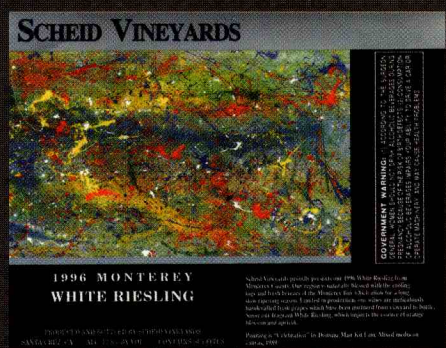
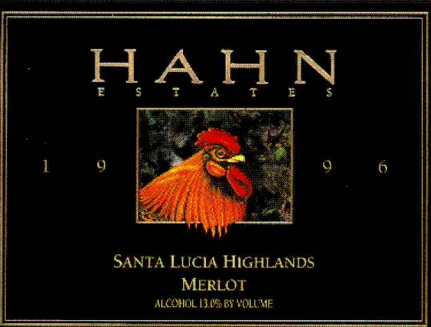
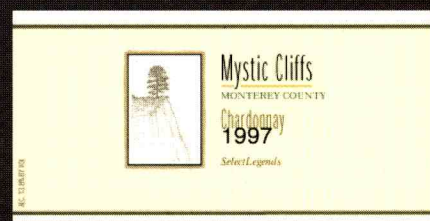
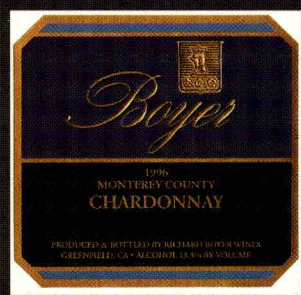
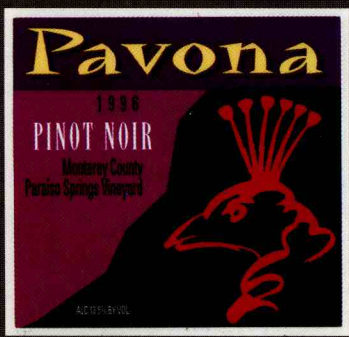
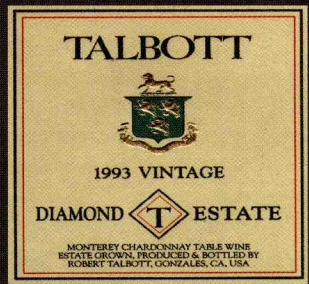
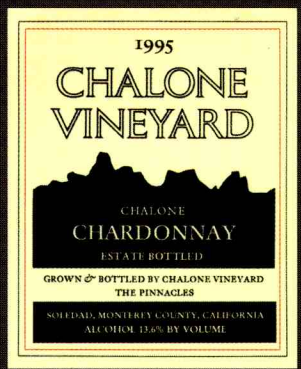
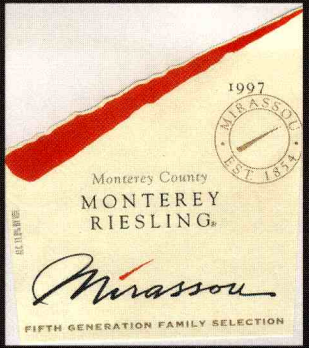
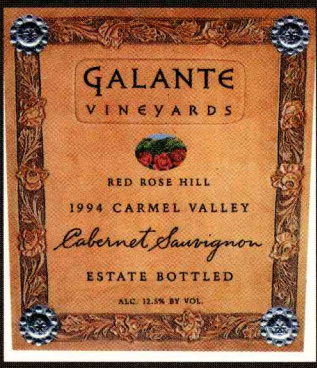
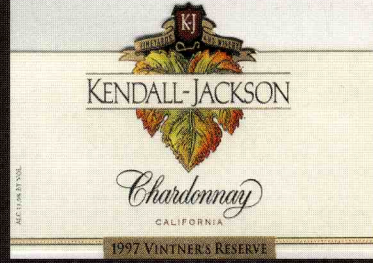


MONTEREY COUNTY
AGRICULTURAL COMMISSIONER
1998
CROP REPORT





French Colombard Grapes planted in 1961. First solid set irrigation.



San Vicente Vineyards harvesting wine grapes early 70's
Photos courtesy of Mirassou Vineyards

MONTEREY COUNTY



AGRICULTURAL COMMISSIONER

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PHONE: (831) 759-7325 FAX: (831) 422-5003

ERIC LAURITZEN

AGRICULTURAL COMMISSIONER

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California Department of Food & Agriculture
and

The Honorable Board of Supervisors of Monterey County

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Simon Salinas	1 st District
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Edith Johnson	4 th District
Dave Potter	5 th District

It is a pleasure to present the annual Crop Report for Monterey County for 1998 production. This report, produced pursuant to the provisions of Section 2279 of the California Food & Agriculture Code, reflects a record production value of nearly \$2.3 billion. The figures contained herein are gross values and do not represent net profit or loss experienced by individual growers. The total value of Monterey County agriculture increased 1.17% over the 1997 production value.

This is only a modest increase over 1997, but it is significant considering some of the challenges that the industry faced. Substantial spring rains delayed planting and negatively affected growing conditions, especially impacting head lettuce production. There was also a decrease in wine grape yield, a drop in strawberry acreage and a tomato processing facility relocated. Additionally, there is increasing competition from foreign countries such as Mexico and South America. However, the industry continues to demonstrate its adaptability, innovation and diversity by effectively responding to the ever-changing pressures.

The most significant increase in 1998 was attributed to salad products, which were up nearly \$70 million as consumer demand grows. Broccoli production was up \$21 million due to increased unit value. Nursery products were up \$19 million, which was driven largely by commercial transplants of vegetables. Spinach value increased by nearly \$12 million with growth in both acreage and value. Increases were also noted in miscellaneous vegetables, spring mix lettuces, carrots, seed crops, mushrooms, artichokes and cabbage. While the beef cattle industry continued to be a mainstay having a notable value of over \$19 million.

Head lettuce value dropped by \$64 million, primarily as a result of wet spring conditions. Grape acreage continued to rise, but gross value was significantly lower than 1997's record production. Cauliflower sustained a \$12 million reduction with reduced acreage and production and tomatoes were down \$12 million. The decrease in strawberry acreage accounted for an \$11 million decline. Other values that dropped as compared to 1997 were parsley, celery, leaf lettuce, green onions, rappini and kale.

Monterey County continues to be a leader in exports with nearly one billion pounds of produce shipped to more than 50 countries in 1998. Total exports were up nearly 28 million pounds over 1997. Exports, coupled with an increasing consumer demand for value-added, ready-to-eat products, are merely two of the positive indicators of the strength and importance that agriculture plays in Monterey County. The production of this crop report is annual reminder of significance of agriculture to this community. Recognition for the compilation of this report goes to Gerry Willey, Deputy Agricultural Commissioner, and the many staff who assisted in gathering the information. I would also like to thank the agricultural industry and others who helped provide assistance and information to complete this report.

Sincerely,

Eric Lauritzen
Agricultural Commissioner

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LAYOUT: COOPERATIVE EFFORT OF THE AGRICULTURAL COMMISSIONER'S STAFF

COVER LABELS: COURTESY OF MONTEREY COUNTY VINTNERS AND GROWERS ASSOCIATION and
INDIVIDUAL WINERIES

THANK YOU TO ALL WHO REPORT STATISTICS

(F.O.B. values in this report include packing, harvesting, cooling, icing, pallets, and any local charges)



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Addison Church

Carol Montgomery

APPROXIMATE WEIGHTS USED FOR FRESH MARKET CONVERSION

UNIT/CROP	POUNDS PER CARTON
ANISE	37
APPLES	38
ARTICHOKES	23
ASPARAGUS	32
AVOCADOS	26
BOK CHOY	50
BROCCOLI	23
BRUSSELS SPROUTS	25
BUSHBERRIES	9
CABBAGE, All	50
CACTUS PEARS	23
CARROTS	50
CAULIFLOWER	23
CELERY	60
ENDIVE	25
ESCAROLE	25
KALE	20
KIWI FRUIT	7
LETTUCE, Head	50
LETTUCE, Leaf	25
NAPA	50
ONIONS, Dry	50
ONIONS, Green	13
PARSLEY	21
PEPPERS, Bell	30
RADICCHIO	9
RADISHES	12
RAPPINI	23
RASPBERRIES	6
ROMAINE	37
SALAD PRODUCTS	20
SNOW PEAS	12
SPINACH	20
SQUASH	30
STRAWBERRIES	12
TOMATOES	25
TOMATOES, Cherry	12

FRUITS AND NUTS

CROP	YEAR	PRODUCTION			UNIT	F. O. B. VALUE	
		ACREAGE	PER ACRE	TOTAL		PER UNIT	TOTAL
APPLES	1998	267.00	14.23	3,800	TON	\$199.47	\$758,000
TOTAL	1997	219.00	12.42	2,721	"	207.64	565,000
Fresh	1998			475	"	200.00	95,000
	1997			125	"	216.00	27,000
Processing	1998			3,325	"	199.40	663,000
	1997			2,596	"	207.24	538,000
AVOCADOS*	1998	92.00	5.62	517	"	3,193.42	1,651,000
	1997	92.00	7.16	659	"	2,262.52	1,491,000
BUSHBERRIES	1998	20.50	17.17	352	"	443.18	156,000
	1997	18.00	6.17	111	"	2,514.00	279,000
LEMONS	1998	1,094.40	12.08	13,217	"	250.96	3,317,000
	1997	1,030.40	11.07	11,402	"	244.70	2,790,000
GRAPES	1998	39,901.00	3.74	148,860	"	1,199.85	178,610,000
	1997	36,114.00	4.64	167,488	"	1,214.49	203,412,000
KIWI FRUIT	1998	8.10	3.09	25	"	2,000.00	50,000
	1997	8.10	2.10	17	"	1,647.05	28,000
RASPBERRIES	1998	90.00	3.79	341	"	4,002.93	1,365,000
	1997	70.00	4.41	309	"	5,184.47	1,602,000
STRAWBERRIES	1998	6,540.00	29.40	192,300	"	1,031.80	198,415,000
TOTAL	1997	6,996.00	29.60	207,082	"	1,012.96	209,766,000
Fresh	1998			172,650	"	1,089.71	188,139,000
	1997			181,391	"	1,067.00	193,544,000
Processing	1998			19,650	"	522.95	10,276,000
	1997			39,455	"	411.15	16,222,000
WALNUTS	1998	376.00	1.19	449	"	1,077.95	484,000
	1997	402.60	0.88	355	"	1,301.00	462,000
MISCELLANEOUS	1998			332	"	771.08	256,000
TOTAL**	1997			68	"	758.00	51,300
FRUITS AND NUTS	1998	48,319.00		FRUITS AND NUTS		\$385,062,000	
TOTAL ACRES	1997	44,200.10		TOTAL VALUE		\$420,446,300	

*These totals include producing & non-producing new plantings. **Includes Processed Raspberries & Bushberries, Oranges, Grapefruit. ***Revised acreage & per acre yield-some processing acreage added by mistake.

