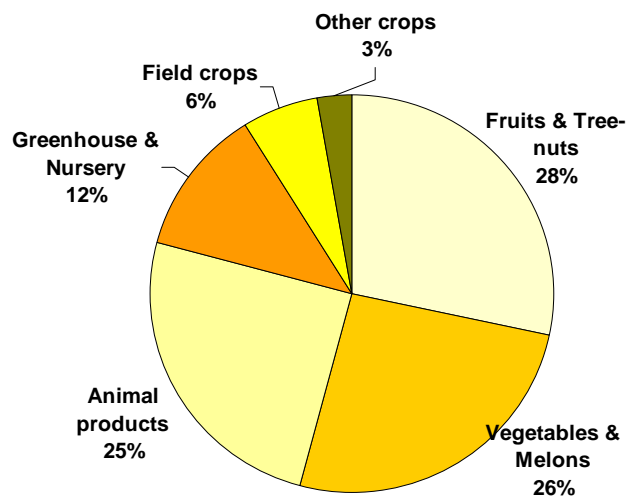


Background Data and Related Information on the Outlook for California Agriculture

April 2005

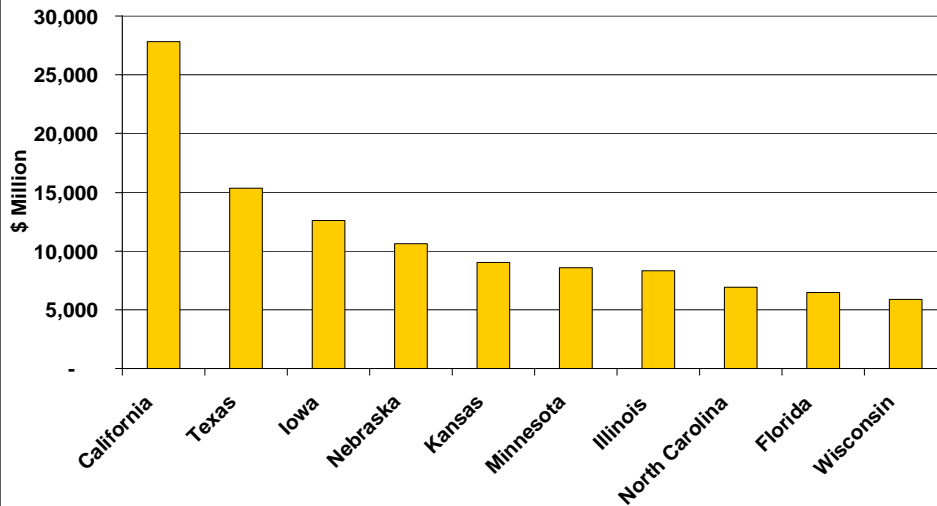
Daniel A. Sumner and Henrich Brunke
University of California
Agricultural Issues Center

California Cash Receipts by Commodity Group, 2003



Source: Economic Research Service/USDA <http://www.ers.usda.gov/data/FarmIncome/finfidmu.htm>

Top 10 States by Cash Receipts, 2003



Source: Economic Research Service/USDA

Percent of California Gross Production Value by Commodity Group and Production Region, 2002

	Fruit and Tree-Nuts	Livestock Products	Vegetables	Field Crops	Nursery, Forestry and Flowers	All Com
Central Coast	8.3	2.0	39.3	1.7	21.8	14.2
Desert	3.8	15.8	11.8	10.9	6.8	9.5
Mountain	0.4	2.6	0.8	4.6	2.0	1.7
North Coast	9.5	3.7	0.2	1.0	2.6	4.3
Sacramento Valley	7.5	4.0	3.4	22.9	2.8	7.2
San Joaquin Valley	58.1	70.2	32.0	58.0	14.1	50.4
South Coast	12.4	1.8	12.5	1.1	49.8	12.6

Source: National Agricultural Statistics Service

Top 5 farm commodities in California, 2003

Commodity	Percent of state total sales	Percent of US value
Dairy products	14.5%	19%
Greenhouse and nursery	11.9%	21.8%
Grapes	8.3%	89.2%
Lettuce	6.2%	82.4%
Almonds	5.8%	100%

