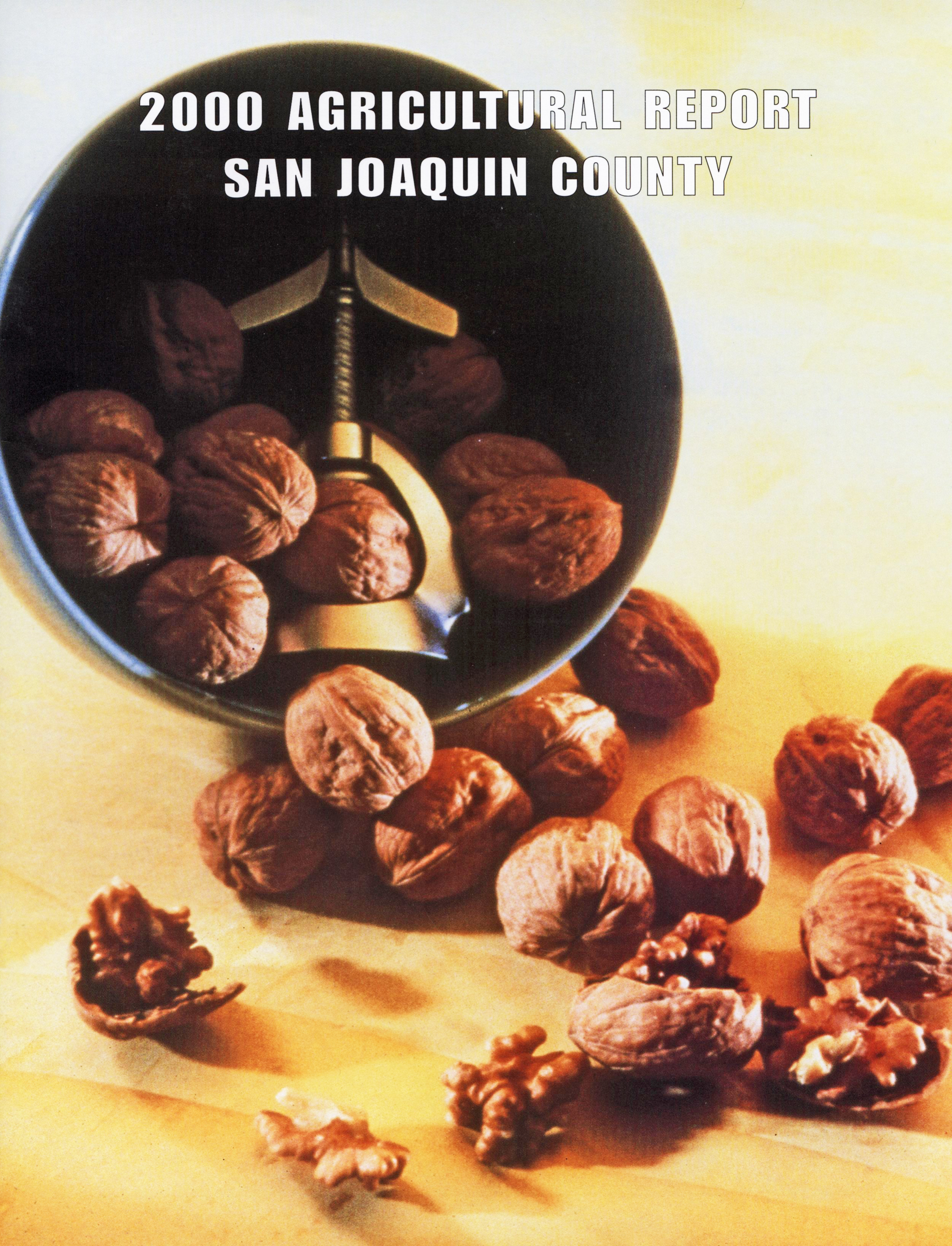
2000 AGRICULTURAL REPORT
SAN JOAQUIN COUNTY



San Joaquin County's Walnut Industry

The commercially grown walnut belongs to the *Juglandaceae* family and is related to the pecan and the hickory. Early history suggests that *Juglans regia*, more commonly called the Persian or English walnut originated in ancient Persia, or what is now central Asia. Man has used walnuts as a trade item since recorded history.

The Greeks and Romans spread walnut cultivation into Europe and North Africa. The Europeans then brought walnuts to the New World. In the late 1770s, Spanish missionaries cultivated the first walnuts in California. Modern walnut production began in the late 1800s with the introductions of "soft-shelled" varieties. Most of the early production took place in southern California, but shifted north starting in the 1940s when groves of citrus and urbanization began replacing the walnut orchards. The Sacramento and San Joaquin valleys then became the principal production areas.

At the turn of the 20th century it was generally believed that walnuts could not be grown successfully in northern California. The U.S. Census reported only 98 acres of walnuts were grown in San Joaquin County in 1909. This soon changed due in part to an informative lecture on walnut culture given by Dr. W. W. Fitzgerald. The lecture was reported in detail in the March 23, 1914 issue of the Stockton Record. Dr. Fitzgerald had researched southern California's walnut industry and was experimenting with his own 100-acre orchard planted east of Stockton. Five years later there were 2,643 total acres planted to walnuts in San Joaquin County, and in 1929 there were nearly 9,000 acres reported. It is interesting to note that much of the information presented by Dr. Fitzgerald in 1914 is still used in walnut production today.

The walnut tree is a large, spreading, deciduous tree, preferring deep loam soils, a temperate climate, and a rain-free growing season. Depending on the variety planted and tree spacing, it takes approximately 6 to 8 years for a walnut orchard to produce an economic yield. Careful attention must be given to the water and fertility needs of the trees, and measures must be taken to prevent pest and disease damage to the orchard.

In San Joaquin County, walnut harvesting begins in late August and continues into late November. Most of the harvest operations are now mechanized. Nuts are shaken from the tree, swept into windrows, and then picked up by specialized machinery. The nuts are then brought to a huller where foreign material and husks are removed. The cleaned nuts are then dehydrated to facilitate long term storage.

The United States leads the world in walnut production. China is second and is poised as a formidable competitor for the future. Almost all of U.S. production comes from California. San Joaquin County leads all other counties, producing about 20% of California's total production.

Approximately 50% of California's walnuts are marketed through a cooperative and the rest through many independent handlers. About 2/3 are marketed as shelled nuts, the rest as in-shell. Export markets have become more important in recent years. Currently about 40% of California's annual production is exported. Leading export markets include Japan, Spain, Germany, Italy and Israel.

While there have been many changes and improvements since the walnut industry's fledgling days in San Joaquin County, there are still challenges to overcome in the future. Pest and disease control, and marketing potentially larger crops due to expanding acreages and increased production with more foreign competition are some of those challenges. Walnuts, however, will continue to be an important part of the agricultural economy here, and San Joaquin County will remain a major player in the U.S. and world walnut market.

A SPECIAL "THANK YOU"

The San Joaquin County Agricultural Commissioner's Office expresses its deep appreciation to the San Joaquin Farm Bureau Federation and Ag Credit of California for their contributions to the 2000 Crop Report. We would also like to thank The Walnut Marketing Board, Joe Grant of San Joaquin County Cooperative Extention, and Thomas J. Payne Market and Development (cover photo) for their contributions. Without their support the publication of this report would not be possible.