GRAPE SUPPLEMENTARY

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
GRAPES	TOTAL	39,901	3.74	148,860.00	TON	\$1,199.85	\$178,610,000
Bearing	1998	32,131					
Nonbearing or not harvested		7,770					
GRAPES	TOTAL	36,114	4.64	167,488.04	TON	\$1,214.49	\$203,412,356
Bearing	1997	28,294					
Nonbearing or not harvested		7,820					

<i>TOTAL ACREAGE OF WINE GRAPES BY VARIETY</i>			
<i>VARIETY</i>	<i>ACRES</i>	<i>AVERAGE PRICE PER TON</i>	<i>TOTAL TONS</i>
<i>Cabernet Franc</i>	168.38	\$1,552.08	748.35
<i>Cabernet Sauvignon</i>	3,607.17	1,266.38	16,422.92
<i>Chardonnay</i>	14,555.33	1,473.37	69,222.10
<i>Chenin blanc</i>	1,049.77	737.31	5,282.57
<i>Gamay (Napa)</i>	174.45	872.50	860.36
<i>Gamay Beaujolais</i>	292.46	990.21	1,105.52
<i>Gewurztraminer</i>	535.49	908.28	2,122.76
<i>Grenache</i>	121.38	1,241.42	429.14
<i>Malbec</i>	18.06	1,000.00	65.72
<i>Merlot</i>	2,989.60	1,360.44	14,675.21
<i>Muscat blanc/M. Cannelli</i>	136.71	940.70	394.14
<i>Petit Strah</i>	314.41	988.04	791.49
<i>Pinot blanc</i>	559.50	1,018.57	1,502.81
<i>Pinot gris</i>	102.07	1,812.42	261.84
<i>Pinot noir</i>	1,324.65	1,526.78	5,608.61
<i>Sangiovese</i>	144.65	1,234.43	561.60
<i>Sauvignon blanc</i>	997.70	1,008.33	5,855.50
<i>Semillon</i>	127.25	908.84	615.84
<i>Syrah</i>	131.20	1,357.43	609.19
<i>Viognier</i>	48.66	1,466.29	110.45
<i>White Riesling</i>	1,377.77	821.88	7,537.75
<i>Zinfandel</i>	1,163.61	1,059.65	4,153.75
<i>Other Red*</i>	1,849.63	1,264.34	8,397.09
<i>Other White**</i>	340.91	1,378.22	1,525.20

**Barbera, Cinsault, Dolcetto, LaGrein, Malbec, Mourvedre, Nebbiolo, Petit Verdot, Refosco, Souzao*

***French Colombard, Gray Riesling, Inzolia, Malvasia bianca, Marsanne, Muscat Orange, Rousanne, Sylvaner*

VEGETABLE CROPS

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
ANISE	1998	492	12.19	5,999	TON	\$540.59	\$3,243,000
	1997	170	12.47	2,120	"	426.42	904,000
ARTICHOKES TOTAL	1998	6,451	6.68	43,115	"	899.94	38,801,000
	1997	6,426	6.27	40,300	"	927.24	37,368,000
Fresh	1998			27,700	"	1,216.10	33,686,000
	1997			24,950	"	1,276.35	31,845,000
Processing (Regular)	1998			12,915	"	391.17	5,052,000
	1997			12,300	"	442.85	5,447,000
Processing (Culls)	1998			2,500	"	25.20	63,000
	1997			3,030	"	25.08	76,000
ASPARAGUS	1998	3,412	2.25	7,670	"	1,681.88	12,900,000
	1997	3,399	2.10	7,130	"	1,664.65	11,869,000
BOK CHOY	1998	640	16.82	10,764	"	299.61	3,225,000
	1997	1,318	16.31	21,500	"	278.51	5,988,000
BROCCOLI TOTAL	1998	53,953	6.69	360,700	"	683.02	246,364,000
	1997	56,067	6.77	379,500	"	593.52	225,241,000
Fresh	1998			285,000	"	642.37	183,075,000
	1997			329,500	"	558.43	184,005,000
Food Service	1998			51,400	"	1,051.13	54,028,000
	1997			36,000	"	991.53	35,695,000
Processing	1998			24,300	"	381.11	9,261,000
	1997			14,000	"	395.79	5,541,000
CARROTS TOTAL	1998	3,285	21.12	69,400	"	179.27	12,441,000
	1997	1,320	18.26	24,100	"	260.12	6,269,000
Fresh	1998			40,200	"	181.32	7,289,000
	1997			14,000	"	286.71	4,014,000
Food Service	1998			742	"	1,359.84	1,009,000
	1997			700	"	1,980.00	1,386,000
Processing	1998			28,458	"	145.58	4,143,000
	1997			9,400	"	92.44	869,000

VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			UNIT	F. O. B. VALUE	
		ACREAGE	PER ACRE	TOTAL		PER UNIT	TOTAL
CABBAGE, All	1998	1,873	17.94	33,600	TON	\$240.51	\$8,081,000
	1997	1,324	18.20	24,100	"	224.31	5,406,000
CAULIFLOWER TOTAL	1998	18,701	8.40	157,000	"	666.48	104,637,000
	1997	19,475	9.40	183,000	"	637.63	116,686,000
Fresh*	1998			144,000	"	613.17	88,296,000
	1997			173,200	"	579.89	100,437,000
Food Service	1998			5,580	"	2,244.98	12,527,000
	1997			6,800	"	2,200.00	14,960,000
Processing	1998			7,420	"	514.02	3,814,000
	1997			2,600	"	495.80	1,289,000
CELERY TOTAL	1998	8,720	34.40	300,000	"	260.27	78,082,000
	1997**	8,478	31.72	269,000	"	308.93	83,100,000
Fresh	1998			288,000	"	251.28	72,369,000
	1997**			257,000	"	300.48	77,224,000
Food Service	1998			5,230	"	894.26	4,677,000
	1997			5,100	"	1,073.14	5,473,000
Processing	1998			6,770	"	153.03	1,036,000
	1997			2,400	"	167.92	403,000
CHARD	1998	561	6.60	3,700	"	498.38	1,844,000
	1997	615	6.57	4,040	"	489.36	1,977,000
CILANTRO	1998	665	9.68	6,440	"	517.08	3,330,000
	1997	913	11.39	10,400	"	453.46	4,716,000
GARLIC TOTAL	1998	1,104	8.35	9,220	"	477.77	4,405,000
	1997**	1,382	8.39	11,596	"	459.04	5,323,000
Fresh	1998			7,700	"	526.62	4,055,000
	1997**			8,984	"	523.12	4,700,000
Processing	1998			1,520	"	230.26	350,000
	1997**			2,612	"	238.48	623,000
HERBS***	1998	69	3,492.75	241,000	BUNCH	4.77	1,150,000
	1997	84	6,654.76	559,000	"	4.65	2,600,000

*Figures combined white & green cauliflower

**Adjusted figures

***Includes: Chervil, Dill, Oregano, Rosemary, Sage, Thyme, etc.

VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
KALE	1998	950	9.00	8,550	TON	\$742.22	\$6,346,000
TOTAL	1997	1,346	9.73	13,100	"	638.47	8,364,000
Fresh (All)	1998			8,030	"	692.40	5,560,000
	1997			12,600	"	612.62	7,719,000
Food Service	1998			520	"	1,511.54	786,000
	1997			500	"	1,290.00	645,000
LEEKs	1998	216	11.76	2,540	"	670.87	1,704,000
	1997	194	11.86	2,300	"	614.78	1,414,000
LETTUCE (All) (see page 12 & 13)	1998	90,573			CTN		569,268,000
	1997	98,416			"		636,833,000
MISC. VEGETABLES	1998	7,194	7.50	53,930	TON	758.63	40,913,000
TOTAL	1997	5,776	8.67	49,967	"	660.72	33,014,000
Fresh*	1998			20,870	"	593.72	12,391,000
	1997			25,528	"	483.47	12,342,000
Food Service**	1998			28,860	"	894.04	25,802,000
	1997			21,922	"	836.78	18,344,000
Processing***	1998			4,200	"	647.62	2,720,000
	1997			2,517	"	924.91	2,328,000
MUSHROOMS	1998			47,032,000	LBS	1.19	55,968,000
	1997			42,652,000	"	1.22	52,183,000
NAPA	1998	858	20.98	18,000	"	293.28	5,279,000
	1997	806	19.85	16,000	"	372.88	5,966,000
ONIONS, Green	1998	1,570	11.40	17,900	"	1,028.32	18,407,000
	1997	1,805	12.74	23,000	"	920.39	21,169,000
ONIONS, Dry	1998	1104	22.26	24,570	TON	\$150.43	\$3,696,000
TOTAL	1997	769	24.32	18,700	"	175.24	3,277,000
Fresh	1998			6,784	"	328.42	2,228,000
	1997			3,910	"	512.53	2,004,000
Processing	1998			17,786	"	82.54	1,468,000
	1997			14,790	"	86.07	1,273,000