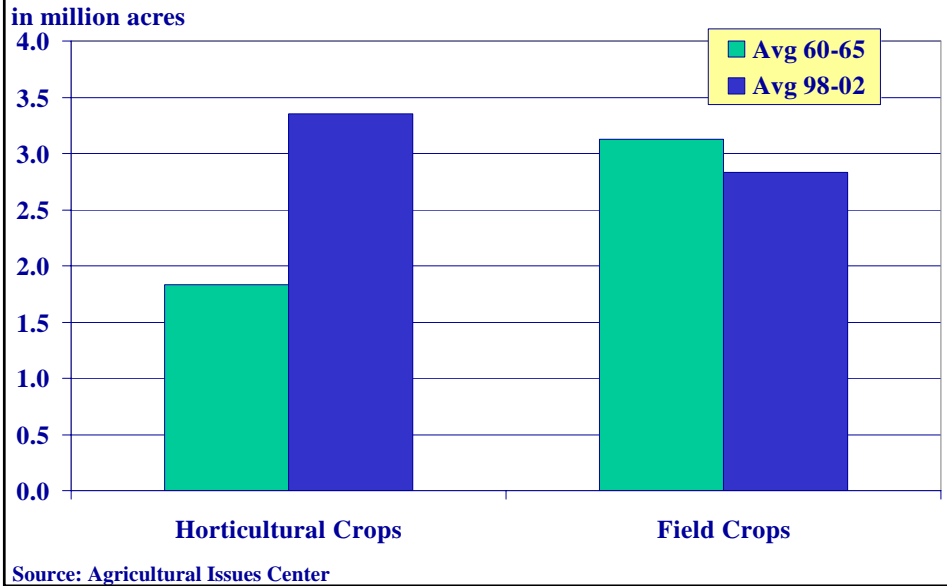
Source: National Agricultural Statistics Service

Crops for which California is the Sole or Major Producer, 2003

- **99% or more: Almonds, Artichokes, Dates, Figs, Kiwi, Nectarines, Olives, Clingstone Peaches, Pistachios, Plums, Prunes, Raisins, Walnuts**
- **Between 70% and 98%: Apricots, Avocados, Broccoli, Cauliflower, Celery, Cotton (Pima), Garlic, Grapes, Lemons, Lettuce, Proc. Tomatoes, Spinach, Strawberries**

Source: Economic Research Service/USDA

California Acreage Changes of Horticultural and Field Crops, 1960-2002



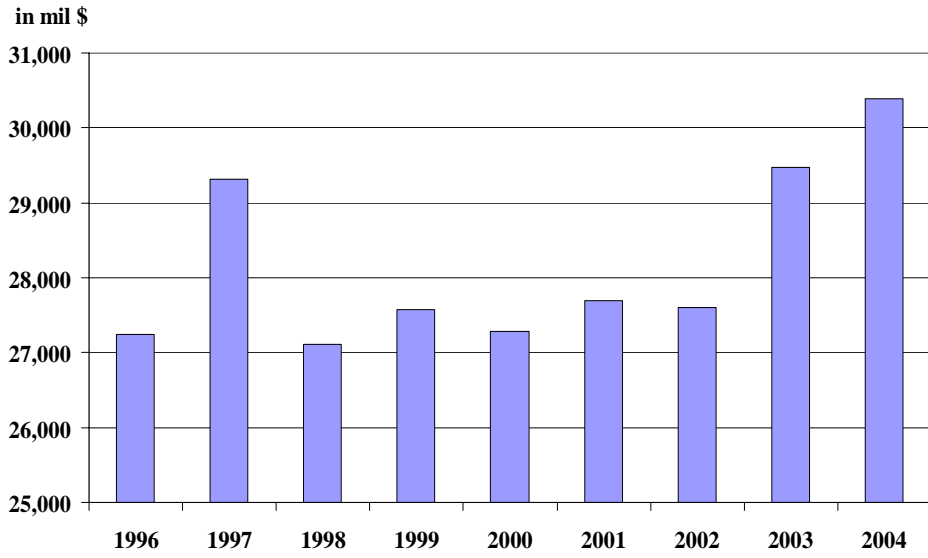
Number of Farms and Acreage, 1945-2002, California and United States

	California			U.S.		
	Number of farms	Land in Farms (1000 acres)	Average Size (acres)	Number of farms	Land in Farms (1000 acres)	Average Size (acres)
1945	138,917	35,054	252	5,859,169*	1,141,615*	195
1964	80,852	37,011	458	3,154,857	1,110,187	352
1987	83,217	30,598	368	2,087,759	964,471	462
1997	74,126	27,699	374	1,911,859	931,795	487
1997**	87,991	28,796	327	2,215,876	954,753	431
2002**	79,631	27,589	346	2,128,982	938,279	441

