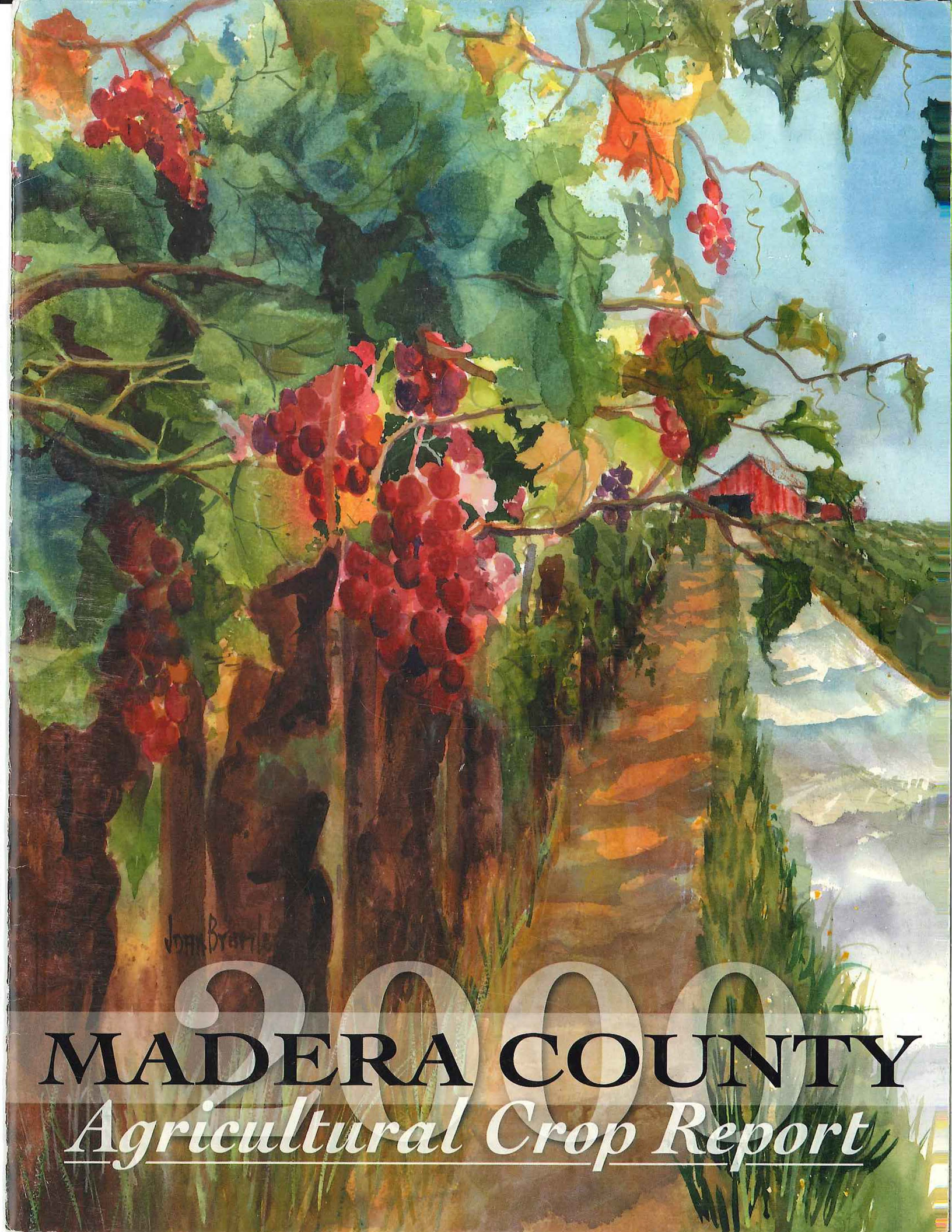

2000 MADERA COUNTY

Agricultural Crop Report

The richness of Madera County's history owes much to the variety and abundance of its natural resources. Development of the many resources, under harsh conditions using primitive equipment, required a large and ingenious workforce. Evident in the varied solutions to the challenges before them is the diversity that continues to be a hallmark of production agriculture in our county today.

Gold miners working the hills and streams of Eastern Madera County in 1849 numbered up to 15,000 men. The value of the gold taken during the early years is difficult to quantify, as it was used for money until 1865. By 1880, sixty-seven mines were operating locally, and three of these were the stuff of legends. The Gambetta, Josephine, and Enterprise mines, located within three miles of each other, yielded over seventy percent of the gold produced in our county in the ensuing twenty-four years, with the total exceeding $2.5 million. Madera County mines also yielded silver, copper, nickel, cobalt, tungsten, the largest deposits of iron found in California, turquoise, garnets, and granite, which is still quarried today.

The timber, or "green gold," industry grew in tandem with the gold rush, as lumber was required in mines and emerging towns. The first sawmill, powered by an over-shot water wheel, was set up in 1852 along California Creek, about eight miles north of Oakhurst. Oxen were used to "skid" logs to the mill, and thus operation of the mill was dependent on the availability of grass for grazing. Later, steam-powered "spool donkeys" replaced oxen, and, as logging moved farther from the mills, locomotives would be used. In 1874, construction began on a 63-mile-long flume, which would carry rough-cut lumber in flowing water from the mountain sawmills to a planing mill in the emerging town of Madera, for shipment on the recently constructed Union Pacific Railroad. Water from the flume was diverted into canals for the irrigation of valley crops. Demand grew nationally, and then internationally, for clear sugar pine; its uses ranged from piano key bases to window sashes to ships. In 1902, two carloads were shipped to Washington for use in construction of the White House.