*Includes: Beans, Beets, Brussel Sprouts, Cactus Pears, Cardone, Chives, Corn, Cucumbers, Daikon, Edible Flowers, Fava Beans, Gourds, Kohlrabi, assorted Melons, Parsnips, Pimentos, Pumpkins, Turnips, etc. **Includes: Radish, Mixed Vegetables, Onions ***Includes: Processed; Asparagus, Brussel Sprouts, Swiss Chard, Mushrooms

VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
PARSLEY	1998	698	9.40	6,560	TON	\$672.71	\$4,413,000
TOTAL	1997	1,712	8.66	14,820	"	646.01	9,574,000
Fresh	1998			5,135	"	535.93	2,752,000
	1997			12,700	"	564.41	7,168,000
Food Service	1998			325	"	1,286.15	418,000
	1997			120	"	1,441.67	173,000
Dry (Processing)	1998			1,100	"	1,130.00	1,243,000
	1997			2,000	"	1,116.50	2,233,000
PEAS	1998	306	5.20	1,590	"	1,634.59	2,599,000
	1997	168	13.23	2,223	"	825.01	1,834,000
PEPPERS, BELL	1998	531	19.83	10,532	"	355.68	3,746,000
TOTAL	1997	1,026	23.10	23,700	"	194.76	4,616,000
Fresh	1998			6,003	"	442.45	2,656,000
	1997			18,560	"	225.75	4,190,000
Processing	1998			4,529	"	240.67	1,090,000
	1997			5,140	"	82.88	426,000
PEPPERS, Chili	1998	2,938	4.94	14,512	"	991.25	14,385,000
TOTAL	1997	4,680	4.13	19,314	"	834.63	16,120,000
Fresh	1998			1,305	"	301.15	393,000
	1997			5,318	"	301.43	1,603,000
Processing	1998			13,207	"	1,059.44	13,992,000
	1997			13,996	"	1,037.22	14,517,000
RADICCHIO	1998	1,249	9.64	12,040	"	617.94	7,440,000
	1997	1,253	9.52	11,932	"	637.27	7,604,000
RADISH	1998	542	5.76	3,124	"	780.09	2,437,000
	1997	767	5.12	3,927	"	768.01	3,016,000

VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			UNIT	F. O. B. VALUE	
		ACREAGE	PER ACRE	TOTAL		PER UNIT	TOTAL
RAPPINI	1998	2,537	3.75	9,508	TON	\$896.09	\$8,520,000
	1997	2,634	4.15	10,922	"	976.65	10,667,000
SALAD PRODUCTS	1998			32,053,000	CTN	8.42	269,886,000
	1997			23,287,000	"	8.59	200,035,000
SPRING MIX*	1998	4,784	9.37	44,826	TON	893.81	40,066,000
	1997	3,693	11.61	42,885	"	782.11	33,541,000
SPINACH TOTAL	1998	12,270	7.68	94,240	"	646.25	60,903,000
	1997	10,436	7.44	77,645	"	632.40	49,103,000
Fresh	1998			50,905	"	583.40	29,698,000
	1997			33,475	"	565.97	18,946,000
Food Service	1998			16,125	"	1,741.77	28,086,000
	1997			11,332	"	2,250.35	25,501,000
Processing	1998			27,210	"	114.63	3,119,000
	1997			32,838	"	141.79	4,656,000
SQUASH TOTAL	1998	414	9.44	3,908	"	412.49	1,612,000
	1997**	426	9.88	4,209	"	349.96	1,473,000
Fresh	1998			2,903	"	486.05	1,411,000
	1997			4,062	"	355.74	1,445,000
Processing	1998			1,005	"	200.00	201,000
	1997**			147	"	190.00	28,000
TOMATOES TOTAL	1998	1,891	21.92	41,454	"	306.82	12,719,000
	1997	4,347	19.41	84,376	"	292.99	24,722,000
Fresh	1998			26,654	"	447.21	11,920,000
	1997			69,727	"	342.92	23,911,000
Processing	1998			14,800	"	53.99	799,000
	1997			14,649	"	55.36	811,000
TOMATOES Cherry	1998	60	6.70	402	"	701.49	282,000
	1997	85	6.11	519	"	576.11	299,000

*May contain: *Tango, Magenta Orach, Red Perella, Red Nagoya, Little Gem, Mizuna, Red Feathering Kale, Green Perella, New Red Fire, Arugula, Beet Tops, Royal Red Oak Leaf, Baby Spinach, Mache, Green Mustard, Dinosaur Kale, Green Kale, Baby Red Romaine, Belgian Endive, Red Butter Lettuce, Tat-Soi, Frisee, Sierra, Cocard, Green Chard, Red Chard, Baby Green Romaine, Red Russian Kale, Red Mustard, Lollo Rosa*

**Adjusted figures.

VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
LETTUCE, Head							
Spring	1998	15,372					
	1997	19,713					
Summer	1998	18,722					
	1997	20,734					
Fall	1998	23,644					
	1997	20,400					
Naked Pack	1998			11,838,000	CTN	\$7.38	\$87,364,000
	1997			12,205,000	"	\$8.74	\$106,672,000
Wrapped Pack	1998			21,533,000	"	\$8.88	\$191,213,000
	1997			22,085,000	"	\$10.24	\$226,150,000
Bulk for Shredding	1998			18,341,000	"	\$4.42	\$81,067,000
	1997			18,728,000	"	\$4.85	\$90,831,000
SEASON TOTAL	1998	57,738	895.63	51,712,000	"	\$6.9547	\$359,644,000
	1997	60,847	871.33	53,018,000	"	\$7.9908	\$423,653,000
<hr/>							
HEAD LETTUCE	1998	57,738	895.63	51,712,000	CTN	\$6.9547	\$359,644,000
TOTALS	1997	60,847	871.33	53,018,000	"	\$7.9908	\$423,653,000

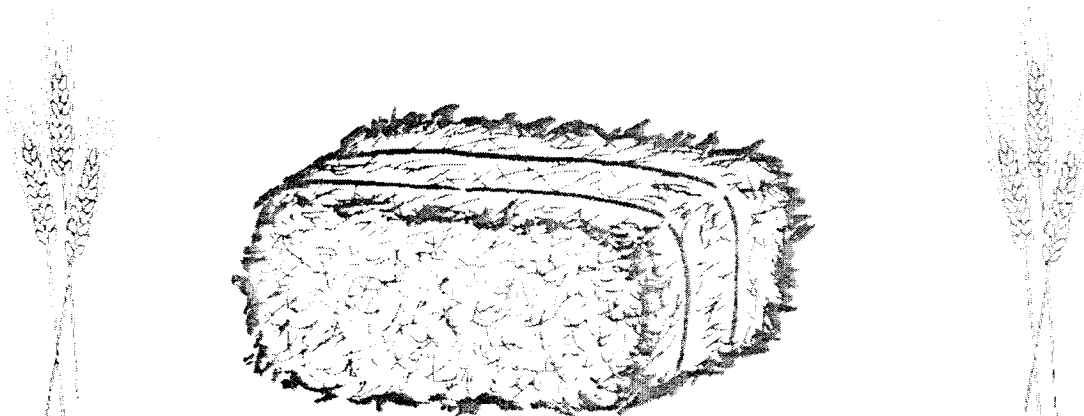
VEGETABLE CROPS - Continued

CROP	YEAR	PRODUCTION			F. O. B. VALUE		
		ACREAGE	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
<i>LEAF LETTUCE</i>							
BUTTER LETTUCE	1998	1,052	931.56	980,000	CTN	\$6.08	\$5,959,000
	1997	2,268	884.32	2,324,000	"	\$6.24	\$14,498,000
GREEN LEAF	1998	8,565	833.86	7,142,000	"	6.60	47,113,000
	1997	8,014	806.34	6,462,000	"	5.92	38,266,000
ENDIVE	1998	534	805.24	430,000	"	5.69	2,448,000
	1997	937	677.69	635,000	"	4.67	2,966,000
ESCAROLE	1998	247	854.25	211,000	"	7.22	1,524,000
	1997	334	775.45	259,000	"	5.46	1,415,000
RED LETTUCE	1998	3,237	867.16	2,807,000	"	6.08	17,080,000
	1997	4,507	836.25	3,769,000	"	5.80	21,845,000
ROMAINE	1998	19,200	886.09	17,013,000	"	7.96	135,500,000
	1997	21,149	922.41	19,508,000	"	6.88	134,190,000
Fresh	1998			12,657,000	"	7.13	90,287,000
	1997			14,724,000	"	6.47	95,326,000
Food Service	1998			4,356,000	"	10.38	45,213,000
	1997			4,784,000	"	8.12	38,864,000
LEAF LETTUCE	1998	32,835	867.46	28,483,000	CTN	\$7.36	\$209,624,000
TOTALS	1997	37,569	877.23	32,957,000	"	\$6.47	\$213,180,000
<hr/>							
LETTUCE CROP	1998	90,573			HEAD & LEAF LETTUCE		\$569,268,000
TOTALS	1997	98,416			TOTAL VALUE		\$636,833,000
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VEGETABLE CROPS	1998	230,460			VEGETABLE CROPS		\$1,649,092,000
TOTAL ACRES*	1997	241,323			TOTAL VALUE		\$1,635,267,000

*Total acreage represents multiple plantings.