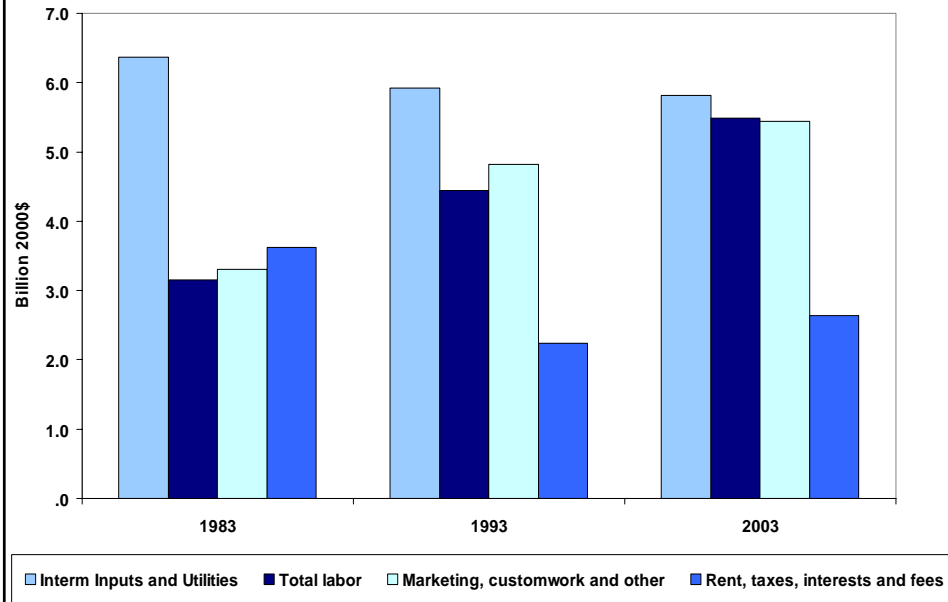
Sources: US Bureau of the Census, Census of Agriculture 1945-87

(*) Excludes Hawaii and Alaska(**) 1997 Census data was Adjusted for coverage in 2002

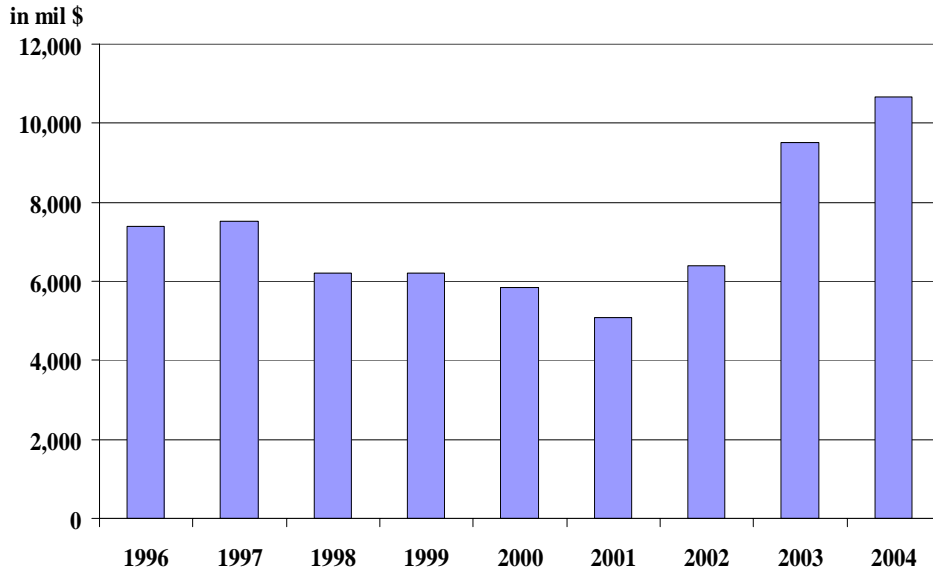
California Cash Receipts, 1996-2004, in 2004 dollars (preliminary 2004 data)



California Farm Expenditures, 1983-2003



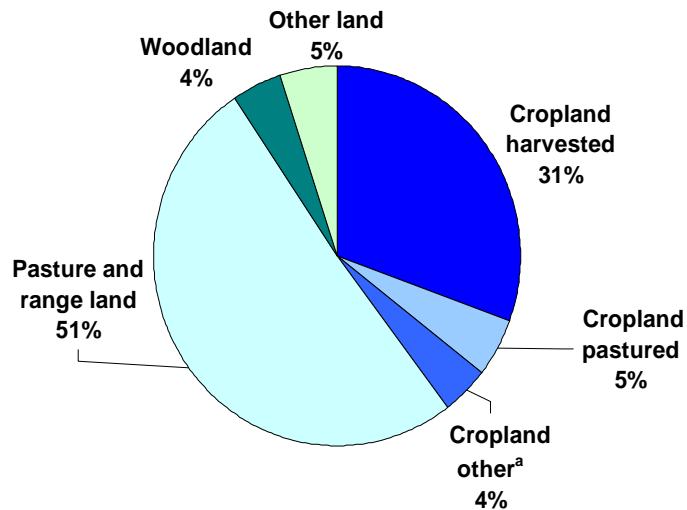
California Net Farm Income, 1996-2004, in 2004 dollars (2004 preliminary)