In the 1850's, all freight and passengers came to the mountains by stage or wagon. Teams of eight horses, or mules, were used to pull heavy freight wagons, with spare teams placed every ten miles or so, depending on the steepness of the grade. As work forces grew, the transport of supplies became more burdensome. Workers, lacking fruits and vegetables in their diets, began to suffer from "land scurvy." Recognizing the need for local sources of food, disenchanted miners turned to farming and ranching. Apple, pear, and walnut orchards were planted, as were the first field crops: wheat, barley and beans. Vegetable gardens yielded produce, and local poultry keepers supplied eggs, chickens and turkeys. Cattle and sheep were grazed in mountain meadows as far north as Yosemite. Hogs were raised in increasing numbers; eventually there would be annual drives to Stockton, on foot, for shipment by boat to San Francisco.

Settlement crept but slowly down the mountain toward the vast grazing lands of the valley, until ranchers were required to install fencing. The open grazing land of the valley almost overnight became an unfathomable expanse of wheat. Individual holdings encompassed as many as 50,000 acres; single furrows stretched twenty miles. Repeated plantings depleted the soil, however, and the era of wheat passed. As agricultural colonies set aside blocks of land for a variety of plantings, we began to see the diversity of crops in orchards and fields that Madera County enjoys today.

The cover illustration was created by Joan Brumley, a renowned local artist who has received a number of awards for her agricultural watercolors.

Photo: Dryland wheat farm, Madera (ca 1940)

Madera County Department of Agriculture
Weights and Measures

Robert J. Rolan, Agricultural Commissioner
Sealer of Weights and Measures

David A. Robinson, Assistant
Commissioner/Sealer

William J. Lyons, Jr., Secretary
California Department of Food and Agriculture

and

The Honorable Board of Supervisors

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the 2000 Agricultural Crop Report.

The estimated value of Madera County agricultural production totaled $750,271,000 in 2000. This represents a 6.8% increase over the 1999 production value.

Field crop acreage increased in 2000, boosted by increased planting of dryland wheat. Yields for the major field crops were strong across the board, resulting in an overall increase of 3% in field crop production value.

Fruit and nut acreage also climbed in 2000. Favorable weather encouraged heavy production, particularly in grapes and pistachios. Oranges and olives, rebounding from last year's freeze, showed significant increases in production. Market conditions, affected by an international economy in transition, continued to challenge growers.

Dairy herd numbers continued to grow during 2000. Increasing production of market milk, together with rising numbers of replacement heifers, was sufficient to offset a substantial reduction in milk prices.

Nursery production values rose for the third consecutive year, to a record $37,500,000.

The preparation of a report of this type requires extensive collaboration, and I sincerely appreciate the contributions of our growers, the staff of the University of California Cooperative Extension, and industry representatives. Additionally, I would like to thank the members of my staff who assisted in the gathering of data, and Marilyn Key, for compiling the information into its final form.

Our crop report for the year 2000 celebrates the agricultural history of Madera County. I thank Joan Brumley, who produced an original watercolor for our cover; the many contributors of historical pictures, including the Madera County Historical Society; and Creative Copy Printing and Graphics, for assistance in designing this report.

Respectfully Submitted,

Robert J. Rolan
Agricultural Commissioner

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MADERA COUNTY HIGHLIGHTS

County Established	March 11, 1893
County Seat	Madera (city)
Population[a]	123,109
Total County Acreage[b]	1,368,587
2000 Harvested Acreage	661,850
Field Crop Acreage	116,620
Fruit and Nut Acreage	188,090
Nursery Acreage	740
Vegetable Acreage	3,400
Rangeland Acreage	353,000
Forest Acreage	414,290
U. S. Parkland Acreage	82,973
Bordering Counties	
Merced County	Northwest
Mariposa County	North
Mono County	East
Fresno County	South and West
Statewide Ranking of County	
Population[a]	35
Total Acreage	24
Total Agricultural Production[b]	14
Commodity, by value[c]	
Figs	1
Grapes, Raisin Variety	2
Pistachios	2
Almonds	5
Grapes, Wine Variety	5
Grapes, Table Variety	5
Olives	6
Milk	9

a/ US Bureau of Census, 2000
b/ USDA Ag Census, 1997
c/ County Agricultural Commissioner's Data, 1999

MADERA COUNTY
Agricultural Crop Report

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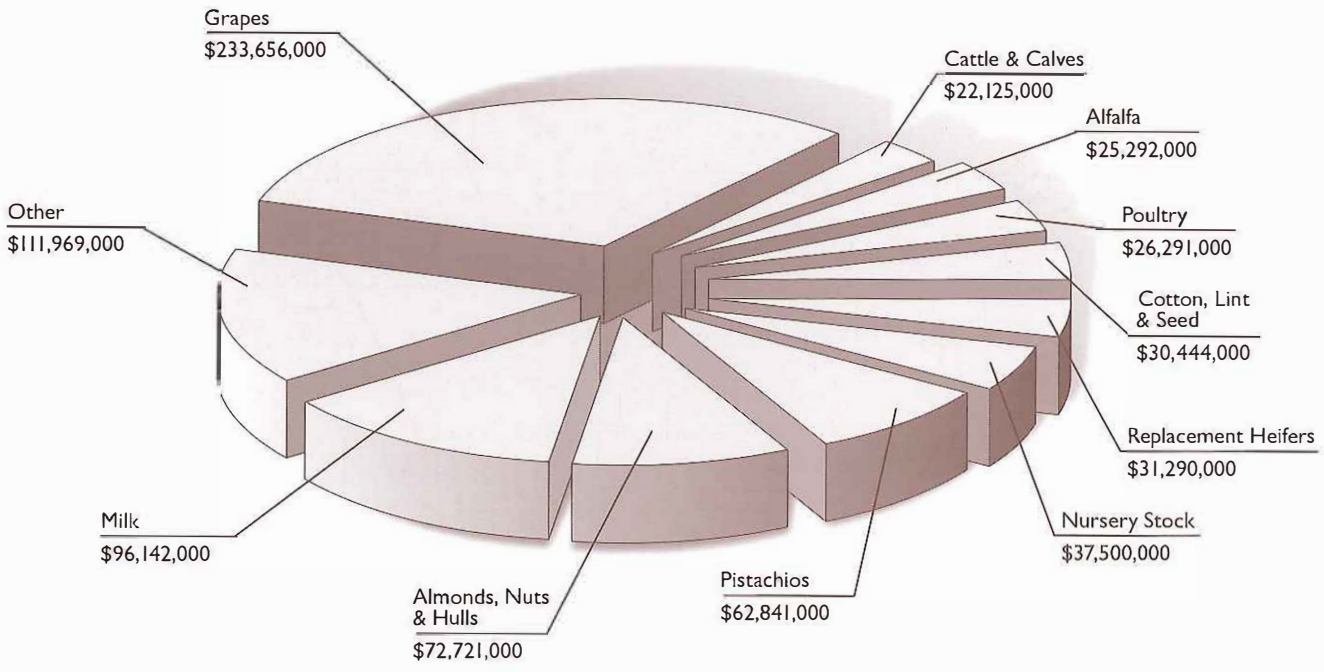
Planting grapes in Madera County (ca 1850)