FIELD CROPS

CROP	YEAR	PRODUCTION			UNIT	F. O. B. VALUE	
		ACREAGE	PER ACRE	TOTAL		PER UNIT	TOTAL
BARLEY, Grain	1998	9,650	0.72	6,930	TON	\$84.85	\$588,000
	1997	11,244	0.83	9,360	"	120.36	1,127,000
BEANS, Dry Large Lima	1998	1,004	.81	815	"	1,200.00	978,000
	1997	1,170	1.32	1,542	"	1,160.18	1,789,000
BEANS, MISC. Dry	1998	12	1.17	14	"	714.29	10,000
	1997	105	1.69	177	"	800.26	142,000
HAY, Alfalfa	1998	1,045	5.55	5,804	"	136.63	793,000
	1997	1,120	6.91	8,290	"	134.14	1,112,000
HAY, Oat	1998	1,405	2.85	4,009	"	107.26	430,000
	1997	400	3.00	1,200	"	110.00	132,000
PASTURE Dry Land	1998	1,107,500			ACRE	6.50	7,199,000
	1997	1,107,500			"	6.50	7,199,000
PASTURE Irrigated	1998	110		110	"	200.00	22,000
	1997	100	1AU*	100	"	150.00	15,000
SAFFLOWER	1998	200	0.20	39	"	307.69	12,000
	1997	510	0.40	204	"	269.61	55,000
MISC.	1998	0	0	0	TON	0	0
	1997	4	33.50	134	"	37.31	5,000
WHEAT, Grain	1998	10,465	1.11	11,583	"	89.79	1,040,000
	1997	10,270	0.95	9,793	"	119.27	1,168,000



FIELD CROPS	1998	1,131,391	FIELD CROPS	\$11,072,000
TOTAL ACRES	1997	1,132,423	TOTAL VALUE	\$12,744,000

*AU = 1000 LB animal unit: Formula 1AU/Acre/Year @ \$12.00/month x \$12.00/month = \$144/year x 500 AU = \$72,000

NURSERY CROPS

CROP	YEAR	ACREAGE	AMOUNT SOLD	AVERAGE PRICE	TOTAL
<u>GREENHOUSE CUT FLOWERS</u>			BLOOMS SOLD	PER BLOOM	
ROSE	1998	122.70	55,538,000	\$0.23	\$12,774,000
	1997	116.28	52,872,500	0.26	14,000,000
MINIATURE ROSE	1998	12.16	11,341,000	0.18	2,041,000
	1997*	12.07	10,298,000	0.15	1,532,000
CARNATION	1998	76.72	33,447,000	0.15	5,017,000
	1997	93.14	41,997,300	0.14	5,770,000
CARNATION (Miniature)	1998	28.54	1,352,000	1.45	1,960,000
	1997	25.73	1,464,200	1.45	2,121,000
CHRYSANTHEMUM (Standard)	1998	17.19	3,890,000	0.53	2,062,000
	1997	15.73	4,066,800	0.55	2,247,000
GARDENIA	1998		974,400	1.23	1,199,000
	1997		852,200	1.31	1,112,000
			BUNCHES SOLD	PER BUNCH	
ORCHID	1998		140,000	\$1.85	\$259,000
	1997		90,100	1.81	163,000
INDOOR CUT FLOWERS	1998	257.31	INDOOR CUT FLOWERS		\$25,312,000
TOTAL ACRES	1997	260.09	TOTAL VALUE		\$25,856,000
<u>FIELD GROWN FLOWERS</u>			BUNCHES SOLD	PER BUNCH	
ALSTROEMERIA	1998	26.85	853,400	\$1.76	\$1,502,000
	1997	23.47	747,000	1.73	1,292,000
EUCALYPTUS	1998	459.75	3,737,000	2.02	7,549,000
	1997	456.71	4,221,400	2.01	8,465,000
GYPSOPHILA	1998	6.18	6,300	2.06	13,000
	1997	13.04	27,000	2.10	57,000
IRIS	1998	20.42	303,500	2.84	862,000
	1997	12.54	281,600	2.79	786,000
SNAPDRAGON**	1998	85.95	1,550,000	2.70	4,185,000
	1997	102.06	997,800	1.92	1,918,000
STATICE	1998	56.82	500,100	2.73	1,365,000
	1997	78.47	941,400	1.84	1,736,000

*Adjusted figures

**Includes multiple harvested acres

NURSERY CROPS - Continued

CROP	YEAR	ACREAGE	AMOUNT SOLD	AVERAGE PRICE	TOTAL
<u>POTTED PLANTS</u>			PLANTS SOLD	PER PLANT	
BEDDING PLANTS					
Commercial*	1998	92.70	1,210,374,000	\$0.03	\$36,311,000
Vegetable	1997	93.02	1,308,276,800	0.02	29,544,000
ORCHIDS					
	1998	17.06	1,019,000	12.25	12,483,000
	1997	12.08	464,900	12.40	5,763,000
POINSETTIA					
	1998	13.97	608,300	4.98	3,029,000
	1997	17.84	568,100	3.92	2,226,000
PROPAGATIVE STOCK**					
	1998	223.93	15,163,000	0.75	11,372,000
	1997	254.67	15,777,800	0.78	12,341,000
<u>OTHER PLANTS</u>			PLANTS SOLD	PER PLANT	
MISCELLANEOUS					
Indoor Decorative***	1998	90.76	3,197,000	\$5.05	\$16,145,000
	1997	32.39	2,636,200	4.66	12,286,000
OUTDOOR					
Woody Ornamentals	1998	47.65	547,000	5.56	3,041,000
	1997	11.16	182,607	5.28	964,000
MISC FIELD CROPS****					
	1998	1,295.19	32,935,000	0.94	30,959,000
	1997	1,389.39	34,074,600	0.92	31,549,000
CHRISTMAS TREES					
	1998	44.44	6,400	\$26.41	\$169,000
	1997	41.60	1,200	17.50	21,000



NURSERY CROPS	1998	2,738.98	NURSERY CROPS	\$154,297,000
TOTAL ACRES*****	1997	2,788.53	TOTAL VALUE	\$134,804,000

*Includes: All vegetable transplants

**Includes: Bedding plants, Carnations, Fruit tree transplants, Grape cuttings, Mums, Roses

Includes: African Violet, Azallas, Cyclamen, Dieffenbachia, Ficus sp., Gloxinia, Kalanchoe, Potted Mums, Seasonal potted plants (EasterLily, etc), Spathiphyllum, Spring bulbs. *Includes: Agapanthus, Bulbs, Cactus, Cornflower, Colum Stock, Curly willow, Dianthus, Foliage, Foxglove, Freesia, Godetia, Heather, Larkspur, Leptospermum, Lilies, Lisanthus, Myrtle, Seafoam, Stock, Succulents, Strawflower, Sunflower, Thistles, Tillandsia, Turf, Yarrow. Total acreage represents multiple plantings

SEED CROPS

CROP	YEAR	PRODUCTION			UNIT	F. O. B. VALUE	
		ACREAGE	PER ACRE	TOTAL		PER UNIT	TOTAL
BROCCOLI	1998	320.0	0.16	50.80	TON	\$79,015.75	\$4,014,000
	1997	61.5	0.27	16.60	"	36,071.39	598,785
CAULIFLOWER	1998	171.0	0.21	36.50	"	27,452.05	1,002,000
	1997	80.0	0.16	12.73	"	17,648.33	224,575
PEAS	1998	275.0	1.59	438.45	"	2,335.50	1,024,000
	1997	56.0	1.55	86.60	"	697.90	60,438
PEPPER	1998	63.0	0.02	1.07	"	80,373.83	86,000
	1997	90.0	0.10	8.65	"	16,040.46	138,750
BEANS, ALL	1998	2,217.0	0.88	1,940.50	"	3,013.66	5,848,000
	1997	3,603.0	1.09	3,921.90	"	1,426.45	5,594,406
MISC. SEED*	1998	537.0	1.00	536.00	"	718.28	385,000
	1997	1,339.0	1.13	1,508.50	"	343.42	521,070
SEED CROPS	1998		3,583.0	SEED CROPS			\$12,359,000
TOTAL ACRES	1997		5,229.5	TOTAL VALUE			\$7,138,024

*Misc. Seed includes: Asparagus, Barley, Dry Beans, Cabbage, Carrots, Celery, Corn, Cucumber, Flower, Garden Beans, Kale, Native grasses, Oats, Parsley, Pumpkin, Radish, Squash, Tomato, Wheat



APIARY

CROP	YEAR	COLONIES	PRODUCTION	UNIT	F.O.B. VALUE	
					PER UNIT	TOTAL
HONEY	1998		38,885	LBS	\$0.65	\$25,275
	1997		35,350	"	0.70	24,745
POLLINATION*	1998	1,500		COLONY	24.00	36,000
	1997	1,550		"	24.00	37,200
WAX	1998		1,382	LBS	2.25	3,110
	1997		1,260	"	2.25	2,835
APIARY	1998					\$64,385
TOTAL VALUE	1997					\$64,780

*Crops Pollinated: Apple, Broccoli, Carrot, Cauliflower, Cucumber, Fava Bean, Melon, Onion, Parsley, Pepper, Spinach, Squash