Farm balance sheet 2002

Variable	\$ Billion
Farm assets	93
<i>Real estate</i>	<i>80</i>
<i>Non-real estate</i>	<i>13</i>
Farm debt	19
<i>Real estate</i>	<i>12</i>
<i>Nonreal estate</i>	<i>8</i>
Equity	73
Debt/equity	26.5%
Debt/assets	21%

Agricultural Land Use in California, 2002



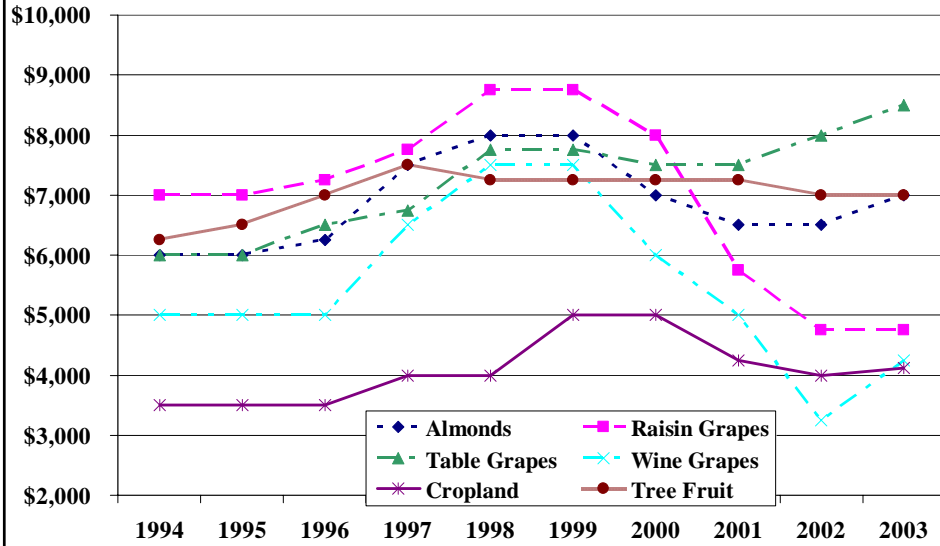
Source: USDA NASS, 2002 Census of Agriculture
^a cover crops failed, summer fallow, idle

California Land Conversion to Urban and Other Uses, 1988-2002

	Cropland	Grazing Land	Other Land	Total Acres Converted
1988-90	40,003	20,863	57,364	118,230
1990-92	39,141	14,729	45,394	99,264
1992-94	23,453	10,464	20,390	54,307
1994-96	25,954	13,303	19,185	58,442
1996-98	37,585	17,057	34,919	89,997
1998-00	46,859	24,403	57,816	129,161
2000-02	59,144	35,126	89,973	184,243
Cumulative Total	272,139	135,945	325,041	733,644

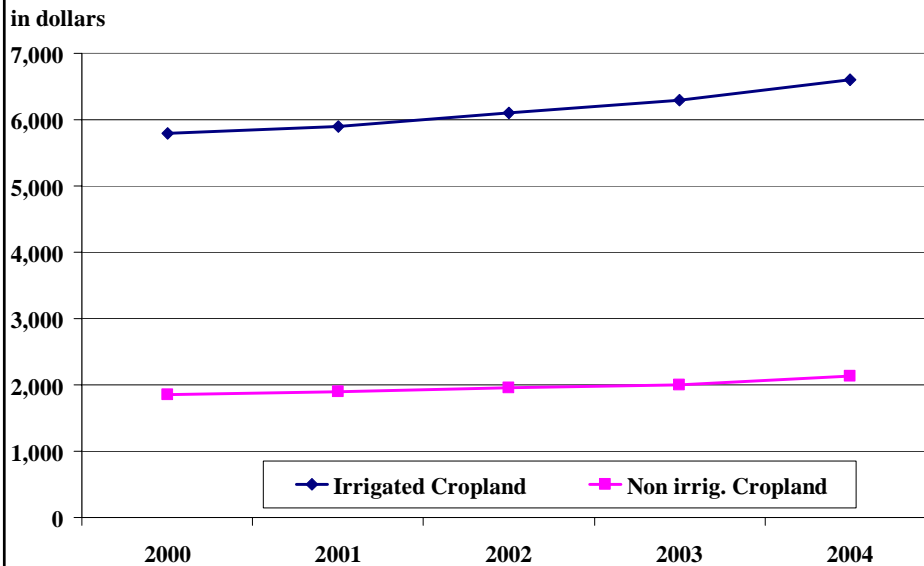
Source: California Department of Conservation, Farmland Mapping and Monitoring Program