SAN JOAQUIN COUNTY
AGRICULTURAL COMMISSIONER'S OFFICE

2000 ANNUAL CROP REPORT

Scott Hudson
Agricultural Commissioner

Compiled by
Diane Curry and Ted Viss

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WILLIAM J. LYONS JR., SECRETARY
CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
AND
THE HONORABLE BOARD OF SUPERVISORS
SAN JOAQUIN COUNTY

Dear Secretary and Board Members:

In accordance with Section 2279 of the California Food and Agricultural Code, I am pleased to present the sixty-seventh Annual Report of Agricultural Production in San Joaquin County. The values shown are estimates based on the most common method of sale for the individual commodity, except for fresh fruits and vegetables where the value is based on the F.O.B. packed price at the shipping point. The figures contained in this report are gross values rather than net returns to the grower.

The gross value of agricultural production for 2000 in San Joaquin County is estimated to be $1,348,628,000. This represents a slight decrease from the estimated $1,352,672,000 for 1999. Despite increased prices in many commodities, general reduction in yields resulted in the overall decrease in value. Highlights of the 2000 crop year are as follows:

- Grapes continue as the county's number one commodity since 1995, with a value of $297,789,000.
- Milk prices dropped for the third consecutive year but production increased to a record 20,513,000 cwt.
- Almond and walnut production was down. However, prices increased due to high demand domestically and strong export markets.
- Dry bean prices fell due to carry over of inventory from 1999.
- Cherry yields were down from 1999's record crop. This was offset by higher prices resulting in increased total value.
- Sugarbeet acreage rose due to high yields the previous year and limited field crop options.
- Woody Ornamentals, reflecting the county's growing nursery industry, ranked tenth in value replacing Cattle and Calves in the ten leading crops.

I wish to express my sincere appreciation to all who assisted my biologists and deputies by furnishing the necessary information that made this report possible.

Respectfully submitted,

Scott Hudson
Agricultural Commissioner

FIELD CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	PER UNIT	GROSS VALUE SUBTOTAL	GROSS VALUE TOTAL
BEANS, DRY, ALL	2000	21,700	1.09	23,600	TON	$527.00		$12,431,000
	1999	19,600	1.15	22,600	TON	$565.00		$12,765,000
BLACKEYE	2000	7,400	1.13	8,400	TON	$367.00	3,069,000	
	1999	7,300	0.93	6,800	TON	$490.00	3,336,000	
KIDNEY	2000	4,900	1.07	5,200	TON	$685.00	3,587,000	
	1999	5,300	1.16	6,200	TON	$640.00	3,967,000	
LIMA	2000	9,100	1.10	10,000	TON	$560.00	5,617,000	
	1999	7,000	1.37	9,600	TON	$567.00	5,462,000	
GARBANZO	2000	322	15.50	4,991	TON	$31.70	158,000	
	1999	N/A						
CORN, GRAIN	2000	56,500	5.13	289,800	TON	$88.00		$25,359,000
	1999	54,500	4.95	269,900	TON	$83.00		$22,403,000
HAY, ALL	2000	75,700	5.49	415,400	TON	$99.00		$41,316,000
	1999	83,500	5.72	477,600	TON	$97.00		$46,091,000
ALFALFA	2000	57,600	6.22	358,000	TON	$105.00	37,587,000	
	1999	64,200	6.32	405,600	TON	$102.00	41,372,000	
OTHER	2000	18,100	3.18	57,400	TON	$65.00	3,729,000	
	1999	19,300	3.72	72,000	TON	$66.00	4,719,000	
PASTURE & RANGE	2000	148,000			ACRE	$31.00		$4,035,000
	1999	154,000			ACRE	$30.00		$4,840,000
IRRIGATED	2000	16,600			ACRE	$125.00	2,070,000	
	1999	23,000			ACRE	$125.00	2,870,000	
OTHER	2000	131,000			ACRE	$15.00	1,965,000	
	1999	131,300			ACRE	$15.00	1,970,000	
RICE	2000	6,200	3.50	21,700	TON	$160.00		$3,472,000
	1999	5,530	3.21	17,800	TON	$176.00		$3,126,000
SAFFLOWER	2000	9,500	1.72	16,300	TON	$217.00		$3,524,000
	1999	14,600	1.60	23,400	TON	$289.00		$6,766,000
SILAGE, CORN	2000	33,600	28.89	971,000	TON	$18.00		$17,944,000
	1999	32,900	28.15	925,500	TON	$18.00		$16,206,000
SILAGE, OTHER	2000	22,600	10.32	233,100	TON	$24.00		$5,489,000
INCLUDES GREEN CHOP	1999	23,700	13.36	317,000	TON	$18.00		$5,579,000

FIELD CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	GROSS VALUE PER UNIT	GROSS VALUE TOTAL
SUGAR BEETS	2000	14,600	28.40	415,600	TON	$32.00	$13,361,000
	1999	11,200	30.01	334,700	TON	$39.00	$13,155,000
WHEAT	2000	30,300	2.60	78,700	TON	$88.00	$6,923,000
	1999	33,500	3.13	104,700	TON	$85.00	$8,925,000
OTHER*	2000	1,140					$536,000
	1999	1,160					$416,000
TOTAL	2000	420,000					$134,310,000
	1999	434,000					$140,272,000

NUMBERS MAY NOT COMPUTE EXACTLY DUE TO ROUNDING

*INCLUDES BARLEY, SUNFLOWERS, SUDAN FOR PAPER, CORN NUTS, AND OATS FOR GRAIN

SEED CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	GROSS VALUE PER UNIT	GROSS VALUE TOTAL
BEAN SEED, ALL*							
KIDNEY BEAN	2000	2,450	23.30	57,000	CWT	$33.00	$1,882,000
	1999	2,020	22.00	44,000	CWT	$39.00	$1,730,000
BEANS, OTHER	2000	308	15.00	4,770	CWT	$32.10	$153,000
	1999	N/A					
POTATOES, SEED	2000	1,035	277.00	286,305	CWT	$9.20	$2,647,000
	1999	1,017	374.00	379,875	CWT	$14.40	$5,487,000
VEGETABLE SEED	2000	810					$2,941,000
	1999	690					
MISCELLANEOUS, SEED	2000	50					$39,000
CLOVER, SUDAN, GRAIN & ETC.*	1999	1,120					$410,000
TOTAL	2000	4,650					$7,662,000
	1999	4,850					$11,668,000