LIVESTOCK & DAIRYING

CROP	YEAR	HEAD	PRODUCTION	UNIT	F. O. B. VALUE	
					PER UNIT	TOTAL
BEEF CATTLE	1998	75,300		CWT		\$19,481,000
	TOTAL	1997	76,000	"		19,287,000
Cattle & Calves	1998	45,800	287,400	"	\$53.00	\$15,232,000
	1997	46,000	303,600	"	49.00	14,877,000
Stocker	1998	29,500	68,750	"	61.80	4,249,000
	1997	30,000	70,000	"	63.00	4,410,000
SHEEP & LAMB	1998	2,200	3,325	"	67.37	224,000
	1997	2,500	3,500	"	63.14	221,000
WOOL	1998		17,000	LBS	0.65	11,000
	1997		18,000	"	0.67	12,000
HOGS	1998	1,700	319,200	"	0.35	112,000
	1997	1,500	285,000	"	0.55	157,000
DAIRY	1998	5,000		HEAD		13,500,000
	TOTAL	1997	5,100	"		13,103,000
Dairying cows	1998	3,400		"	1,308.82	4,450,000
Breeding Stock	1997	3,500		"	1,100.00	3,850,000
Cull Cows	1998	800		"	400.00	320,000
	1997	800		"	350.00	280,000
Calves	1998	800		"	17.50	14,000
	1997	800		"	20.00	16,000
Fertilizer	1998		15,000	TON	7.60	114,000
	1997		13,000	"	7.00	91,000
Milk, Market Marketing	1998*		659,000	CWT	12.62	8,317,000
	1997		659,145	"	13.00	8,569,000
Manufactured	1998*		24,700	"	11.54	285,000
	1997		24,698	"	11.98	297,000
LIVESTOCK & DAIRYING			1998			\$33,328,000
TOTAL VALUE			1997			\$32,780,000

* Estimated

POULTRY

CROP	YEAR	HEAD	PRODUCTION	UNIT	F. O. B. VALUE	
					PER UNIT	TOTAL
CHICKENS	1998	393,200		HEAD	\$5.43	\$2,134,800
TOTAL	1997	468,200		"	5.05	2,365,000
Broilers, Fryers	1998	390,000	2,600,000	LBS	0.42	1,092,000
Roasters	1997	465,000	3,185,000	"	0.42	1,338,000
Meat Hens	1998	3,200	16,000	"	0.50	8,000
	1997	3,200	16,000	"	0.50	8,000
Misc. Poultry*	1998					988,000
	1997					980,000
Eggs	1998		36,000	DOZ	1.30	46,800
	1997		30,000	"	1.30	39,000



POULTRY	1998	\$2,134,800
TOTAL VALUE	1997	\$2,365,000

**Includes: Duck Eggs, Ducklings, Fryers, Goslings, Pullets, Quail eggs, etc.*

TREND OF MAJOR CROPS IN MONTEREY COUNTY

CROP	YEAR	ACRES	VALUE
ARTICHOKES	1998	6,451	\$38,801,000
	1988	7,720	28,580,000
	1978	9,200	16,727,000
BROCCOLI	1998	53,953	\$246,364,000
	1988	49,075	114,684,000
	1978	40,870	47,401,000
CAULIFLOWER	1998	18,701	\$104,637,000
	1988	20,160	69,520,000
	1978	14,420	27,897,000
CELERY	1998	8,720	\$78,082,000
	1988	4,449	33,674,000
	1978	6,324	39,786,000
GRAPES	1998	39,901	\$178,610,000
	1988	31,410	44,247,000
	1978	33,655	48,647,000
LETTUCE, Head	1998	57,738	\$359,644,000
	1988	68,535	302,875,000
	1978	61,700	205,275,000
LETTUCE, Leaf	1998	32,835	\$209,624,000
	1988	11,736	39,604,000
	1978	5,270	18,545,000
MUSHROOMS	1998	47,032,000	\$55,968,000 LBS
	1988	46,890,000	46,421,000 LBS
	1978	15,664,000	13,017,000 LBS
NURSERY CROPS	1998	2,739	\$154,297,000
	1988	1,177	92,890,000
	1978	737	40,360,000
SPINACH	1998	12,270	\$60,903,000
	1988	4,355	7,516,000
	1978	4,092	4,554,000
STRAWBERRIES	1998	6,540	\$198,415,000
	1988	5,105	134,039,000
	1978	3,685	38,969,000

MILLION DOLLAR CROPS

1.	LETTUCE, Head	\$359,644,000
2.	BROCCOLI	246,364,000
3.	LETTUCE, Leaf	209,624,000
4.	STRAWBERRIES	198,415,000
5.	GRAPES	178,610,000
6.	NURSERY, All	154,297,000
7.	CAULIFLOWER	104,637,000
8.	CELERY	78,082,000
9.	SPINACH	60,903,000
10.	MUSHROOM	55,968,000
11.	SPRING MIX	40,066,000
12.	ARTICHOKES	38,801,000
13.	BEEF CATTLE, All	19,481,000
14.	ONIONS, Green	18,407,000
15.	PEPPERS, Chili	14,385,000
16.	DAIRY, All	13,500,000
17.	ASPARAGUS	12,900,000
18.	TOMATOES	12,719,000
19.	CARROTS	12,441,000
20.	SEEDS, All	12,359,000
21.	RAPPINI	8,520,000
22.	CABBAGE	8,081,000
23.	RADICCHIO	7,440,000
24.	PASTURE, Dry Land	7,199,000
25.	KALE	6,346,000
26.	NAPA	5,279,000
27.	PARSLEY	4,413,000
28.	GARLIC	4,405,000
29.	PEPPERS, Bell	3,746,000
30.	ONIONS, Dry	3,696,000
31.	CILANTRO	3,330,000
32.	LEMONS	3,317,000
33.	ANISE	3,243,000
34.	BOK CHOY	3,225,000
35.	PEAS	2,599,000
36.	RADISH	2,437,000
37.	CHICKENS, All	2,134,000
38.	CHARD	1,844,000
39.	LEEKS	1,704,000
40.	AVOCADOS	1,651,000
41.	SQUASH	1,612,000
42.	RASPBERRIES	1,365,000
43.	HERBS	1,150,000
44.	WHEAT	1,040,000

SUMMARY

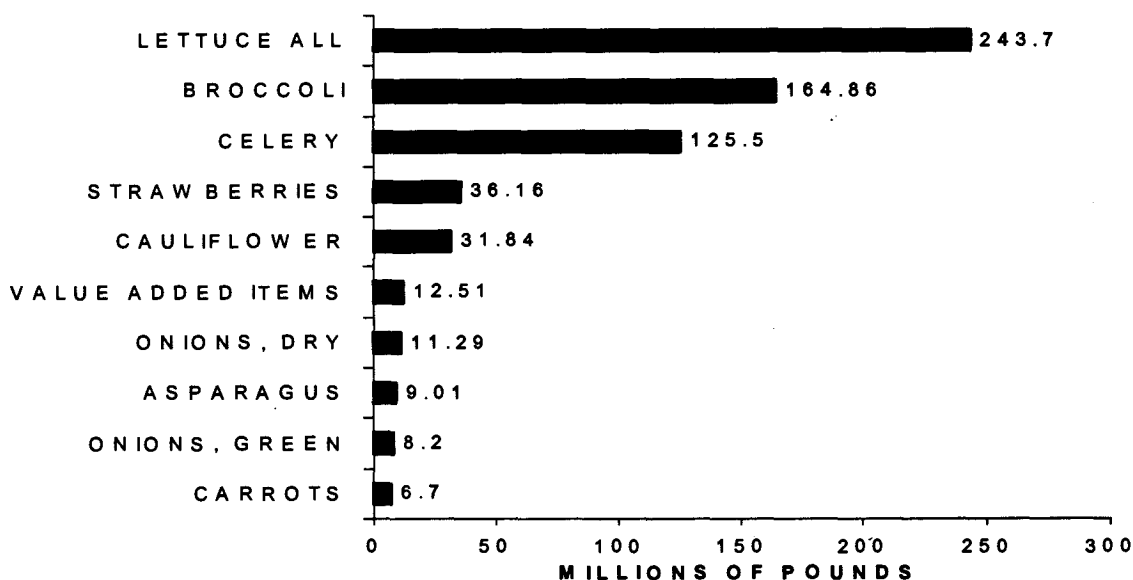
	YEAR	TOTAL VALUE
FRUITS & NUTS	1998	\$385,062,000
	1997	\$420,446,300
VEGETABLE CROPS	1998	\$1,649,092,000
	1997	\$1,635,267,000
FIELD CROPS	1998	\$11,072,000
	1997	\$12,744,000
NURSERY CROPS	1998	\$154,297,000
	1997	\$134,804,000
SEED CROPS	1998	\$12,359,000
	1997	\$7,138,024
APIARY	1998	\$64,385
	1997	\$64,780
LIVESTOCK, POULTRY, AND DAIRYING	1998	\$35,463,000
	1997	\$32,780,000
ORGANIC	1998	\$45,849,000
	1997	\$23,609,384
SUMMARY	1998	\$2,293,258,385
TOTAL VALUE	1997	\$2,266,853,488