Fresno County Land Values, Selected Crops, 1994-2003



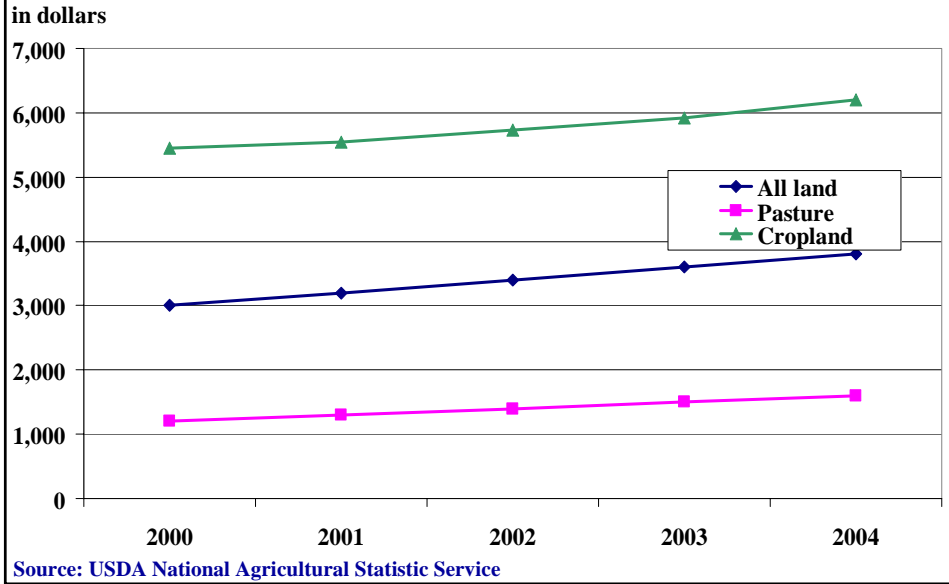
Source: American Society of Farm Managers and Rural Appraisers