TEN LEADING CROPS
MADERA COUNTY - 2000

COMMODITY	2000 RANK	2000 DOLLAR VALUE	1999 RANK
Grapes	1	$233,656,000	1
Milk	2	$96,142,000	2
Almonds, Nuts & Hulls	3	$72,721,000	3
Pistachios	4	$62,841,000	4
Nursery Stock	5	$37,500,000	5
Replacement Heifers	6	$31,290,000	7
Cotton, Lint & Seed	7	$30,444,000	6
Poultry	8	$26,291,000	9
Alfalfa	9	$25,292,000	8
Cattle and Calves	10	$22,125,000	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, field crops, nursery stock, dairy and beef cattle. The wide range of commodities produced in our county is further underscored by that segment of the chart entitled "Other," which includes such diverse products as kiwifruit, frogs, sweet basil, wool, cutting flowers, eggplant, firewood, and beeswax.



MADERA COUNTY
AGRICULTURAL PRODUCTION & VALUE

The information in the following tables is compiled and made available in order to provide an annual record of agricultural production within the county. Yield, production, and pricing information is gathered from both growers and processors. Acreages shown are not intended to reflect planted acreage, but rather the total acreage harvested during the current growing season. Weighted averages of yields and unit values are then prepared for the individual commodities, allowing determination of countywide totals for production and value. Values represent the gross value of the commodities produced; no attempt is made to reflect the cost of production and marketing, or net income to the producer.

Harvesting dryland grain on the east side (ca 1920)

Gathering hay, O'Neals (ca 1920)

FIELD CROPS

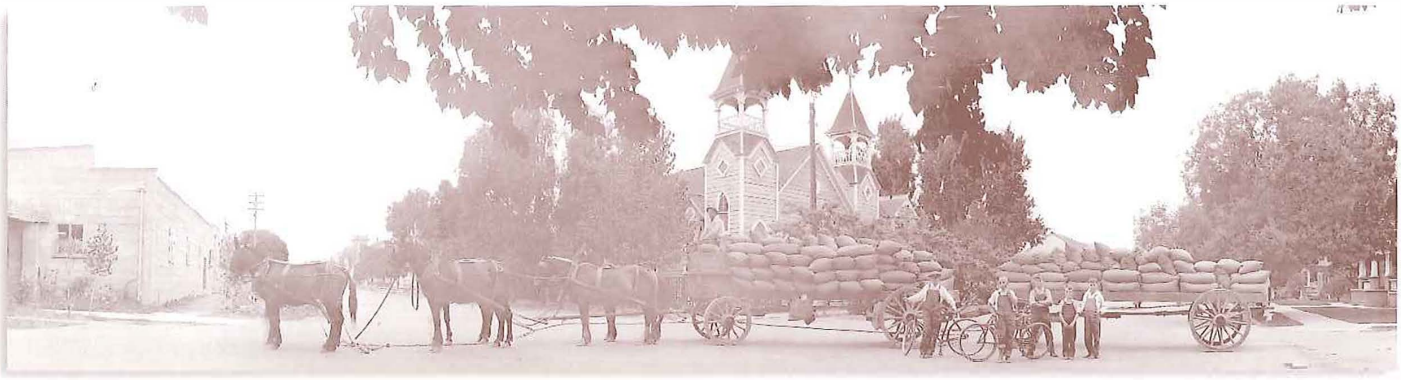
Item	Year	PRODUCTION Harvested Acreage	PRODUCTION Per Acre	PRODUCTION Total	Unit	VALUE Per Unit	VALUE Total
Alfalfa							
Hay	**2000**	**36,500**	**7.08**	**258,420**	**Ton**	**$94.00**	**$24,291,000**
	1999	37,810	7.12	269,207	Ton	96.00	25,844,000
	1998	37,313	6.98	260,445	Ton	105.00	27,347,000
Silage[a]	**2000**			**41,718**	**Ton**	**24.00**	**1,001,000**
	1999[b]			33,488	Ton	22.00	737,000
Total	**2000**	**36,500**					**25,292,000**
	1999	37,810					26,581,000
Beans, Dry[c]	**2000**	**200**	**1.45**	**290**	**Ton**	**487.00**	**141,000**
	1999	2,600	1.26	3,276	Ton	448.00	1,468,000
	1998	2,100	1.33	2,793	Ton	567.00	1,584,000
Corn							
Grain	**2000**	**5,800**	**4.66**	**27,028**	**Ton**	**106.00**	**2,865,000**
	1999	5,820	4.69	27,296	Ton	121.00	3,303,000
	1998	8,372	4.52	37,841	Ton	101.00	3,822,000
Silage	**2000**	**11,300**	**27.11**	**306,343**	**Ton**	**18.00**	**5,514,000**
	1999	10,400	24.37	253,448	Ton	18.00	4,562,000
	1998	6,961	25.00	174,025	Ton	18.00	3,132,000
Total	**2000**	**17,100**					**8,379,000**
	1999	16,220					7,865,000
	1998	15,333					6,954,000
Cotton							
Lint	**2000**	**27,500**	**1,338[d]**	**76,656**	**Bale[e]**	**.69[f]**	**25,389,000**
	1999	26,540	1,303	72,045	Bale	.69	23,861,000
	1998	27,130	950	53,695	Bale	.71	18,299,000
Seed	**2000**			**33,474**	**Ton**	**151.00**	**5,055,000**
	1999			31,401	Ton	150.00	4,710,000
	1998			23,403	Ton	175.00	4,096,000
Oat							
Hay	**2000**	**4,200**	**2.48**	**10,416**	**Ton**	**69.00**	**719,000**
	1999[g]	2,500	2.74	6,850	Ton	62.00	425,000
Pasture							
Irrigated	**2000**	**4,500[i]**			**Acre**	**125.00**	**563,000**
	1999	5,500			Acre	120.00	660,000
	1998	5,500			Acre	120.00	660,000
Rangeland[h]	**2000**	**353,000**			**Acre**	**9.00**	**3,177,000**
	1999	353,000[i]			Acre	9.00	3,177,000
	1998	381,000			Acre	8.00	3,048,000