NUMBERS MAY NOT COMPUTE EXACTLY DUE TO ROUNDING

*INCLUDES CERTIFIED SEED

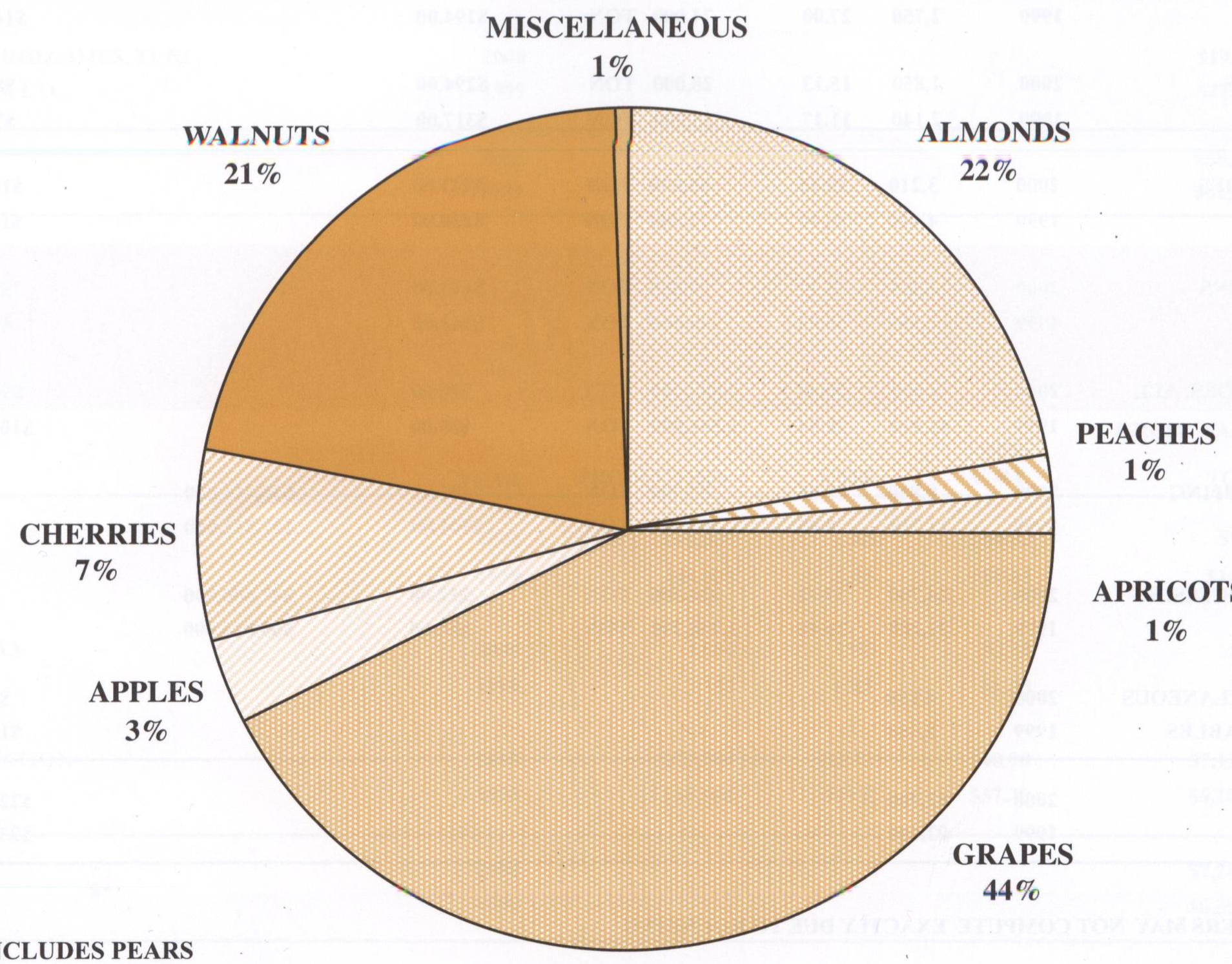
FRUIT AND NUT CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	GROSS VALUE PER UNIT	GROSS VALUE SUBTOTAL	GROSS VALUE TOTAL
ALMOND, MEATS	2000	41,800	0.87	36,400	TON	$2,400.00		$87,306,000
	1999	41,200	1.05	43,200	TON	$1,614.00		$69,801,000
ALMOND, HULLS	2000			91,000	TON	$75.00		$6,819,000
	1999			108,000	TON	$65.00		$4,778,000
APPLES, ALL	2000	5,510	10.40	57,500	TON	$589.00		$33,865,000
	1999	5,480	14.90	81,500	TON	$605.00		$49,323,000
FRESH	2000			40,066	TON	$819.00	$32,802,000	
	1999			57,065	TON	$838.00	$47,807,000	
PROCESSING	2000			17,436	TON	$61.00	$1,063,000	
	1999			24,457	TON	$62.00	$1,516,000	
APRICOTS	2000	2,620	9.98	26,200	TON	$210.00		$5,496,000
	1999	2,220	9.00	20,000	TON	$300.00		$5,986,000
CHERRIES, ALL	2000	14,000	2.16	30,200	TON	$2,720.00		$82,186,000
	1999	12,600	3.47	43,700	TON	$1,640.00		$71,844,000
FRESH	2000			23,733	TON	$3,356.00	$79,648,000	
	1999			36,076	TON	$1,889.00	$68,148,000	
PROCESSING	2000			6,442	TON	$394.00	$2,538,000	
	1999			7,575	TON	$488.00	$3,696,000	
GRAPES, ALL	2000	81,100	7.73	627,000	TON	$474.00		$296,888,000
	1999	83,000	6.69	555,000	TON	$525.00		$291,197,000
TABLE, CRUSHED	2000	2,781	9.49	26,400	TON	$165.00	$4,345,000	
	1999	2,862	4.58	13,100	TON	$180.00	$2,368,000	
WINE, ALL	2000	78,300	7.68	601,000	TON	$487.00	$292,543,000	
	1999	80,100	6.77	542,000	TON	$533.00	$288,829,000	
FRESH	2000			2,830	TON	$387.00	$1,095,000	
	1999			6,330	TON	$625.00	$3,957,000	
CRUSHED	2000			598,400	TON	$487.00	$291,448,000	
	1999			535,700	TON	$532.00	$284,872,000	
PEACHES, ALL	2000	2,800	21.36	59,800	TON	$316.00		$18,877,000
	1999	2,720	19.12	52,000	TON	$253.00		$13,167,000
CLINGSTONE	2000	2,040	22.40	45,700	TON	$233.00	$10,648,000	
	1999	2,240	19.90	44,600	TON	$238.00	$10,615,000	
FREESTONE	2000	760	18.60	14.140	TON	$582.00	$8.229.000	
	1999	477	15.60	7,440	TON	$343.00	$2,552,000	

FRUIT AND NUT CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PER ACRE	TOTAL	UNIT	GROSS VALUE PER UNIT	TOTAL
PEARS	2000	735	13.80	10,140	TON	$125.00	$1,268,000
	1999	717	16.10	11,540	TON	$235.00	$2,712,000
WALNUTS, ENGLISH	2000	40,100	1.23	49,310	TON	$1,200.00	$59,167,000
	1999	39,100	1.60	62,630	TON	$983.00	$61,572,000
MISCELLANEOUS	2000	1,129					$4,439,000
	1999	991					$6,433,000
TOTAL	2000	190,000					$596,311,000
	1999	188,000					$576,830,000