California Land Value, Irrigated and Non-Irrigated Cropland, 2000-2004

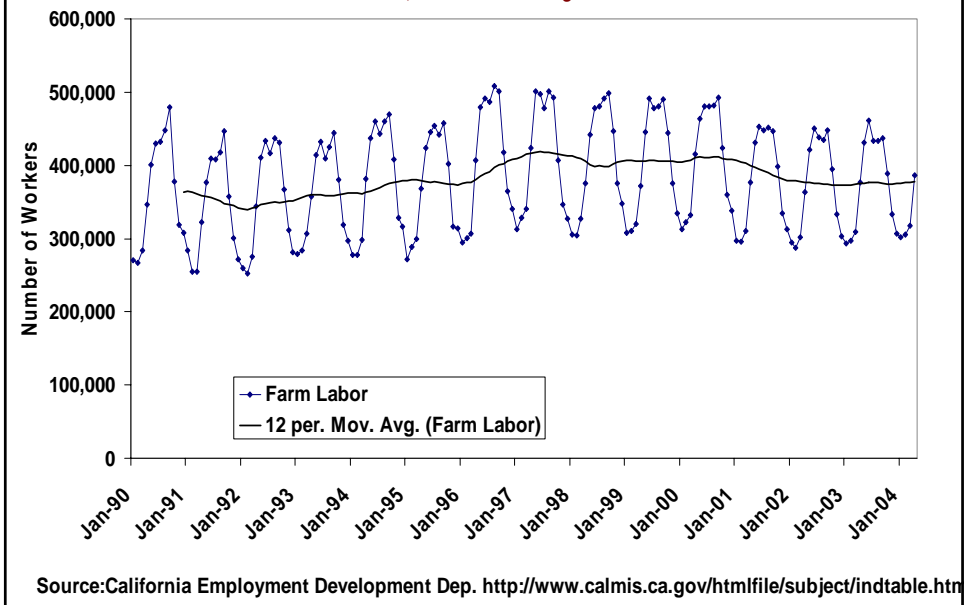


Source: USDA National Agricultural Statistic Service

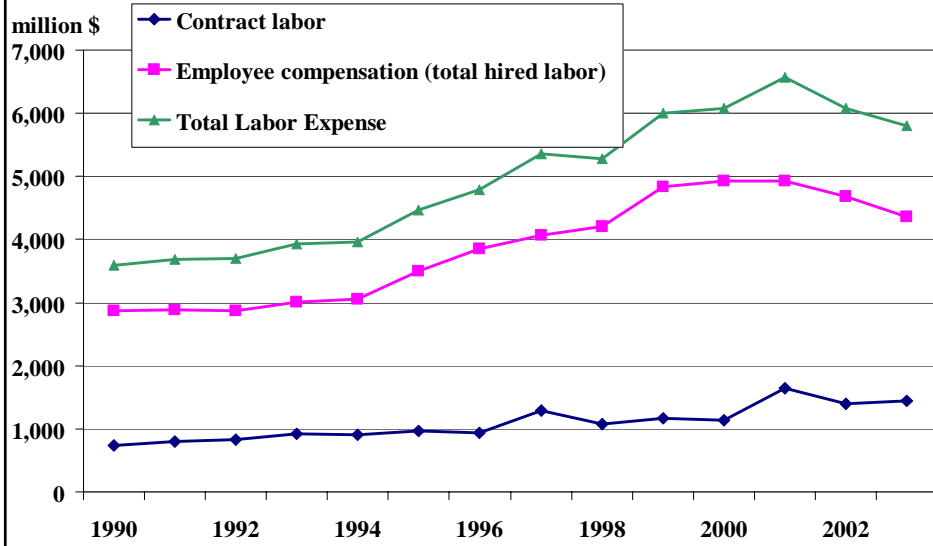
California Land Value, All Land, Pasture and Cropland, 1997-2004



California Hired Farm Workers, 1990-2004, Monthly



Trends in Contract Labor and Total Hired Labor Cost on California Farms, 1990-2003



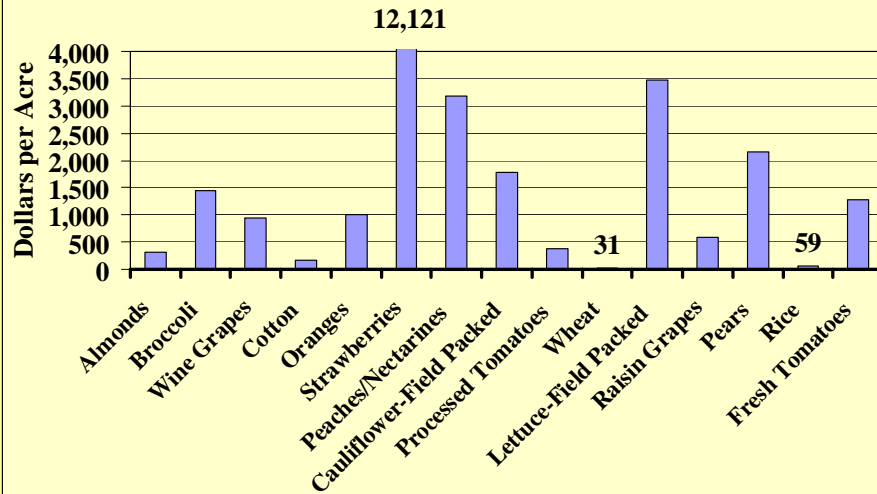
Source: USDA Economic Research Service

Characteristic of California's Central Valley Farm Workers, 2001

	Percent
Born in Mexico	91
Born in other countries	4
Very Limited English	87
Males	76
Mean age	33
Married or Common Law	63
Mean Number of years in the U.S.	11.2

Source: Alvarado and Luna (2002)

