836	Ton	1,674.00	3,073,000
Miscellaneous							
Fruits & Nuts^e	2011	9,100					39,919,000
	2010	4,800					33,834,000
	2009	4,190					23,531,000
Orchard Firewood	2011			6,500	Cord		975,000
	2010			6,500	Cord		975,000
	2009			7,000	Cord		980,000
TOTAL	2011	214,920					\$923,749,000
	2010	199,970					832,521,000
	2009	189,460					552,033,000

a/ Meat basis

b/ Reflects total production, including imperfect stock; price weighted accordingly

c/ Includes table grape crushed

d/ 2010 & 2011 harvested acreage & value included in Miscellaneous Fruits & Nuts

e/ Includes apples, apricots, berries, kiwis, nectarines, pears, pecans, persimmons, plums, pomegranates, tangelos, tangerines, almond and walnut shells

Photo: Persimmons by Thomas Hagopian/Grower



FOREST PRODUCTS

PRODUCTION

VALUE

Item	Year	Production	Unit	Total Value
Timber	2011	3,839	MBF^a	\$282,000
	2010	3,353	MBF	225,000
	2009	280	MBF	36,000
Firewood	2011	1,745	Cord^b	204,000^c
	2010	2,075	Cord	228,000
	2009	1,380	Cord	287,000
TOTAL	2011			\$486,000
	2010			453,000
	2009			323,000

a/ Thousand Board Feet

c/ Includes value for Christmas trees, greenery, pinecones and saw logs

b/ Cord: 128 cubic feet



NURSERY PRODUCTS

PRODUCTION

VALUE

Item	Year	Field Acres	House Sq. Foot	Total Value
Nursery Stock ^a	2011	440	532,000	\$19,057,000
	2010	840	653,000	24,445,000
	2009	740	669,000	26,081,000

a/ Includes grapevines, fruit trees, nut trees and ornamentals



APIARY PRODUCTS

PRODUCTION

VALUE

Item	Year	Total	Unit	Per Unit	Total
Apiary Products					
Beeswax	2011	41,500	Pound	\$1.18	\$49,000
	2010	30,000	Pound	2.04	61,000
	2009	22,000	Pound	2.12	47,000
Honey	2011	515,000	Pound	1.50	773,000
	2010	781,000	Pound	1.43	1,117,000
	2009	611,000	Pound	1.26	770,000
Pollination	2011	194,000	Colony	144.00	27,936,000
	2010	190,000	Colony	139.00	26,410,000
	2009	141,000	Colony	138.00	19,458,000
TOTAL	2011				\$28,758,000
	2010				27,690,000
	2009				20,275,000

Photo: Beehive brood frame; used with permission by the American Beekeeping Federation



LIVESTOCK AND POULTRY

PRODUCTION

VALUE

Item	Year	Head	Liveweight	Unit	Per Unit	Total
Cattles and Calves^a	2011	78,500	567,800	CWT^b	\$80.00	\$45,424,000
	2010	76,300	551,720	CWT	79.00	43,586,000
	2009	81,040	596,220	CWT	68.00	40,543,000
Replacement Heifers^c	2011	30,000			1,340.00	40,200,000
	2010	29,200			1,310.00	38,252,000
	2009	28,520			1,210.00	34,509,000
Poultry	2011					22,097,000
	2010					22,994,000
	2009					24,531,000
TOTAL	2011					\$107,721,000
	2010					104,832,000
	2009					99,583,000

a/ Range and dairy cattle sold for beef

b/ Hundredweight: 100 pounds

c/ Milk cows



LIVESTOCK AND POULTRY PRODUCTS

PRODUCTION

VALUE

Item	Year	Production	Unit	Per Unit	Total
Milk Market^a	2011	17,780,987	CWT	\$18.33	\$325,946,000
	2010	15,671,924	CWT	14.52	227,556,000
	2009	14,382,349	CWT	11.25	161,758,000
Milk Manufacturing^a	2011	65,222	CWT	18.84	1,229,000
	2010	621,409	CWT	14.57	9,054,000
	2009	571,168	CWT	12.08	6,897,000
Other Products^b	2011				17,258,000
	2010				19,365,000
	2009				18,019,000
TOTAL	2011				\$344,433,000
	2010				255,975,000
	2009				186,674,000

a/ Madera County has 49 dairies, with 68,183 lactating cows

b/ Includes aquaculture, ducks, market eggs, hogs, manure, sheep, lambs and wool

Photo: dairy cow by Peggy Greb



Sustainable Agriculture Report 2011

PEST PREVENTION

Pest prevention programs are mandated by the California Food and Agricultural Code to prevent the introduction and spread of pests in California. Pest prevention involves three strata: pest exclusion, pest detection and integrated pest management.