SAN JOAQUIN COUNTY'S FRUIT AND NUT ACREAGE



* INCLUDES PEARS

VEGETABLE CROPS

CROP	YEAR	PRODUCTION HARVESTED ACREAGE	PER ACRE	TOTAL	UNIT	GROSS VALUE PER UNIT	SUBTOTAL	TOTAL
ASPARAGUS	2000	23,600	1.34	31,600	TON	$1,828.00		$57,840,000
	1999	23,100	1.47	33,800	TON	$1,756.00		$59,423,000
CORN, SWEET	2000	2,460	7.70	19,000	TON	$199.00		$3,774,000
	1999	2,220	6.02	13,400	TON	$161.00		$2,157,000
CUCUMBERS	2000	2,470	7.25	17,900	TON	$182.00		$3,248,000
	1999	3,030	7.00	21,200	TON	$240.00		$5,082,000
MELONS, ALL	2000	2,980	24.30	72,300	TON	$123.00		$8,903,000
	1999	2,920	13.40	39,000	TON	$137.00		$5,357,000
WATERMELON	2000	2,380	28.00	66,700	TON	$107.00	$7,153,000	
	1999	1,560	17.10	26,600	TON	$128.00	$3,397,000	
OTHER	2000	600	9.26	5,600	TON	$315.00	$1,750,000	
	1999	1,356	9.11	12,400	TON	$159.00	$1,960,000	
ONIONS, DRY	2000	4,150	26.00	107,600	TON	$190.00		$20,491,000
	1999	2,750	27.00	74,000	TON	$194.00		$14,333,000
PEPPERS	2000	1,850	15.13	28,000	TON	$294.00		$8,219,000
	1999	2,140	11.17	23,900	TON	$317.00		$7,570,000
POTATOES	2000	3,210	15.45	49,600	TON	$221.00		$10,960,000
	1999	4,410	16.40	72,300	TON	$220.00		$15,947,000
PUMPKINS	2000	4,200	14.17	59,400	TON	$143.00		$8,472,000
	1999	3,150	12.93	40,800	TON	$143.00		$5,822,000
TOMATOES, ALL	2000	33,580	30.43	1,022,000	TON	$90.00		$96,014,000
	1999	42,910	28.94	1,241,800	TON	$80.00		$103,725,000
SHIPPING	2000	8,880	11.01	97,700	TON	$495.00	$48,414,000	
	1999	11,710	8.85	103,600	TON	$364.00	$37,711,000	
PROCESSING	2000	24,700	37.42	924,300	TON	$52.00	$47,600,000	
	1999	31,200	36.48	1,138,200	TON	$58.00	$66,014,000	
MISCELLANEOUS	2000	4,150						$8,787,000
VEGETABLES	1999	5,450						$10,976,000
TOTAL	2000	82,700						$226,708,000
	1999	92.100						$230.392.000

NUMBERS MAY NOT COMPUTE EXACTLY DUE TO ROUNDING

NURSERY PRODUCTS

ITEM	YEAR	QUANTITY SOLD BY PRODUCERS	UNIT	GROSS VALUE TOTAL
GRAPEVINES, STRAWBERRY PLANTS,	2000	48,099,000	PLANT	$6,158,000
FRUIT & NUT TREES	1999	36,985,000	PLANT	$2,636,000
VEGETABLE PLANTS	2000	159,541,000	PLANT	$3,503,000
	1999	122,651,000	PLANT	$4,830,000
FLOWERING POTTED PLANTS	2000	2,753,000	EACH	$10,112,000
	1999	2,516,000	EACH	$8,649,000
FOLIAGE PLANTS	2000	6,959,000	EACH	$15,209,000
	1999	10,042,000	EACH	$16,699,000
BEDDING PLANTS	2000	778,000	PKG	$3,508,000
	1999	586,000	PKG	$3,154,000
WOODY ORNAMENTALS	2000	8,728,000	EACH	$30,223,000
	1999	3,637,000	EACH	$23,271,000
CHRISTMAS TREES	2000	2,450	EACH	$63,000
	1999	1,960	EACH	$47,000
BULBS, RHIZOMES, TURF,	2000			$19,481,000
CACTUS, ETC.	1999			$22,651,000
TOTAL	2000			$88,257,000
	1999			$81,937,000

APIARY PRODUCTS

ITEM	YEAR	PRODUCTION	UNIT	PER UNIT	GROSS VALUE TOTAL
HONEY	2000	146,000	LBS	$0.63	$92,000
	1999	248,000	LBS	$0.65	$161,000
BEESWAX	2000	3,584	LBS	$1.30	$4,700
	1999	3,150	LBS	$1.35	$4,300
POLLINATION	2000	173,700	HIVE	$40.90	$7,113,000
	1999	166,500	HIVE	$37.20	$6,189,000
TOTAL	2000				$7,210,000
	1999				$6,354,000

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LIVESTOCK AND POULTRY

ITEM	YEAR	NO.HEAD	WEIGHT	UNIT	PER UNIT	GROSS VALUE TOTAL
CATTLE & CALVES	2000	60,700	509,900	CWT	$55.30	$28,195,000
	1999	69,000	505,500	CWT	$51.30	$25,946,000
SHEEP & LAMBS	2000	12,400	12,200	CWT	$82.30	$1,004,000
	1999	18,400	22,100	CWT	$76.40	$1,688,000
BROILERS*	2000	1,760,000	6,160,000	LBS	$0.37	$2,279,000
	1999	1,900,000	7,125,000	LBS	$0.40	$2,850,000
OTHER CHICKENS	2000	1,798,000		EACH	$0.02	$36,000
& SPENT HENS	1999	1,976,000		EACH	$0.03	$67,000
TURKEYS	2000	527,000	8,042,000	LBS	$0.42	$3,377,000
	1999	250,000	3,813,000	LBS	$0.41	$1,563,000
OTHER LIVESTOCK*	2000					$6,687,000
	1999					$4,862,000
TOTAL	2000					$41,578,000
	1999					$36,976,000

*revised

Other livestock includes hogs, squab, ducks and other fowl.

LIVESTOCK AND POULTRY PRODUCTS

ITEM	YEAR	PRODUCTION	UNIT	PER UNIT	GROSS VALUE SUBTOTAL	TOTAL
MILK, ALL	2000	20,513,000	CWT	$11.60		$237,954,000
	1999	18,972,000	CWT	$13.60		$257,451,000
MARKET	2000	20,267,000	CWT	$11.60	$235,475,000	
	1999	18,731,000	CWT	$13.60	$254,362,000	
MANUFACTURING	2000	246,000	CWT	$10.10	$2,479,000	
	1999	241,000	CWT	$12.80	$3,089,000	
WOOL	2000	76,000	LBS	$0.41		$31,000
	1999	98,000	LBS	$0.28		$27,000
EGGS, CHICKEN	2000	15,814,000	DOZ	$0.44		$6,880,000
	1999	25,244,000	DOZ	$0.44		$11,037,000
MANURE	2000	345,000	TON	$5.01		$1,728,000
	1999	316,000	TON	$4.00		$1,265,000
TOTAL	2000					$246,593,000
	1999					$269,780,000

WALNUT HISTORICAL INFORMATION AND ALTERNATIVE USES

Intact walnuts have been recovered from the ruins of Pompeii.