Harvesting hay, Friant (ca 1920)

FIELD CROPS

		PRODUCTION				VALUE	
Item	Year	Harvested Acreage	Per Acre	Total	Unit	Per Unit	Total
Sugar Beets	**2000**	**620**	**29.66**	**18,389**	**Ton**	**$35.00**	**$644,000**
	1999	580	36.13	20,955	Ton	30.00	629,000
	1998	440	31.50	13,860	Ton	37.00	513,000
Wheat							
Grain	**2000**	**12,500**	**1.95**	**24,375**	**Ton**	**114.00**	**2,779,000**
	1999[j]	6,000	2.33	13,980	Ton	102.00	1,426,000
Silage	**2000**	**11,100**	**11.98**	**132,978**	**Ton**	**16.00**	**2,128,000**
	1999[j]	11,000	16.07	176,770	Ton	17.00	3,005,000
Total	**2000**	**23,600**					**4,907,000**
	1999	17,000					4,431,000
	1998	14,000					3,083,000
Winter Forage	**2000**	**1,000**	**13.26**	**13,260**	**Ton**	**15.00**	**199,000**
	1999[b]	2,430	12.62	30,670	Ton	17.00	521,000
Miscellaneous[k]	**2000**	**1,400**					**3,718,000**
	1999	2,600					1,552,000
	1998	8,288					3,268,000
TOTAL	**2000**	**469,620**					**$78,183,000**
	1999	466,780					75,880,000
	1998	491,104					68,852,000

a/ Alfalfa acreage yields both hay and silage
b/ Reported previously under Silage, Other
c/ Includes black-eyes, kidneys and limas
d/ Pounds
e/ Bale: 480 pounds
f/ Per pound
g/ Reported previously under Miscellaneous
h/ Reported previously under Pasture, Other
i/ Change due to improved mapping
j/ Reported previously under Wheat
k/ Includes barley, rice, safflower, sorghum, Sudan grass, seed crops, field stubble and straw



Transporting sacked grain, Madera (ca 1890)

Early stonefruit orchard, Madera (ca 1920)

FRUIT & NUT CROPS

Item	Year	PRODUCTION Harvested Acreage	PRODUCTION Per Acre	PRODUCTION Total	PRODUCTION Unit	VALUE Per Unit	VALUE Total
Almonds[a]	**2000**	**47,600**	**.70**	**33,320**[b]	**Ton**	**$2,040.00**	**$67,973,000**
	1999	46,200	1.01	46,662	Ton	1,734.00	80,912,000
	1998	43,635	.67	29,235	Ton	3,100.00	90,629,000
Almond Hulls	**2000**			**63,308**	**Ton**	**75.00**	**4,748,000**
	1999			88,658	Ton	60.00	5,319,000
	1998			58,470	Ton	70.00	4,093,000
Apples	**2000**	**2,300**	**8.70**	**20,010**	**Ton**	**521.00**	**10,425,000**
	1999	2,400	6.90	16,560	Ton	474.00	7,849,000
	1998	2,726	7.78	21,208	Ton	445.00	9,437,000
Figs	**2000**	**9,550**	**1.63**	**15,567**	**Ton**	**591.00**	**9,200,000**
	1999	9,520	1.27	12,090	Ton	519.00	6,275,000
	1998	9,430	1.32	12,448	Ton	751.00	9,348,000
Grapes							
Raisin Varieties							
Crushed	**2000**	**8,640**	**10.45**	**90,288**	**Ton**	**119.00**	**10,744,000**
	1999	8,810	7.82	68,894	Ton	202.00	13,917,000
	1998	9,960	8.60	85,656	Ton	165.00	14,133,000
Dried	**2000**	**34,640**	**2.64**	**91,450**	**Ton**	**1,025.00**[c]	**93,736,000**
	1999	32,780	1.87	61,299	Ton	1,228.00	75,275,000
	1998	30,738	1.72	52,869	Ton	1,158.00	61,222,000
Fresh	**2000**	**2,520**	**7.85**	**19,782**	**Ton**	**893.00**	**17,665,000**
	1999	2,660	6.91	18,381	Ton	986.00	18,123,000
	1998	3,200	6.02	19,264	Ton	911.00	17,550,000
Table Varieties	**2000**	**2,640**	**7.27**	**19,193**	**Ton**	**960.00**	**18,425,000**
	1999	2,590	7.68	19,891	Ton	1,067.00	21,224,000
	1998	2,544	6.65	16,918	Ton	1,005.00	17,923,000
Wine Varieties[d]							
Red	**2000**	**24,030**	**9.6**	**230,688**	**Ton**	**237.00**	**54,673,000**
Varieties	1999	21,690	7.78	168,748	Ton	328.00	55,349,000
	1998	17,477	8.36	146,108	Ton	325.00	47,485,000
White	**2000**	**23,740**	**10.05**	**238,587**	**Ton**	**161.00**	**38,413,000**
Varieties	1999	23,700	9.02	213,774	Ton	209.00	44,679,000
	1998	22,789	10.39	236,777	Ton	206.00	48,776,000
Total Grapes	**2000**	**96,210**					**233,656,000**
	1999	92,230					228,567,000
	1998	86,708					207,089,000
Nectarines	**2000**	**610**	**7.59**	**4,630**	**Ton**	**626.00**	**2,898,000**
	1999	530	7.03	3,726	Ton	655.00	2,441,000
	1998	640	5.86	3,750	Ton	580.00	2,175,000