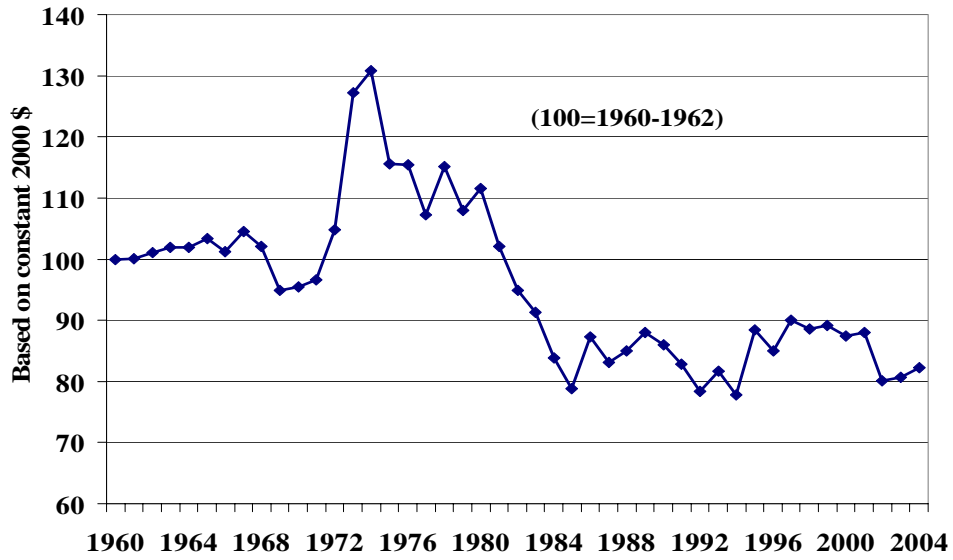
Labor Expenditure per Acre



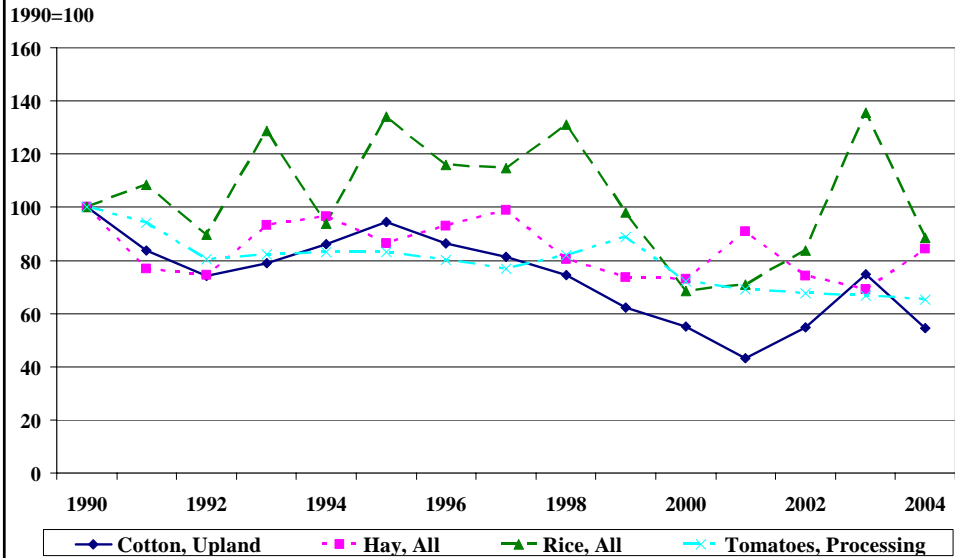
Source: Agricultural Issues Center

For irrigation water information,
see the accompanying water
background in this conference
briefing book