In ancient Rome, walnuts were considered capable of increasing human fertility. This is believed to have started the Mediterranean custom of throwing walnuts at weddings.

The name "English" walnut originated from widespread walnut trade via early English merchant ships.

In parts of Italy a three-chambered walnut is still considered protection from witches and lightning.

In the 1500 and 1600's, walnuts were used as herbal medicines. They were also used to treat baldness, toothache, headache, rabies, skin diseases, and ringworm.

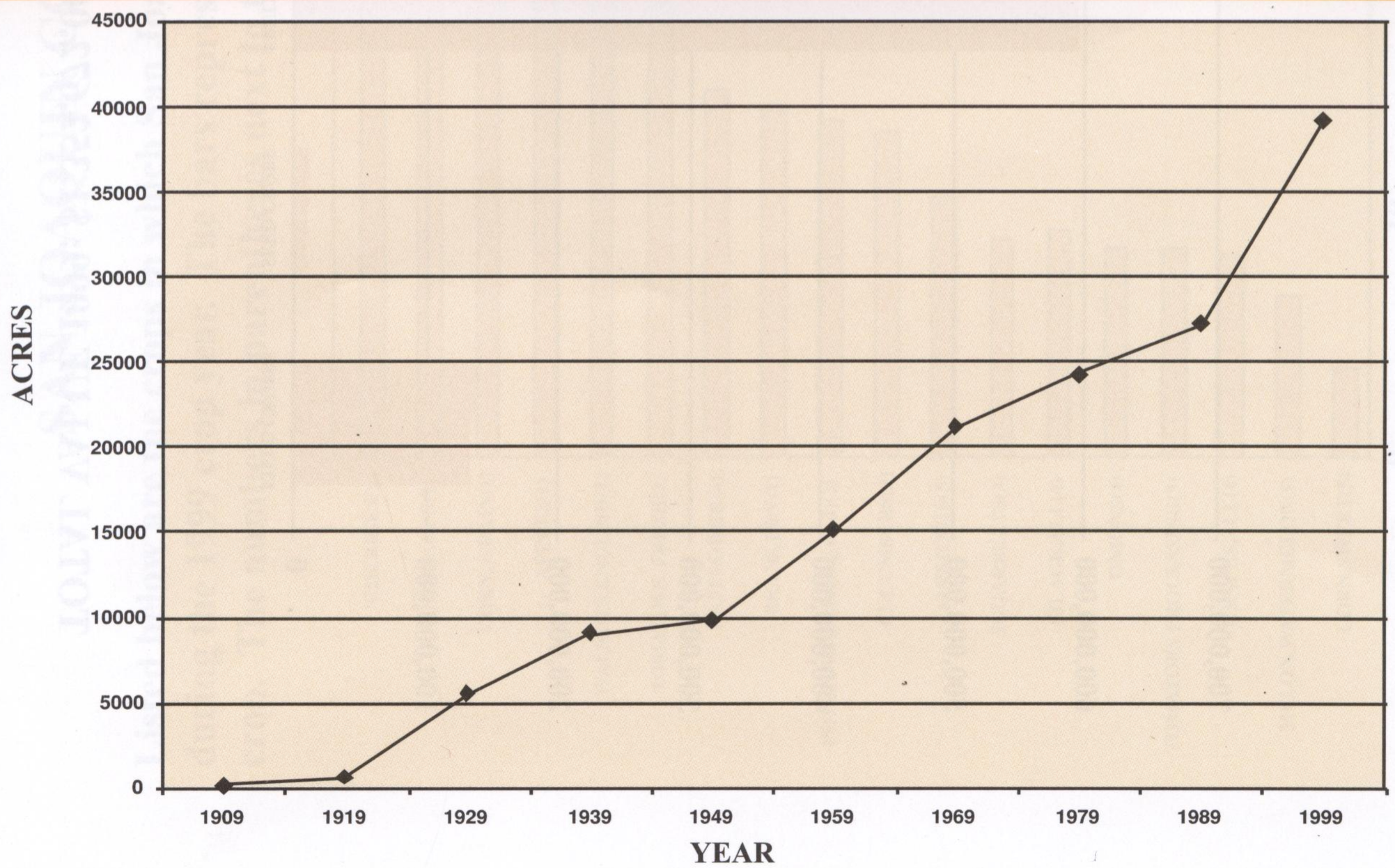
Walnut components, ellagic acid and juglone, are being studied for use as cancer therapy drugs.

Walnut shells are ground and used as anti-skid agents for tires, blasting grit, activated carbon, a lubricant for oil drilling equipment, and sometimes as an adulterant of spices.

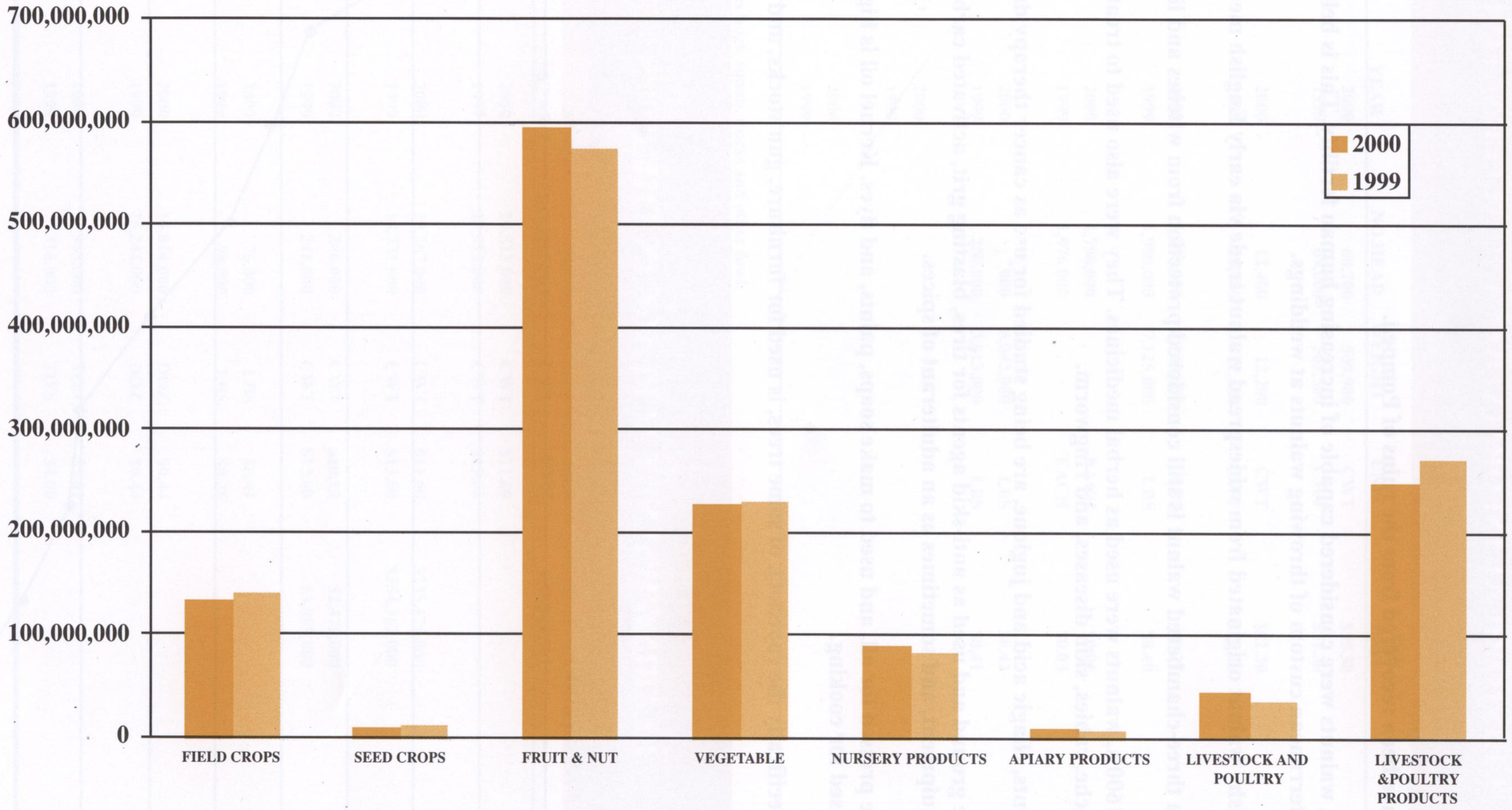
Walnut husks are pressed for oil, and used to make soaps, paints, and dyes. Kernel oil is high in unsaturated fats and is used for cooking.