MONTEREY COUNTY EXPORTS TOP 20 PRODUCE SUMMARY

	1998 - LBS	1997 - LBS	1996 - LBS	1995 - LBS	1994 - LBS
LETTUCE, All	243,698,976	238,140,469	217,465,530	147,012,550	172,608,000
BROCCOLI	164,855,249	163,852,454	146,890,694	139,810,302	150,681,000
CELERY	125,497,213	90,061,531	77,230,648	61,381,696	67,910,000
STRAWBERRIES	36,164,228	20,902,272	18,599,424	21,008,409	21,329,000
CAULIFLOWER	31,842,622	24,120,687	15,641,147	10,578,865	20,627,000
VALUE ADDED PRODUCTS	12,511,883	*	*	*	*
ONIONS, Dry	11,285,950	18,705,624	13,094,008	26,932,646	65,124,000
ASPARAGUS	9,007,220	2,951,756	4,016,687	2,629,458	2,232,000
ONIONS, Green	8,203,607	1,027,703	1,817,907	1,515,567	967,258
CARROTS	6,691,060	5,810,790	7,718,010	7,632,676	19,142,000
SPINACH	4,865,825	5,128,886	2,118,825	1,560,969	2,046,747
RADICCHIO	4,623,629	7,598,946	6,371,481	3,473,185	3,316,000
TOMATOES	4,617,300	21,942,986	9,952,990	6,112,647	24,368,000
ARTICHOKES	3,851,801	2,529,890	610,307	266,893	2,939,328
ANISE	3,643,679	3,583,752	3,099,406	2,085,059	3,131,000
CABBAGE, All	3,505,431	7,224,858	6,716,805	4,441,672	3,255,000
RAPPINI	1,812,446	2,176,661	1,529,515	1,874,367	1,821,000
PEPPERS	1,371,124	473,354	101,838	167,785	893,196
RASPBERRIES	1,243,768	904,716	758,946	497,943	508,068
RADISHES	976,212	205,584	215,122	207,640	84,110
TOTAL FOR ALL PRODUCE EXPORTED	956,306,342	928,319,699	778,199,265	680,567,420	570,457,000
ALL SEED	4,866,104	7,364,998	4,781,155	7,515,380	8,859,000
CUT FLOWERS (STEMS)	4,749,773	5,502,984	3,165,981	3,681,774	1,442,000
OTHER NURSERY PLANTS	9,654,207	10,302,093	15,257,473	24,770,048	37,748,000

• Data not available; includes salad products and vegetable mix

TOP TEN EXPORT COMMODITIES



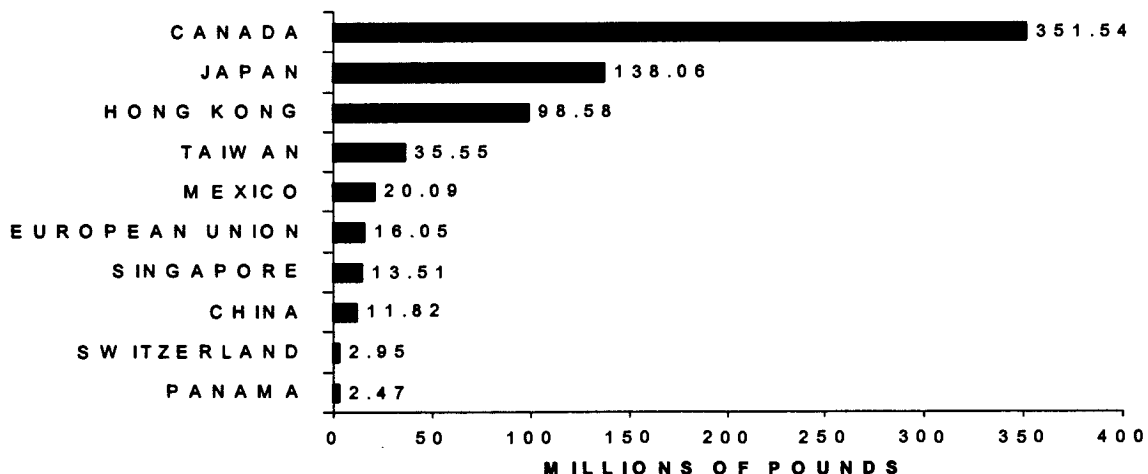
SUMMARY OF PRODUCE EXPORTS BY COUNTRY

	1998 POUNDS	1997 POUNDS	1996 POUNDS	1995 POUNDS
CANADA	351,537,601	300,810,959	241,197,640	179,026,281
JAPAN	138,056,542	146,507,247	127,676,318	164,101,789
HONG KONG	98,578,133	87,575,229	83,077,219	63,172,685
TAIWAN	35,551,233	32,914,374	39,185,450	32,148,882
MEXICO	20,085,728	30,577,604	13,840,443	16,286,271
EUROPEAN UNION *	16,049,672	10,205,619	10,478,836	5,134,660
SINGAPORE	13,512,225	18,246,240	20,552,757	15,650,730
CHINA	11,824,150	5,717,880	2,022,420	1,562,584
SWITZERLAND	2,946,912	485,758	2,023,805	440,437
PANAMA	2,465,910	931,785	508,846	700,897
UNITED ARAB EMIRATES	1,943,656	6,401,520	3,512,860	5,617,020
VENEZUELA	1,138,980	462,310	48,360	**
KUWAIT	1,077,411	1,596,298	458,360	367,210
REPUBLIC OF KOREA	921,198	878,205	5,555,530	4,177,438
COLOMBIA	499,526	279,087	227,581	35,755
RUSSIAN FEDERATION	462,252	321,538	336,492	140,380
PHILIPPINES	267,800	832,330	559,169	1,029,026
NEW ZEALAND	228,362	38,027	58,643	3,000
FRENCH POLYNESIA	208,981	727,232	42,052	47,398
BRAZIL	164,747	95,330	128,264	66,943

*Includes: Austria, Belgium, Denmark, Finland, France, French Guiana, Germany, Greece, Guadeloupe, Ireland, Italy, Luxembourg, Martinique, Monaco, Netherlands, Portugal, Reunion, San Marino, Spain, Sweden, United Kingdom, Vatican City State.

**Insufficient to report

1998 TOP TEN EXPORT COUNTRIES



SUMMARY OF MONTEREY COUNTY SUSTAINABLE AGRICULTURAL ACTIVITIES

PEST	AGENT/MECHANISM	SCOPE OF PROGRAM*
COUNTY BIOLOGICAL CONTROL		
Yellow starthistle, <i>Centaurea solstitialis</i>	Seedhead weevils/fly, <i>Bangasternus orientalis</i> , <i>Eustenopus villosus</i> <i>Urophora sirunaseva</i> , <i>Larinus curtus</i>	21 sites
Italian thistle, <i>Carduus spp.</i>	Seedhead weevil, <i>Rhinocyllus conicus</i>	General distribution
Russian thistle, <i>Salsola australis</i>	Leaf & stem mining moths, <i>Coleophora spp.</i>	7 sites
Puncture vine, <i>Tribulus terrestris</i>	Stem & seed weevils, <i>Microlarinus spp</i>	General & local distribution,
Aphid species	Seven-spotted lady beetle, <i>Coccinella septempunctata</i>	1 site
Ash whitefly, <i>Siphoninus phillyreae</i>	Parasitic wasp, <i>Encarsia inaron</i>	General distribution

PEST ERADICATION

Taurian thistle, <i>Onopordum tauricum</i>	Mechanical/chemical	36 plants removed
Scotch thistle, <i>Onopordum acanthium</i>	Mechanical/chemical	251 plants removed
Skeletonweed, <i>Chondrilla juncea</i>	Mechanical/chemical	1 infestation
Puna grass, <i>Achnatherum brachychaetum</i>	Mechanical/chemical	10 infestations
Diffuse Knapweed (<i>Centaurea diffusa</i>), Spotted knapweed (<i>Centaurea maculosa</i>), Hydrilla (<i>Hydrilla verticillata</i>), and biddy-biddy (<i>Acaena novae-zelandiae</i>) have been eradicated.		

PEST MANAGEMENT

Roadside (virus host) weeds	Chemical	805 miles, County right-of-ways
Lettuce Mosaic Virus	Virus-Free Seed	Indexing of all county-planted seed
Lettuce Mosaic Virus	Host-free period	No lettuce above ground 12/7-12/21
Celery Mosaic Virus	Host-free period	No celery above ground in January

PEST EXCLUSION

Pest exclusion is the first line of defense against invading exotic species. Inspectors handled 27,691 packages containing plant material at receiving terminals and at final destinations. Sixty-five shipments were rejected in violation of quarantine regulations.

PEST DETECTION

Pest detection is the systematic search for pests outside of a known infested area, or for pests not known to occur in California. The general goal is to detect the insects before they become established over an area so large that eradication is no longer biologically or economically feasible. Detection trapping is performed primarily by the County Agricultural Commissioner's offices.

TARGET PEST	INSECT HOSTS	NO. OF TRAPS
Medfly	Fruit trees	270
Melon fruit fly	Vegetable gardens	66
Mexican fruit fly	Fruit trees	86
Oriental fruit fly	Fruit trees	66
Gypsy moth	Shade trees	266
Japanese beetle	Turf, roses	160
European corn borer	Corn	4
Nantucket pine tip moth	Monterey pine	8
Trogoderma beetle	High hazard commodities	15

Pest detection trapping activities accounted for 4,002 hours, with a total of 9,607 servicings of 1,022 traps being made. 70.5 hours were applied to inspecting 104 commercial crop sites of 38.5 net acres /1,578 gross acres. 45 calls to residences were made for investigation of suspect reports and 63.5 hours were utilized on inspection/identification of public-reported pests. 24 high hazard locations were inspected and 1,038 miles of entryways surveyed, accounting for 40 and 94 hours respectively.

*Represents total number of individual sites, plants, etc. incorporated in program effort (suveys, collections, releases, etc.)

Organic Agriculture in Monterey County

The size and growth of organic farming in Monterey County has stimulated considerable discussion and speculation. Monterey County currently has 69 registered organic farmers, which vary in size from ¼ acre to 400 acres. In 1997, 3,076 acres were organically farmed in Monterey County, yielding a total gross value of \$23,610,000. In 1998, this increased substantially to 4,712 acres and a gross value of \$45,849,000, and is growing. The other important trend here is that growers who are already registered are adding more organic acres. Organic farming represents every major farm commodity. The diversity of fresh organic products in Monterey County include items such as gourmet salad mixes, wine, herbs, berries, edible flowers, broccoli, cauliflower, spinach, chard, raddichio, and many other varieties, just as in conventional farming.