Thompson seedless vineyard, Chowchilla (ca 1920)

FRUIT & NUT CROPS

Item	Year	Harvested Acreage	PRODUCTION Per Acre	PRODUCTION Total	PRODUCTION Unit	VALUE Per Unit	VALUE Total
Olives	**2000**	**1,780**	**3.84**	**6,835**	**Ton**	**$736.00**	**$5,031,000**
	1999	1,370	1.43[e]	1,959	Ton	473.00	927,000
	1998	1,160	5.48	6,357	Ton	482.00	3,064,000
Oranges	**2000**	**3,830**	**12.37**	**47,377**	**Ton**	**128.00**	**6,064,000**
	1999	600[f]	11.62	6,972	Ton	240.00	1,673,000
	1998	3,931	18.00	70,758	Ton	175.00	12,383,000
Peaches							
Cling	**2000**	**1,130**	**18.83**	**21,278**	**Ton**	**220.00**	**4,681,000**
	1999[g]	1,030	17.67	18,200	Ton	237.00	4,313,000
Freestone	**2000**	**950**	**12.69**	**12,056**	**Ton**	**359.00**	**4,328,000**
	1999	830	10.43	8,657	Ton	424.00	3,671,000
	1998	876	10.62	9,303	Ton	436.00	4,056,000
Pistachios	**2000**	**19,270**	**1.59**	**30,639[b]**	**Ton**	**2,051.00**	**62,841,000**
	1999	18,510	0.83	15,363	Ton	2,901.00	44,568,000
	1998	17,854	1.00	17,854	Ton	2,215.00	39,547,000
Plums	**2000**	**990**	**10.50**	**10,395**	**Ton**	**634.00**	**6,590,000**
	1999	1,020	8.23	8,395	Ton	718.00	6,028,000
	1998	1,204	9.55	11,498	Ton	717.00	8,244,000
Plums, Dried[h]	**2000**	**1,580**	**2.63**	**4,155**	**Ton**	**926.00**	**3,848,000**
	1999	1,440	2.68	3,859	Ton	997.00	3,847,000
	1998	946	2.12	2,005	Ton	917.00	1,839,000
Walnuts	**2000**	**1,210**	**1.33**	**1,609**	**Ton**	**1,290.00**	**2,076,000**
	1999	1,050	1.75	1,838	Ton	879.00	1,616,000
	1998	977	1.57	1,534	Ton	962.00	1,476,000
Miscellaneous							
Fruits & Nuts[i]	**2000**	**1,080**					**4,394,000**
	1999	480					1,888,000
	1998	1,568					7,748,000
Orchard Firewood	**2000**			**5,000**	**Cord**		**525,000**
	1999[j]			5,000	Cord		455,000
TOTAL	**2000**	**188,090**					**$429,278,000**
	1999	177,210					400,349,000
	1998	171,655					401,128,000

a/ Meat basis
b/ Reflects total production, including imperfect stock; price weighted accordingly
c/ At the time of this report the bargaining price has not been determined and the Raisin Bargaining Association (RBA) is locked in a first time mandatory arbitration. The RBA's last offered price was $1,025 per ton on October 17, 2000 and is being used for reporting purposes only. *This price reflects free tonnage only.* It is in no way intended to influence the arbitrated price which is yet to be determined. The final price will be published in the 2001 crop report.
d/ Includes table grapes crushed
e/ Yield impacted by freezing temperatures
f/ Harvestable acreage impacted by fruit loss due to freeze
g/ Reported previously under Miscellaneous
h/ Reported previously under Prunes; dried weight
i/ Includes apricots, berries, cherries, kiwis, pears, pecans, persimmons, pomegranates, tangelos, tangerines, and strawberries
j/ Not previously reported

Planting seedling tomatoes, Madera (ca 1940)

VEGETABLE CROPS

Item	Year	Harvested Acreage	Total Value
Vegetables[a]	**2000**	**3,400**	**$15,400,000**
	1999	4,300	16,222,000
	1998	4,816	10,600,000

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

LIVESTOCK AND POULTRY

Tending dairy cattle, Madera (ca 1920)

Item	Year	Head	Liveweight	Unit	Per Unit	Total
Cattle and Calves[a]	**2000**	**50,700**	**375,000**	**CWT**[b]	**$59.00**	**$22,125,000**
	1999	42,500	293,250	CWT	69.00	20,234,000
	1998	41,000	282,900	CWT	64.00	18,106,000
Replacement Heifers[c]	**2000**	**21,000**			**1,490.00**	**31,290,000**
	1999[d]	20,000			1,380.00	27,600,000
Poultry[e]	**2000**					**26,291,000**
	1999					23,881,000
	1998					22,215,000
TOTAL	**2000**					**$79,706,000**
	1999					71,715,000
	1998					40,321,000

a/ Range and dairy cattle sold for beef
b/ Hundredweight: 100 pounds
c/ Milk cows
d/ Not previously reported
e/ Previously reported separately under Chickens, Turkeys