Walnut wood, specifically the rootstock of some trees, is used for furniture, gun stocks, and expensive wood veneers.

BEARING WALNUT ACREAGE IN THE 1900'S



CROP CATEGORY GROSS VALUES

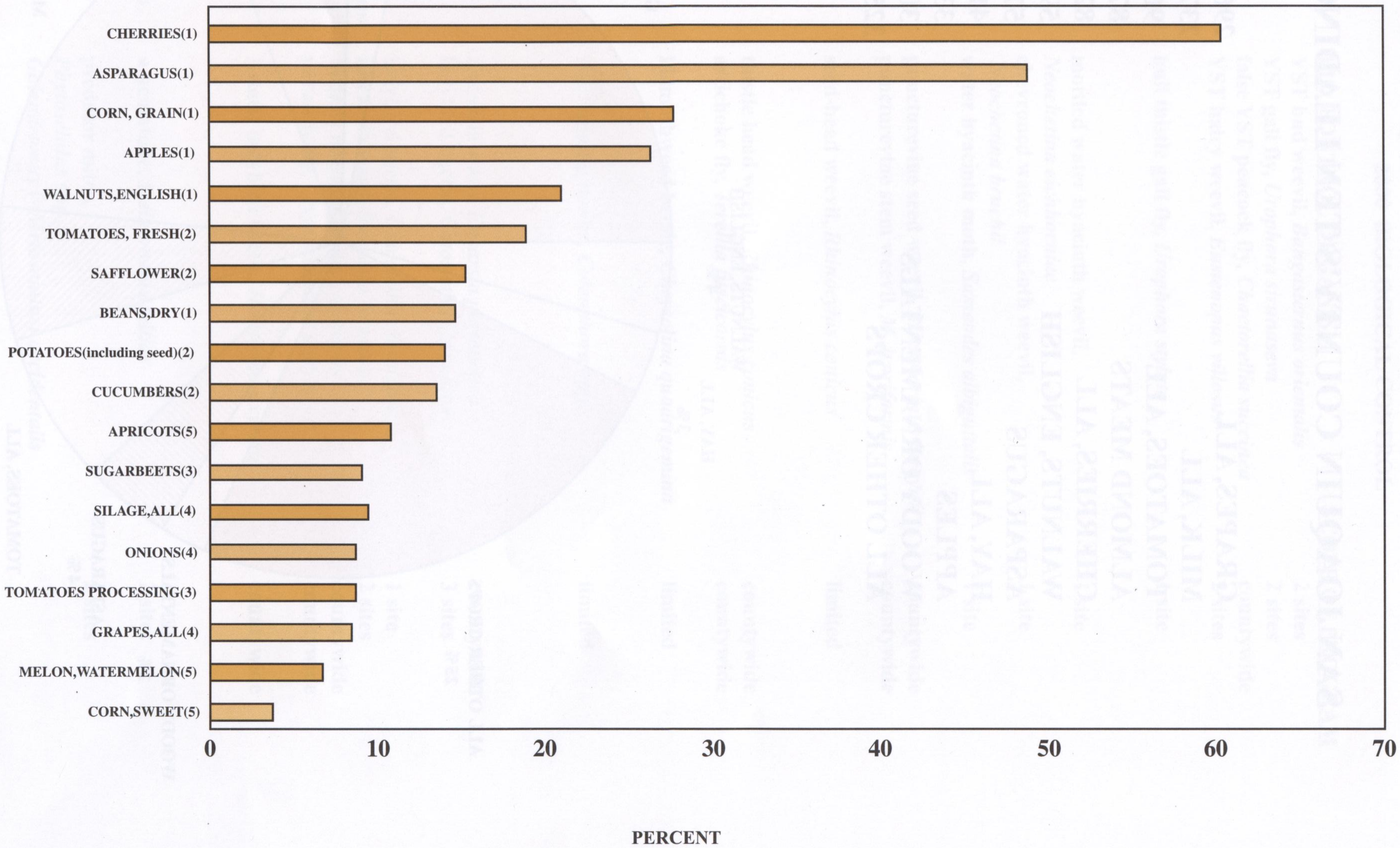


TOTAL VALUE 1999: $1,352,672,00

TOTAL VALUE 2000: $1,348,629,000

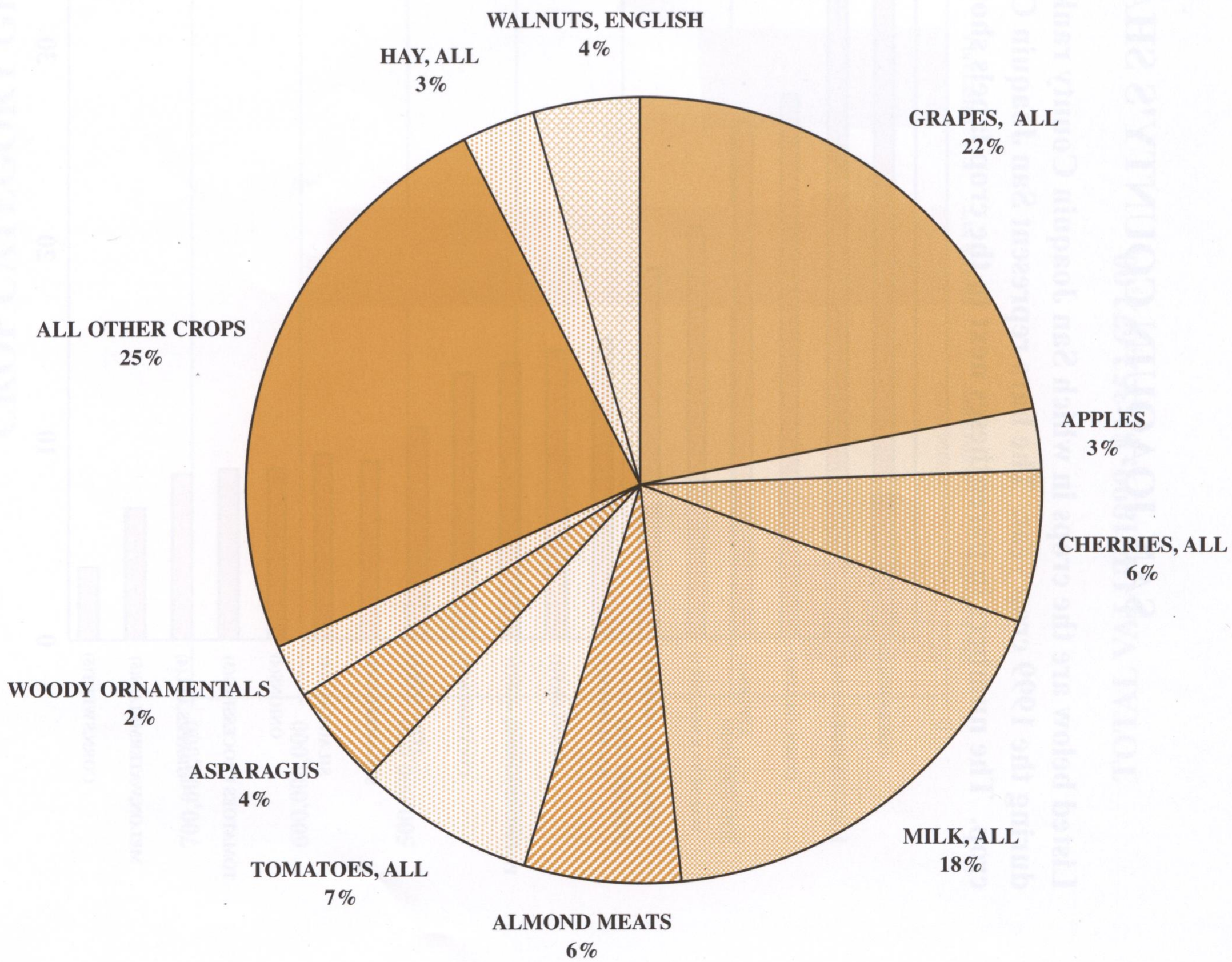
SAN JOAQUIN COUNTY'S SHARE OF PRODUCTION

Listed below are the crops in which San Joaquin County ranked in the top five in the State based on gross value during the 1999 crop year. The bars represent San Joaquin County's percentage of the state value for that crop. The numbers in parentheses next to the crop labels show San Joaquin County's ranking for that crop.



SAN JOAQUIN COUNTY'S TEN LEADING CROPS

GRAPES, ALL	296,888,000
MILK, ALL	237,954,000
TOMATOES, ALL	96,014,000
ALMOND MEATS	87,306,000
CHERRIES, ALL	82,186,000
WALNUTS, ENGLISH	59,167,000
ASPARAGUS	57,840,000
HAY, ALL	41,316,000
APPLES	33,865,000
WOODY ORNAMENTALS	30,223,000
ALL OTHER CROPS	325,871,000