What is organic agriculture? It is an ecological approach to farming that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on the minimal use of manmade products, and emphasizes farming practices that are sustainable and ecologically sound. "Organic" is a labeling term that denotes products produced under the authority of the federal Organic Foods Production Act of 1990 (OFPA). Organic food handlers, processors and retailers adhere to those standards enhancing the credibility of organic agriculture as a viable systems approach and the preservation of our environment.

In 1990 the California Organic Foods Act was revised and added an enforcement component to the existing state law. The County Agricultural Commissioner's Office now enforces these laws by performing onsite inspections and record keeping audits with respective producers, handlers and retailers. The act also requires all organic producers and handlers to be registered with their Agricultural Commissioner's Office. Certification requirements may change when standards to regulate organic agriculture on a national scale are developed by OFPA. Federal regulations have been "in process" since 1990 and have not yet been finalized.

Retailers and brokers generally require those producing organic product to be "certified" by an outside agency. In California there are eight such certifiers, the most familiar being CCOF and QAI. As of July 22, 1998 Monterey County became the first county registered as a certifier in the state.

Although organic farming in Monterey County accounts for only 1% of the agricultural production, it is growing at a rate of 25% plus per year, 43% in 1998. Organic products can be found in most of your local grocery stores, farmers markets, restaurants, and natural foods grocery stores.

Monterey County organic production has found a distinct and supportive organic marketing niche with local consumers and the export market. These dedicated producers and handlers have laid the groundwork for the future as well as promoting a sustainable method of farming for future generations.

Monterey County is Wine Country

Great wines begin with great grapes. It sounds simple enough, and it is just that simple. Over two hundred years ago, the first wine grapes were planted in Monterey County by the Franciscan friars at the Soledad Mission. Today Monterey County boasts over 40,000 acres of wine grapes, making it one of the largest premium grape-growing regions in California. In the early 1960's Monterey County became recognized as a premium wine-producing region as a result of studies conducted by Professor A. J. Winkler, a viticultural authority from University of California at Davis. Winkler published a report, which classified grape-growing districts by climate. Monterey County was classified as Region I and Region II, comparable with Napa, Sonoma, Burgundy and Bordeaux. This discovery came at the opportune time for Monterey County since the demand for table wine had been increasing. Established wineries had begun to seek out new land in Monterey for their vineyards, some of which included Wentz, Chalone, Paul Masson, J. Lohr and Mirassou.

Wines from Monterey County have unique qualities which make them easily distinguishable from those produced elsewhere in California or the world. Grapes grown in Monterey County are characterized by their intense varietal flavor, which results in wines with exceptional varietal integrity.

The Appellations of Monterey County

Appellation is the term used to identify the location of where grapes are grown for a specific wine. Every bottle of wine must have the appellation listed on the front label. Many wine labels have "California" as the appellation, which means that the grapes can come from any part of the state. Since Monterey County has over 40,000 acres of wine grapes, quite often those wines contain Monterey County grapes. Many winemakers from out of the region request Monterey County grapes for their wine to add increased fruit and complexity. Monterey County has seven American Viticultural Areas (AVA) or appellations, which produce premium wine grapes of unique character and intense flavor.

- **Monterey** – The Monterey AVA is the largest appellation in the County. Differing micro-climates allow for a wide range of wine grape varieties to flourish. Characterized by a long growing season, nearly half of Monterey County is planted with Chardonnay. The long growing season supplies the white wines with strong tropical fruit characteristics and red wines with bright colors and a smooth style.
- **Carmel Valley** – Father Junipero Serra's padres first planted vineyards here prior to the 1800's. Commercial grape growing began in 1968 with 40 acres of Cabernet Sauvignon. Today, over 70% of the 252 planted acres are allocated to the red Bordeaux varietals. Its high elevation allows fog in the morning and can receive heavy winter rains. Days are warm with very little wind and its proximity to the ocean cools the vineyard at night.
- **Arroyo Seco** – First planted in 1962, this area extends from a narrow steep canyon which opens to the western edge of the Salinas Valley floor. Bordeaux varietals prosper in the mouth of the canyon, which is warmed by reflective heat generated from the soil and nearby cliffs. The valley floor is relatively cooler providing ideal climatic conditions for Burgundy varietals.
- **Chalone** – Planted in 1919, these are the oldest producing vines in Monterey County. This area is home to 200 acres of mostly Chardonnay, Pinot Noir and Pinot Blanc with an elevation of 1,800 feet in the Gabilan Range, near Pinnacles National Monument. Unique soil structure and climate enable this area's grape to produce wines of high quality in a classic Old World style.
- **San Lucas** – Over 8,000 acres of vineyards comprise this area established in 1970. Typified by warm days and cool nights, daily summer temperatures can swing by nearly 60 degrees. This AVA is made up of alluvial fans and terraces with an elevation ranging from 500 to 1,200 feet. The wines from this area possess brilliant colors, abundant varietal flavors and distinct fruit aromas.
- **Santa Lucia Highlands** – This area runs along the west side of the Salinas Valley above the valley floor between the city of Gonzales and the Arroyo Seco canyon. The morning sun hits the southeast slope of the highlands and its elevation is above the fog, which allows for longer, yet cool days

- **Hames Valley** – The newest AVA of Monterey County, Hames Valley is sheltered from the strong winds of the Salinas Valley, while receiving cooling breezes from the Monterey Bay. On average it is much warmer here than other areas in Monterey County. Shaly loam soil combined with unique climatic conditions allow for intense flavors, outstanding balance and brilliant colors.

Cool Air Counts

Grapes grown in Monterey County are characterized by their intense true varietal flavor, which results in wines with exceptional varietal integrity. In other words, when made into wine, riesling grapes exhibit the traditional apricot, peach and floral aromas that Riesling lovers appreciate and enjoy. The inherent characteristics of all grape varieties are nurtured and enhanced by the climate, which designates Monterey County as one of the worlds finest.

The primary attribute of this singular climate is the cooling air of the Monterey Bay maritime influence, which creates a longer-growing season. As air in the southern part of the county warms at noon each day and rises, cool air from the Bay fills the void left by the rising warm air.

The Climate Factor

The ocean influence from Monterey Bay allows for a long growing season. The lingering morning fog burns off by late morning to allow for warm sun in the middle of the day; however, the fog returns to cool off the late afternoon. Grapevines in Monterey County tend to produce buds in early spring (about two weeks *earlier* than other regions) and harvest, which takes place in fall, typically begins two weeks *later* than other regions. Therefore the grapes remain on the vine approximately one month longer, which produces smaller berries with very concentrated fruit flavors. The longer growing season results in vibrant fruit, which slowly, create intense varietal flavors, with a nice balance of sugar and acid.

Viticultural Innovations

In addition to the ideal climate, the lack of abundant rainfall allows Monterey County grape growers to control the amount of water the vines receive. By utilizing some form of water distribution system, i.e., drip or sprinkler, growers are able to give the grapevines water when they need it and to withhold water in order to concentrate the flavor of the grapes.

The very first irrigation system to be implemented in a valley vineyard took place in Monterey County in the early part of the 1960's. The lack of annual rainfall made it necessary to have a predictable supply of water to the grapevines to ensure that they would thrive and produce a harvest with not only great quality but also higher yields per acre. The early irrigation systems relied on sprinklers; however, many of the vineyards have converted to a drip irrigation system which is a more efficient method of distributing water.

Monterey County was also a leader in the development of mechanical harvesting. This machine is the most efficient method of removing grapes from the vines during harvest. A mechanical harvester will gently vibrate the vines and allow the grapes to drop into a conveyer belt. The grapes are then transported to a bin and either crushed and pressed immediately in the vineyard, or trucked to the winery for fermentation. This method of harvesting grapes is typically done at night to take advantage of the cool temperatures. The main benefit of mechanical harvesting is that once the grapes are ripe and have the ideal sugar acid balance, these grapes can be picked and delivered to the winery as soon as possible. Mechanical harvesting is the quickest and most effective method of harvesting.

Slowly Maturing Fruit

During this longer growing season, county viticulturists will encourage even ripening of the fruit by raising the canopy which covers the grape bunches. This canopy manipulation is prevalent in Monterey County in order to balance the relationship between hang time and ripening.

This slowly matured fruit offers intense varietal flavors and ideal sugar acid balance. These concentrated, true varietal flavors are the hallmark of Monterey County's quality wines.

The various microclimates will exhibit different fruit characteristics. Each of the grape varieties are planted in areas that are ideally suited to that grape type. For example, Chardonnay and Pinot Noir are planted in cooler climates; Merlot and Cabernet Sauvignon are planted in warmer climates.

Article courtesy of Monterey County Vintners & Growers Association

Red Roses and Green Grapes

What a beautiful combination! And one that is often seen in vineyards. Jack Galante, owner of Galante Vineyards explains, "It's traditional to see roses growing next to vines. They are monitored by grape growers for fungus, insects and other bugs that usually are seen on the rose bushes before they affect the vines, thereby giving the grower a warning and a chance to treat the vines for fungus and pests before they can destroy the vines and grapes." So, when you visit a Monterey County vineyard and see roses growing at the end of each row of vines, know they are there not just for beauty, but also to protect the grape harvest.

Article courtesy of Richard Hughett, Monterey County Wine Country Magazine

Practical Considerations

Integrated Pest Management (IPM) practices include pest monitoring, presence/absence sampling, chemical rotation, and using selective pesticides. Biological Control of pest represents one of many important tools in a comprehensive IPM program.