Grazing sheep, Madera (ca 1850)

Cultivating vegetable seedlings, Madera (ca 1940)

NURSERY PRODUCTS

Item	Year	Field Acres	House Sq. Ft.	Total Value
Nursery Stock[a]	**2000**	**740**	**515,000**	**$37,500,000**
	1999	1,135	552,000[b]	30,200,000
	1998	671		15,128,000

a/ Includes grapevines, fruit trees, nut trees and ornamentals
b/ Not previously reported

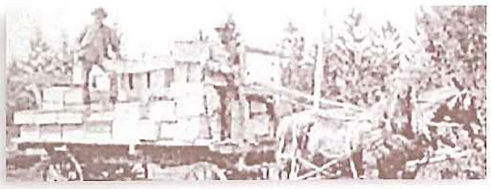
Feeding poultry, Friant (ca 1920)

LIVESTOCK AND POULTRY PRODUCTS

		PRODUCTION		VALUE	
Item	Year	Production	Unit	Per Unit	Per Total
Milk Market[a]	**2000**	**8,442,327**	**CWT**	**$11.30**	**$95,389,000**
	1999	7,147,793	CWT	13.18	94,208,000
	1998	6,088,877	CWT	14.65	89,213,000
Milk Manufacturing[a]	**2000**	**73,977**	**CWT**	**10.19**	**753,000**
	1999	206,197	CWT	13.14	2,709,000
	1998	146,919	CWT	14.93	2,194,000
Other Products[b]	**2000**				**5,992,000**
	1999				3,486,000
	1998				2,165,000
TOTAL	**2000**				**$102,134,000**
	1999				100,403,000
	1998				93,572,000

a/ Madera County has 50 dairies, with 36,500 lactating cows
b/ Includes sheep, lambs and wool, hogs, market eggs, manure, aquaculture, and beneficial insect production

Bringing cows in for milking, Friant (ca 1920)



Transporting hives for pollination

APIARY PRODUCTS

Item	Year	PRODUCTION Total	Unit	VALUE Per Unit	Total
Apiary Products					
Beeswax	**2000**	**14,500**	**Pound**	**$1.20**	**$17,000**
	1999[a]	13,000	Pound	1.00	13,000
Honey	**2000**	**664,200**	**Pound**	**0.49**	**325,000**
	1999	596,740	Pound	0.55	328,000
	1998	580,800	Pound	.60	348,000
Pollination	**2000**	**131,900**	**Colony**	**40.90**	**5,393,000**
	1999	118,500	Colony	40.60	4,811,000
	1998	109,500	Colony	39.80	4,358,000
TOTAL	**2000**				**$5,735,000**
	1999				5,152,000
	1998				4,706,000

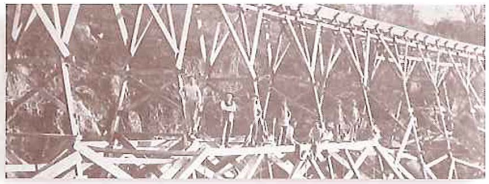
a/ Not previously reported

Logging in Sugar Pine (ca 1850)

FOREST PRODUCTS

Item	Year	Production	Unit	Total Value
Timber	**2000**	**8,228**	**MBF[a]**	**$2,082,000**
	1999	8,982	MBF	2,142,000
	1998	9,978	MBF	2,413,000
Firewood	**2000**	**2,970**	**Cords[c]**	**253,000**
	1999[b]	3,765	Cords	320,000
TOTAL	**2000**			**$2,335,000**
	1999			2,462,000