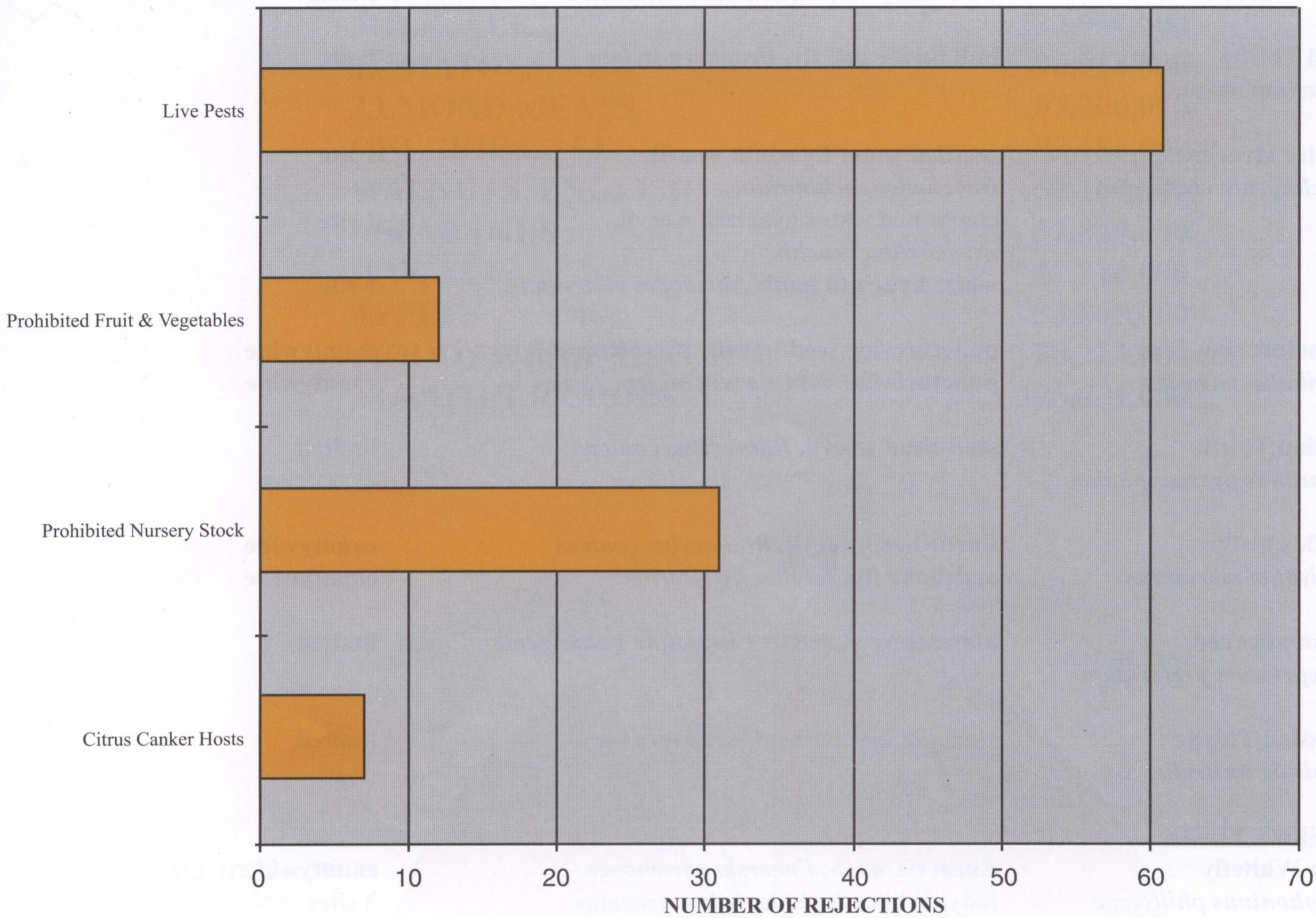


SAN JOAQUIN COUNTY SUSTAINABLE AGRICULTURE
2000 BIOLOGICAL CONTROL

WEED PEST	BIO CONTROL ORGANISM	SCOPE OF PROGRAM
Yellow Starthistle (YST)	YST bud weevil, *Bangasternus orientalis*	2 sites
Centaurea solstitialis	YST gall fly, *Urophora sirunaseva*	2 sites
	false YST peacock fly, *Chaetorellia succinea*	countywide
	YST hairy weevil, *Eustenopus villosus*	2 sites
Bull Thistle	bull thistle gall fly, *Urophora stylata*	1 site
Cirsium vulgare		
Water Hyacinth	mottled water hyacinth weevil,	1 site
Eichhornia crassipes	*Neochetina eichhorniae*	
	chevroned water hyacinth weevil,	1 site
	Neochetina bruchii	
	water hyacinth moth, *Sameodes albiguttalis*	1 site
Puncturevine	puncturevine seed weevil, *Microlarinus lareynii*	countywide
Tribulus terrestris	puncturevine stem weevil, *M. lypriformis*	countywide
Italian Thistle	seed-head weevil, *Rhinocylus conicus*	limited
Carduus pycnocephalus		
Milk Thistle	thistle head weevil, *Rhinocylus conicus*	countywide
Silybum marianum	artichoke fly, *Terellia fuscicornis*	countywide
Klamathweed	klamathweed beetle, *Chrysolina quadrigemina*	limited
Hypericum perforatum		
Russian Thistle	stem mining moths, *Coleophora* spp.	limited
Salsola australis		
INSECT PESTS		
Ash Whitefly	Encarsia wasp, *Encarsia partenopea*	countywide
Siphoninus phillyreae	ladybird beetle, *Clitostethus arcuatus*	3 sites
Greenhouse Whitefly	ladybird beetle, *Clitostethus arcuatus*	1 site
Trialeurodes vaporariorum	Encarsia wasp, *Encarsia formosa*	2 sites
Cottony Cushion Scale	Vedalia beetle, *Rodalia cardinalis*	countywide
Icerya purchasi	parasitic fly, *Cryptochaetum iceryae*	countywide
Aphid & Scale Insects	Asiatic ladybird beetle, *Harmonia axyridis*	countywide
(numerous species)		
GREENHOUSE PESTS		
Fungus Gnats, *Sciara* spp.	a nematode, *Steinernema feltiae*	2 sites
Twospotted mites	predator mites,	2 sites