For grapevines on the Central Coast, the spider mite represents an important arthropod pest. It will eventually cause reductions in leaf photosynthesis and stomatal conductance, therefore reducing quality and grape yields. Since these pests are so small, they can go unnoticed if a systematic monitoring program is not in place. Clear signs of mite outbreaks in the vineyard blocks include the discolored leaves from mite colonization.

The two spider mite pest species affecting California grapevines are the Willamette mite (*Eotetranychus willamettei*) and Pacific mite (*Tetranychus pacificus*). Climate, soil, and other environmental conditions often influence species' presence. Here on the central coast we mainly deal with the Willamette mite in grapevines.

To successfully control a mite infestation, it is important to know what species you are dealing with. Willamette mites are usually pale yellow with small black dots ("food spots") running along the abdomen on each side. The Willamette mite is found more dispersed throughout the canopy. They feed along the leaf veins turning the entire leaf yellow on white varietals, and a reddish color on the leaves of red varietals. Several factors influence mite densities. These factors generally relate to vine vigor (water-stressed or overly vigorous vines), soil, temperature, dust, and imprudent use of broad-spectrum miticides.

A grower's two main natural controls on grapevines are the western orchard predatory mite and the six-spotted thrips. The western predatory mite (*Metaseiulus=Galendromus occidentalis*) is the primary predator in grapes due to its tolerance to various chemicals and tolerance to high temperatures and humidity. The *G. occidentalis* are about the same size as the Willamette mites, but are pear shape, translucent in color with no food spots. They will eat 1-3 adult mites, and up to six pest eggs per day. The six-spotted thrips (*Scolothrips sexmaculatus*) is a voracious predator and reproduces very quickly. They are often released later in the season in the "hot spots", while using the predatory mites to keep a balance throughout the field.

It is very important to manage & conserve the predators, since they are the first lines of defense against agricultural pest. This can be accomplished by implementing IPM practices and using selective materials when choosing chemicals controls. Managing mites requires making informed decisions based on the best resistance management practices, knowing your pest, lifecycle, timing, and historical mite levels.

Here in Monterey County, we have been working with several growers and cooperators releasing predatory mites. We have been monitoring the progress of *Galendromus*, and these two other predatory mite species, *Amblyseius californicus* and *Phytoseiulus persimilis*. The *A. californicus* appears to be very good at eating mite eggs and can live without food for a longer period of time. The species, *P. persimilis* is a very popular mite used in the strawberry industry, and has a voracious appetite and will spread in search for new prey. We are looking at this predator for use in certain mesoclimates where the relative humidity is greater than 60% in order for the predatory mites to survive, especially the egg stage.

Researchers, commercial producers, and growers have produced much useful information concerning biological control of pest. Nevertheless, much work lies ahead regarding population densities, release rates, frequency, and improving the economic feasibility of biological controls.

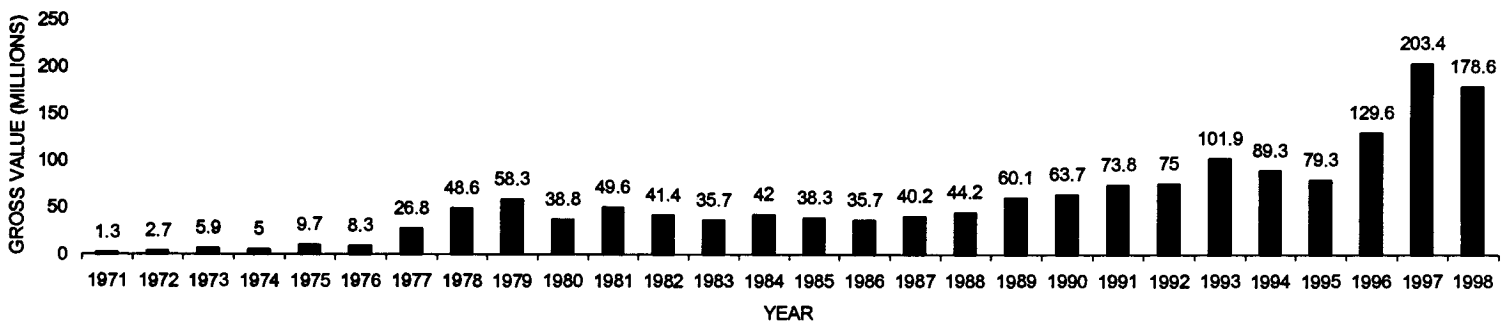
Many grape growers here on the Central Coast have taken the industry lead in IPM practices by participating with the Central Coast Vineyard Team (CCVT). The Team represents a broad-based community partnership of winegrape growers, consultants, farm advisors, environmental interests, and government representatives, from Santa Barbara, San Luis Obispo and Monterey Counties. The Team's mission includes identifying and promoting environmentally and economically sustainable vineyard farming practices on the Central Coast. The Team's Positive Points System (PPS) identifies sustainable vineyard practices regarding management of pest, soil, water, viticultural, and human resources.

Through continued cooperation of progressive growers, we are hoping to develop effective biological control and procedures, and incorporate them into commercial pest management programs.

Article courtesy of Brenda Wolgamott

Brenda Wolgamott is a PCA/IPM Coordinator with Soilserv, Inc, and is currently working with Biological Controls.

WINE GRAPES



MONTEREY COUNTY VINTNERS AND GROWERS ASSOCIATION

1999 SPECIAL EVENTS

April 10 th	Steinbeck Country Spring Open House	(831) 678-0300
April 18 th	Chateau Julien <i>Wine & Art Festival</i>	(831) 624-2600
April 29 th	Monterey County Vintners and Growers Association. <i>A Vintners Garden Gala.</i>	(831) 375-9400
May 1 st	Chalone Vineyards <i>Wildflower Walk</i>	(831) 678-1717
May 15 th	Paraiso Springs Vineyards <i>6th Anniversary Open House</i>	(831) 678-0300
May 15 th	Chateau Julien <i>Spring Winemaker Dinner</i>	(831) 624-2600
June 25 th	Chateau Julien <i>Wine & Cigar Dinner</i>	(831) 624-2600
July 11 th	Chateau Julien <i>Summer Jamboree</i>	(831) 624-2600
July	Galante Vineyards <i>Summer Sounds Concert</i>	1-800-GALANTE
Aug. 14 th	Monterey County Vintners & Growers Association <i>7th Annual Winemakers' Celebration</i>	(831) 375-9400
Aug. 15 th	Winemakers' Celebration Second Day Open Houses	(831) 375-9400
Sept. 18 th	Galante Vineyards <i>Annual Days of Wine & Roses</i>	1-800-GALANTE
Sept. 24 th	Paraiso Springs Vineyards <i>Taste a Rising Star</i>	(831) 678-0300
Oct. 1 st	Chateau Julien <i>Harvest Wine Seminar</i>	(831) 624-2600
Oct. 9 th	Galante Vineyards <i>New Release/Harvest Open House</i>	1-800-GALANTE
Oct. 23 rd	Chalone Vineyard <i>Warehouse Sale</i>	(831) 678-1717
Nov. 12-15 th	Monterey County Vintner & Growers Association <i>3rd Annual Great Wine Escape Weekend</i>	(831) 375-9400
Dec. 4 th	Chalone Vineyard <i>Holiday Open House</i>	(831) 678-1717
Dec. 5 th	Chateau Julien <i>Holiday Cooking Class</i>	(831) 624-2600
Dec. 5 th	Smith & Hook <i>Holiday Open House & Wreath-making</i>	(831) 678-2132

DEDICATION

MONTEREY COUNTY AGRICULTURAL COMMISSIONER (1971 – 1998)

RICHARD W. NUTTER

The 1998 crop report is dedicated to Richard W. Nutter

Under his leadership, Monterey County's Agricultural Commissioner's Office has developed into one of the top organizations in California. As the leading vegetable crop-producing county in the nation, we harvest eighty percent of all head lettuce during peak months. The county leads the nation in the production of artichokes, broccoli, cauliflower, strawberries head and leaf lettuce, and is known as the "Salad Bowl of the World."

As a vanguard for farm worker safety and related issues, he was involved in bringing about the first California farm worker legislation. California fruit and vegetable quality standards were formulated and adopted with his influence. Monterey County's pesticide regulatory and fruit and vegetable quality control programs are recognized worldwide as innovative and effective. He continues to participate in development of state pesticide laws and regulations. His participation in local foundations and organizations had proved invaluable in promoting the role of agriculture.

Legislative accomplishments include the California Organic Food Act; registration of farm labor contractors; agricultural chemical recycling; EIR functional equivalent for pesticide application; maturity, quality and standard container requirements moved from legislature to regulation; California minimum requirements for Agricultural Commissioners; full use pesticide reporting; stamp device in mandatory inspection programs; California Agricultural Commissioner's ability to enter into agreements with industry to certify products (i.e. pulp temperature certification); the Lombardi Poplar host free district; lettuce host free period; and field posting regulations.

Significant projects he has initiated are the new Agricultural Center, Art in Agriculture, and issues involving food safety, water, land use, farm worker pesticide exposure, exports, natural disasters, biological control, genetic engineering, various county ordinances, and international trade. He has testified before the United State Congress, State Legislature and many local agencies.

Father McSweeney giving the Blessing of the Grapes. Andrew & Gregory Mirassou on truck roof. Mark Mirassou with hand on truck mirror, Archie Silveria standing behind him, Jack Franscioni right of Father. McSweeney. September 29, 1973



Second Annual Grape Stomp held at California's only unrestored mission, Our Lady of Soldead. Princess Contestants: Linda Mielo, Socorra Dela Rosa, Susan Fisher, Susan Domingos, Janice Bassetti, Mary Mirassou, Paula Dela Fuente and Lillian O'Conner. September 29, 1973

Photos courtesy of Mirassou Vineyards.