a/ Million Board Feet
b/ Not previously reported
c/ Cord: 128 cubic feet

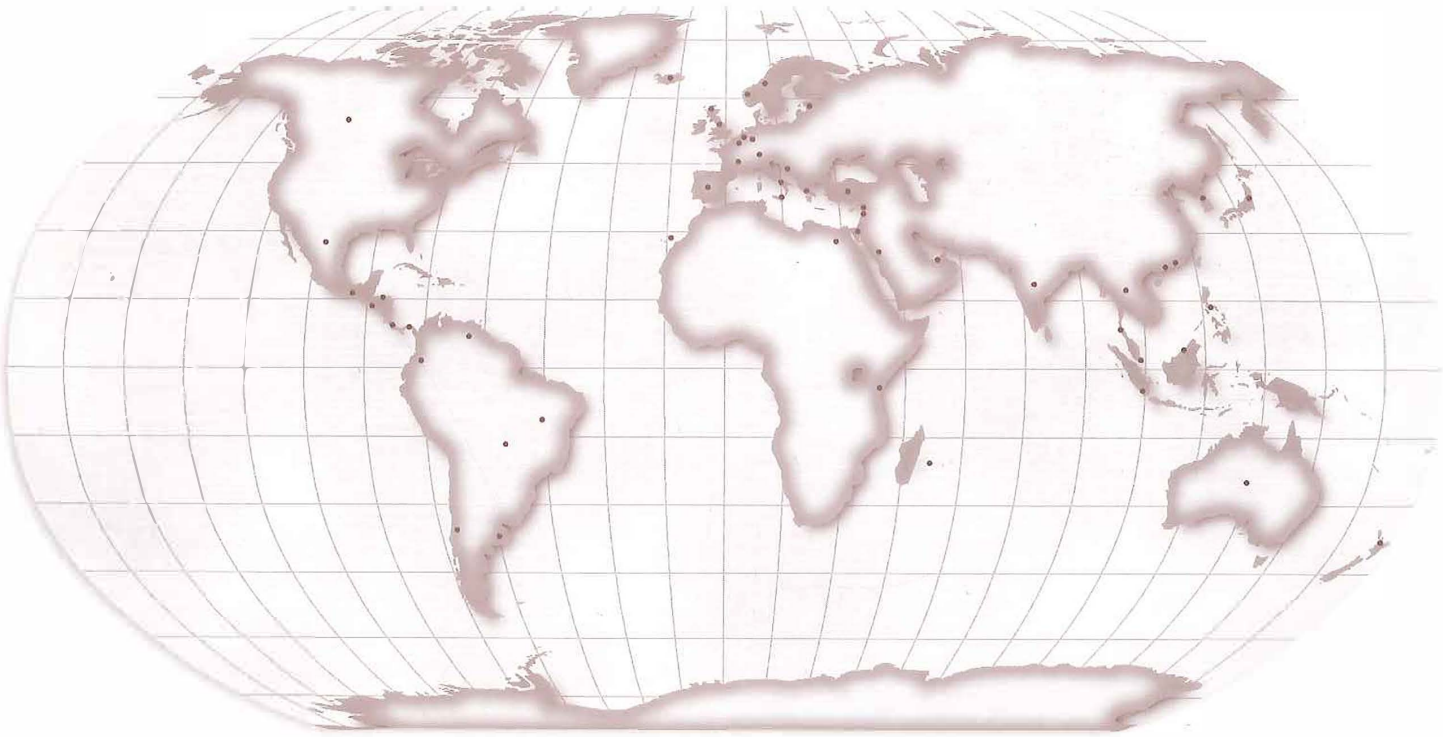


Logging flume, connecting Sugar Pine to Madera (ca 1870)

Drying peaches, early Madera

COUNTRIES RECEIVING MADERA COUNTY PRODUCE IN 2000

Argentina
Australia
Austria
Belgium
Brazil
Canada
Canary Islands
Chile
Colombia
Costa Rica
Egypt
El Salvador
France
Germany
Greece
Guatemala
Honduras
Hong Kong
India
Indonesia
Israel
Italy
Iceland
Japan
Jordan
Kenya
Korea
Latvia
Lebanon
Macau
Malaysia
Malta
Mauritius
Mexico
Norway
Netherlands
New Zealand
Panama
Paraguay
Philippines
Saudi Arabia
Scotland
Singapore
Slovenia
Spain
Sweden
Taiwan
Thailand
Turkey
United Arab Emirates
United Kingdom
Venezuela



Glass houses covering trees for propagating beneficial insects (ca 1920)

SUSTAINABLE AGRICULTURE REPORT

PEST PREVENTION

The **Pest Exclusion Program** prevents the introduction of injurious pests that are not of common occurrence in the county. In Madera County, inspections ensuring pest cleanliness were performed at 24 nursery locations. In addition, incoming shipments of plant material were inspected for potentially injurious pests. Incoming beehives, transported into the county for pollination, were inspected for Red Imported Fire Ant *(Solenopsis invicta)*, a significant quarantine pest. Nearly 20% of the almond acreage in the county was surveyed and baited for the Red Imported Fire Ant; discovery of the pest resulted in the treatment of fruit and nut orchards covering 742 acres. Further, over 1,200 phytosanitary inspections were performed on agricultural products destined for export.

> Horticultural Quarantine is one of the most important departments of the Board. The greater part of our injurious insects are introduced species. In every section to which an insect is indigenous are found other insects that are parasitic upon it. This is Nature's method of preventing the overwhelming and destructive increase of any species. If, however, these destructive insects are introduced into a section where their natural enemies do not exist, their increase, being unchecked, is alarming and their destructiveness unlimited. Instances of this are seen in the work of the Gypsy Moth in Massachusetts, the spread of the San Jose Scale over a large portion of the Eastern States, and the destructive work of the Cottony Cushion Scale and other pests introduced in California before the establishment of our Horticultural Quarantine System. Under this system all plants, trees, shrubs, fruits, etc., coming into the State are carefully inspected by competent entomologists, and if found infested with pests not found in the State they are returned to the point of shipment or destroyed; and if found infested with insects already here, are fumigated.
>
> from the *Report of the California State Board of Horticulture, 1899-1900*

The **Pest Detection Program** utilizes insect traps and surveys for the detection of foreign pests which may have eluded exclusion efforts. The trapping program in Madera County targeted multiple pests, including the following:

Caribbean Fruit Fly *(Anastrepha suspensa)*
Mediterranean Fruit Fly *(Ceratitis capitata)*
Melon Fly *(Dacus cucurbitae)*
Mexican Fruit Fly *(Anastrepha ludens)*
Olive Fruit Fly *(Bactrocera oleae)*
Oriental Fruit Fly *(Dacus dorsalis)*
Apple Maggot *(Rhagoletis pomonella)*
Gypsy Moth *(Lymantria dispar)*
Japanese Beetle *(Popillia japonica)*
Khapra Beetle *(Trogoderma granarium)*
European Corn Borer *(Ostrinia nubilalus)*
European Pine Shoot Moth *(Rhyacionia buoliana)*

Over 1,100 traps were placed in the county, with 13,772 trap servicings performed during the 2000 season. A total of 38 Olive Fruit Flies were trapped in Madera County during the season; initial finds resulted in delimitation trapping and, in two cases, grower treatment.

Releasing beneficial insects in orchards (ca 1920)

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 Madera County, plowdown of nearly 25,000 acres was verified, ensuring the destruction of habitat supportive of this pest.

PEST MANAGEMENT

The **Biological Control Program** involves the utilization of natural parasites and predators to reduce populations of insects or weeds. We have distributed biological control agents active against one insect pest as well as three invasive weeds.