The **Pest Exclusion Program** prevents the introduction of injurious pests that are not of common occurrence in the county.

During 2011, eighteen nursery locations were inspected to ensure pest cleanliness. Over 390 shipments of plant materials, received by nurseries, were inspected for potentially injurious pests prior to retail sale.

Over twenty beehive shipments from Red Imported Fire Ants (RIFA) infested states, with over 10,000 beehives, were inspected for RIFA. RIFA were found on three beehive shipments in January and February of 2011.

During 2011, over seventy countries received agricultural commodities, which required certification that the commodities were free from potentially injurious pests. Over 3,700 phytosanitary inspections were performed on Madera County commodities destined for export.

The **Pest Detection Program** utilizes insect traps and surveys for the detection of foreign pests which may have eluded exclusion efforts. Over 1,160 traps were deployed in the county, with over 11,400 trap servicings performed during the 2011 season. The trapping program in Madera County targeted multiple pests, including the following:

Caribbean Fruit Fly, European Corn Borer, Gypsy Moth, Japanese Beetle, Khapra Beetle, Light Brown Apple Moth, Mediterranean Fruit Fly, Melon Fruit Fly, Mexican Fruit Fly, Oriental Fruit Fly



Honey Is...

Honey is honey, it's just that simple. A bottle of pure honey contains the natural sweet substance produced by honey bees from the nectar of plants or secretions of living parts of plants. Nothing else.

Honey is made by bees in one of the world's most efficient facilities, the beehive. The 60,000 or so bees in a beehive may collectively travel as much as 55,000 miles and visit more than two million flowers to gather enough nectar to make just a pound of honey!

The color and flavor of honey differ depending on the bees' nectar source (the blossoms). In fact, there are more than 300 unique kinds of honey in the United States, originating from such diverse floral sources as Clover, Eucalyptus and Orange Blossoms. In general, lighter colored honeys are mild in flavor, while darker honeys are usually more robust in flavor.

The **Integrated Pest Control Program** strives to eradicate infestations of new pests before they become widespread. Pink Bollworm (*Pectinophora gossypiella*), a non-established and economically significant pest of cotton, is controlled by post-season plowdown of cotton plants. In 2011, plowdown of over 5,500 acres of cotton was verified, ensuring the destruction of habitat supportive of this pest.

PEST MANAGEMENT

The **Glassy-winged Sharpshooter Program** serves to detect and control the vector of Pierce's Disease, a potentially catastrophic disease of vineyards. This program involved the placement of 299 traps, with 5,466 subsequent trap servicing in 2011. In addition, incoming shipments of host material and susceptible county plantings were inspected. Multiple Glassy-winged Sharpshooters were found in Madera and Chowchilla. Our office deployed over 800 delimitation traps throughout the find sites, with over 16,900 subsequent trap servicings. Treatment was performed on and around the find sites.

The **Vertebrate Pest Management Program** provides expertise and materials, to growers and homeowners, for the control of certain depredating vertebrate pests.

Fifty-five **Organic Farms**, totaling more than 6,200 acres, two handlers and one processor, were registered in Madera County in 2011. Utilizing organic principles defined in the California Organic Products Act of 2003, these farms produce a wide array of commodities, such as:

alfalfa, almonds, apples, apricots, artichokes, arugula, dried beans, green beans, beets, berries, broccoli, brussels sprouts, cabbage, cauliflower, cantaloupe, carrots, chard, cherries, collards, sweet corn, cucumbers, eggplant, endive, fennel, figs, garlic, grapes (table, raisin, wine), hay, herbs, honeydew, kale, kohlrabi, leeks, lettuce, livestock, okra, olives, onions, peaches, peas, peppers, persimmons, pistachios, dried plums, pomegranates, potatoes, radish, seed crops, spinach, squash, sunflower, tomatoes, turnips, watermelons, yams.