Tetranychus spp.	*Phytoseiulus* spp.	
	Galendromus (=*Metaseiulus*) *occidentalis*	

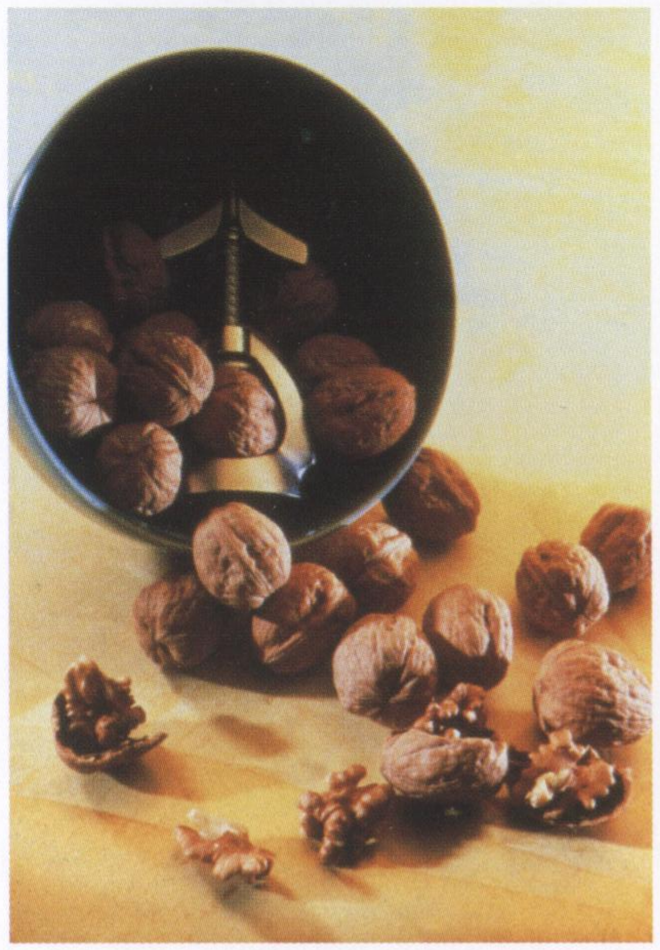
PEST EXCLUSION REJECTIONS 2000

The following depicts the number of Exclusion rejection notices issued on shipments in violation of California quarantines. All shipments of plant material entering San Joaquin County are inspected as a function of the Agricultural Commissioner's Pest Exclusion Program.



PEST INTERCEPTED	SOURCE	SCOPE OF PROGRAM
Live Pests		
Reniform Nematode	Nurseries	1 Rejection/Destroyed
Quarantine Scales	Nurseries, Express Carrier	26 Rejections/Destroyed
Quarantined Snails and Slugs	Nurseries, Express Carrier	12 Rejections/Destroyed
Other Quarantined Insects	Nurseries, Express Carrier	22 Rejections/Destroyed
Prohibited Fruit & Vegetables	P.O., UPS, Specialty Markets	12 Rejections/Destroyed
Citrus Canker Hosts	Specialty Markets, P.O.	7 Rejections/Destroyed
Prohibited Nursery Stock	Nurseries, P.O.	31 Rejections/Destroyed

GENERAL SAN JOAQUIN COUNTY INFORMATION

COUNTY SEAT	STOCKTON
COUNTY POPULATION (1997)	563,598
POPULATION PER SQUARE MILE	379
INCORPORATED CITIES (7)	
ESCALON, LATHROP, LODI, MANTECA, RIPON, STOCKTON AND TRACY	
LAND AREA (SQUARE MILES)	1,400
LAND IN FARMS (ACRES - 1997)	808,838
TOTAL CROPLAND (ACRES - 1997)	559,435
IRRIGATED CROPLAND (ACRES - 1997)	519,021
NUMBER OF FARMS (1997)	3,862
AVERAGE SIZE OF FARMS (ACRES - 1997)	209
AGRICULTURAL WORK FORCE	15,700
LOWEST ELEVATION IN COUNTY (DELTA AREA)	12' BELOW SEA LEVEL
HIGHEST ELEVATION IN COUNTY (SOUTHWESTERN AREA)	3065' ABOVE SEA LEVEL
LENGTH OF COUNTY (NORTH TO SOUTH)	75 MILES
WIDTH OF COUNTY (EAST TO WEST)	65 MILES
AVERAGE JANUARY TEMPERATURE	53°
AVERAGE JULY TEMPERATURE	93°
AVERAGE ANNUAL RAINFALL	
NORTH COUNTY	16 INCHES
SOUTH COUNTY	14 INCHES
EAST COUNTY	12 INCHES
WEST COUNTY	9 INCHES

AGRICULTURAL COMMISSIONER'S OFFICE
SAN JOAQUIN COUNTY
P.O. BOX 1809
STOCKTON, CA 95201