Pest:	Control Agent:
Ash Whitefly *(Siphoninus phillyreae)*	Parasitic wasp *(Encarsia nr. inaron)*
Klamath Weed *(Hypericum perforatum)*	Leaf beetle *(Chrysolina quadrigemina)*
Puncturevine *(Tribulus terrestris)*	Stem and seed weevils *(Microlarinus lypriformis and lareynii)*
Yellow Starthistle *(Centaurea solstitialis)*	Bud weevil *(Bangasternus orientalis)* Hairy weevil *(Eustenopus villosus)* Peacock fly *(Chaetorellia australis)* Seed head gall fly *(Urophora sirunaseva)*

Control agents against the Ash Whitefly and puncturevine were released countywide. Control agents against Klamath Weed and Yellow Starthistle were released at three locations each.

> The Legislature of 1899 empowered the Board to send an expert entomologist to foreign countries to collect and import into the State beneficial insects for general distribution. George Compere of Los Angeles was appointed, and sailed on July 21st for Australia, making a stop at Honolulu, from which place he collected and forwarded several lots of beneficial insects. Since then he has traveled over a large area of country, visiting the Hawaiian Islands, Fiji, New Zealand, New South Wales, Queensland, Victoria, Java, Tasmania, and Japan, where he has investigated the injurious insects of these Sections, and has devoted his time to the discovery of their natural enemies.
>
> from the *Report of the California State Board of Horticulture, 1899-1900*

The **Glassy-winged Sharpshooter Program** serves to detect and control the vector of Pierce's Disease, a potentially catastrophic disease of vineyards. Following the detection of four sharpshooters, a delimitation program was initiated in Madera County. The program involved the placement of 2,021 traps, with 17,500 subsequent trap servicings, as well as survey work examining both incoming shipments of host material and susceptible county plantings. No additional sharpshooters were detected.

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

ORGANIC FARMING

Eighteen organic farms, totaling 1846 acres, were registered in Madera County in 2000. Utilizing organic principles defined in the California Organic Food Act of 1990, these farms produce a wide array of commodities: almonds, apples, figs, grapes and raisins, prunes, cotton, and vegetables. The total value of organic production in Madera County during 2000 was $3,173,000.

Horticulture commission office, with insectary and breeding jars in background (ca 1900)

Harvesting oat hay, Chowchilla (ca 1920)

AGRICULTURAL CROP REPORT SUMMARY

Item	Year	Harvested Acreage	Total Value
Apiary	**2000**		**$5,735,000**
	1999		5,152,000
	1998		4,706,000
Field Crops	**2000**	**469,620**	**78,183,000**
	1999	466,780	75,880,000
	1998	491,104	68,852,000
Fruit and Nut Crops	**2000**	**188,090**	**429,278,000**
	1999	177,210	400,349,000
	1998	171,655	401,128,000
Livestock and Poultry	**2000**		**79,706,000**
	1999		71,715,000
	1998		40,321,000
Livestock and Poultry Products	**2000**		**102,134,000**
	1999		100,403,000
	1998		93,572,000
Nursery	**2000**	**740**	**37,500,000**
	1999	1135	30,200,000
	1998	671	14,128,000
Timber Products	**2000**		**2,335,000**
	1999		2,462,000
	1998		2,413,000
Vegetable Crops	**2000**	**3,400**	**15,400,000**
	1999	4,300	16,222,000
	1998	4,816	10,600,000
TOTAL	**2000**		**$750,271,000**
	1999		702,383,000
	1998		636,720,000

Stacking hay, Friant (ca 1920)

REPORT OF STATE BOARD OF HORTICULTURE

MADERA COUNTY.

To the Honorable the State Board of Horticulture:

GENTLEMEN: The year 1900 has been one of great activity in the fruit interest in this county. Large numbers of trees and vines were planted, and all seem to be doing finely. This stock was nearly all examined by one or more of the members of the County Board. Some trees and vines, however, were brought into our county and planted before we were appointed.

We have been comparatively free from ravages of insect pests, except from the destructive *Diabrotica*, which appeared in large quantities in some localities. We applied Paris green in the proportion of one pound of Paris green to two hundred gallons of water. Where these insects appeared in large quantities they destroyed the foliage of peach, apricot, and sometimes umbrella trees. They remained in destructive quantities for about six weeks, after which they gradually disappeared. Some of our farmers claimed that they were very destructive on the first and second crops of alfalfa, destroying the blossoms. So far, we have been unable to find out how these bugs multiply, where they lay their eggs, and at what time of the year the majority of the young appear. We are of the opinion that some poisonous spray might be successfully used in the spring or winter and destroy many of the young.

The red spider made its appearance in a few places, and we advised the use of the formula given in your bulletin on page 9. We distributed the literature that your honorable body sent us, and we have heard many kind words from the growers in appreciation of the same.

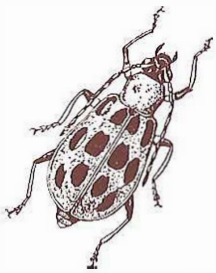
It has been rather difficult in quarantining and examining all of the plants, bulbs, vines, trees, and fruits that come into our county, on account of not being able to know when the same arrives. We have asked the depot agents and the express agent to notify us of the arrival of the same, but they have not always done so.

The fruit crop was above the average in all departments, and of most excellent quality. Late frosts did some damage to grapes, but still the crop was good.

C. M. PETTY,
Secretary.

MADERA, November 2, 1900.

from the Seventh Biennial report of the State Board of Horticulture, 1899-1900



...Diabrotica undecimpunctata (Spotted Cucumber Beetle, actual length 1/5 inch)

Summer Remedy.

Sulphur	3 pounds.
Caustic soda (98 per cent)	2 pounds.
Whale-oil soap	25 pounds.
Solution (in all)	100 gallons.

from the State Bulletin of 1899, page 9