The value of organic production in Madera County during 2011 was **\$16,123,000**.

About the Honey Bee...

On average, a worker bee in the summer lasts six to eight weeks. Their most common cause of death is wearing their wings out. During that six to eight-week period, their average honey production is 1/12 of a teaspoon. In that short lifetime, they fly the equivalent of 1 1/2 times the circumference of the earth.

The peak population of a colony of honeybees is usually at mid-summer (after spring buildup) and results in 60,000 to 80,000 bees per colony. A good, prolific queen can lay up to 3,000 eggs per day.



Picture of beehive entrance and About the Honey Bee text used with permission by the American Beekeeping Federation



AGRICULTURAL CROP REPORT SUMMARY MADERA COUNTY 2011

Item	Year	Harvested Acres	Total Value
Apiary	2011		\$28,758,000
	2010		27,690,000
	2009		20,275,000
Field Crops	2011	450,000	111,256,000
	2010	458,400	79,416,000
	2009	449,450	61,222,000*
Fruit and Nut Crops	2011	214,920	923,749,000
	2010	199,600	832,521,000
	2009	189,460	552,033,000
Forest Products	2011		486,000
	2010		453,000
	2009		323,000
Livestock and Poultry	2011		107,721,000
	2010		104,832,000
	2009		99,583,000
Livestock and Poultry Products	2011		344,433,000
	2010		255,975,000
	2009		186,674,000
Nursery Products	2011	440	19,057,000
	2010	840	24,445,000
	2009	740	26,081,000
Vegetable Crops	2011	4,130	34,061,000
	2010	4,720	23,275,000
	2009	4,140	17,345,000
TOTAL	2011		\$1,569,521,000
	2010		1,348,505,000
	2009		963,536,000*

* Revised

Honey Bees: Their Value to Crop Pollination

Unlike people in other countries of the world, consumers in the United States enjoy delicious, nutritious and affordable agricultural products year-round. America's farmers feed more and more people each year while using less land to do so.

Honey bees are a critical component of this agricultural picture. As honey bees visit blossoms to gather the nectar and pollen necessary for their survival, they help agricultural crops, home gardens and wildlife habitats flourish. Simply put, pollination is the first indispensable step in a process that results in the production of fruits, vegetables, nuts and seeds. Without the honey bees' pollination work, the quantity and quality of many crops would be reduced and some would not yield at all. Almonds are the leading crop in Madera County with a value of \$414,436,000 (2011 Crop Report). Without the honey bees' pollination work it would be impossible to commercially produce this crop.

The USDA has estimated that 80 percent of insect crop pollination is accomplished by honey bees. To meet the demands of agriculture, however, special efforts are required. About one-half of the full-time beekeepers in the United States move their colonies from state to state and field to field during the year to provide pollination services to farmers as well as to reach abundant sources of nectar for honey production.

California has the largest beekeeping industry of any state in the U.S. Commercial beekeepers move their hives at least six times each year to pollinate crops or to place them near natural food sources for bees. Most of the hives of bees in California are rented one or more times a year for pollination of agricultural crops. Nearly 3/4 of the country's documented commercial honey bee crop pollination is conducted in California.

Pollination by honey bees is as vital to the production of many crops as water and sunlight. There is no substitute! One third of our daily diet relies on honey bee pollination. Including the "indirect" value of honey bee pollination (meat, dairy products, vegetables, hay, etc.), honey bees are responsible for nearly half of California's agricultural production (cash receipts for farm marketing). Thus, honey bee pollination is really worth in excess of 400 times the intrinsic earning power of the bees to beekeepers.

Excerpt from: The Story of Pollination by the National Honey Board/www.honey.com

Excerpt from: Don't Underestimate the Value of Honey Bees! by Eric C. Mussen, Ph.D., UC Extension Apiculturist



"A healthy beekeeping industry is vitally important to a healthy agricultural economy, to wildlife habitat, to a healthy environment - and to the plants in your own backyard."

- Gene Brandi, *Beekeeper*

Photo: Honey bee on sweet clover by Alexander Wild/www.Alexanderwild.com



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