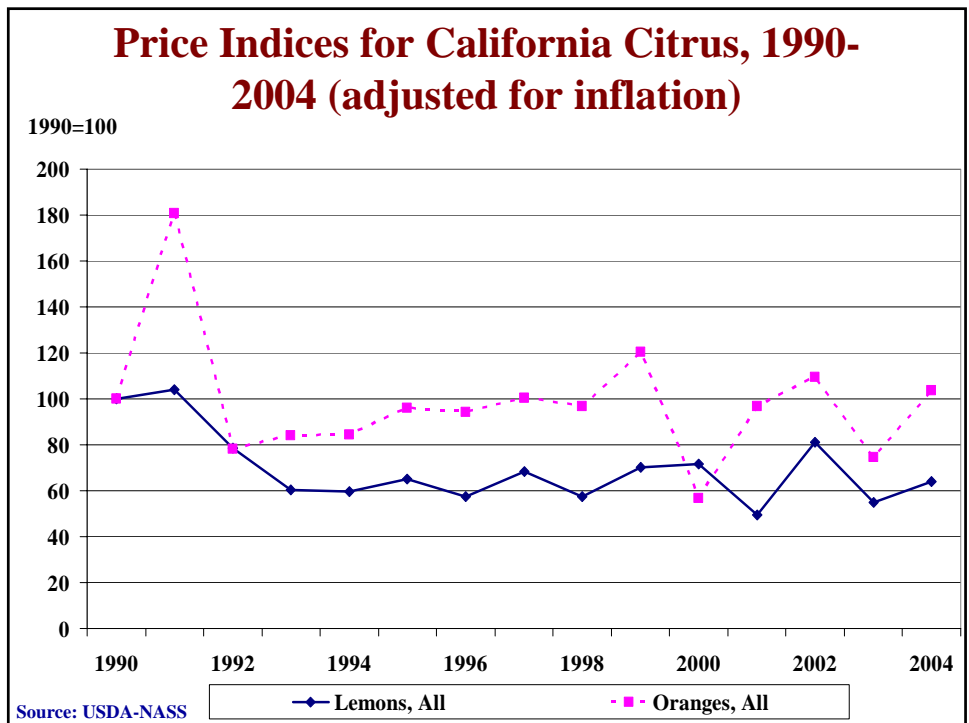
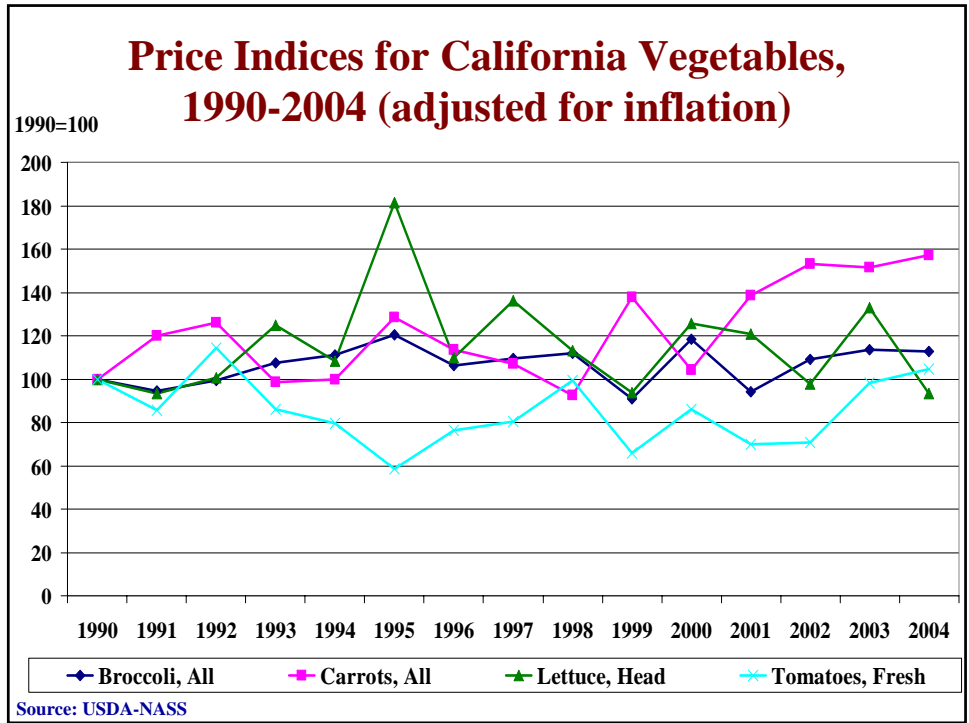
Price Index of Top-40 California Commodities, Weighted by Value of Production, 1960-2004



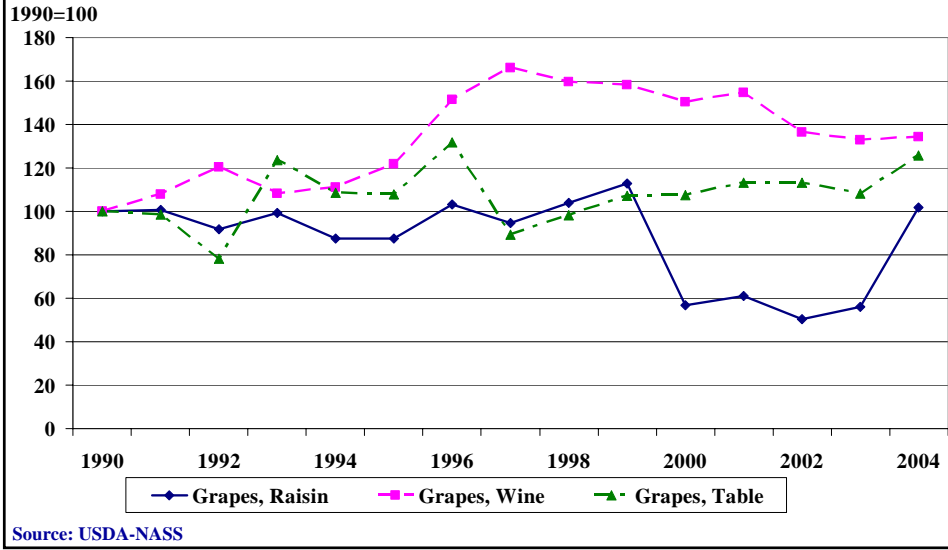
Price Indices for California Field Crops, 1990-2004 (adjusted for inflation)



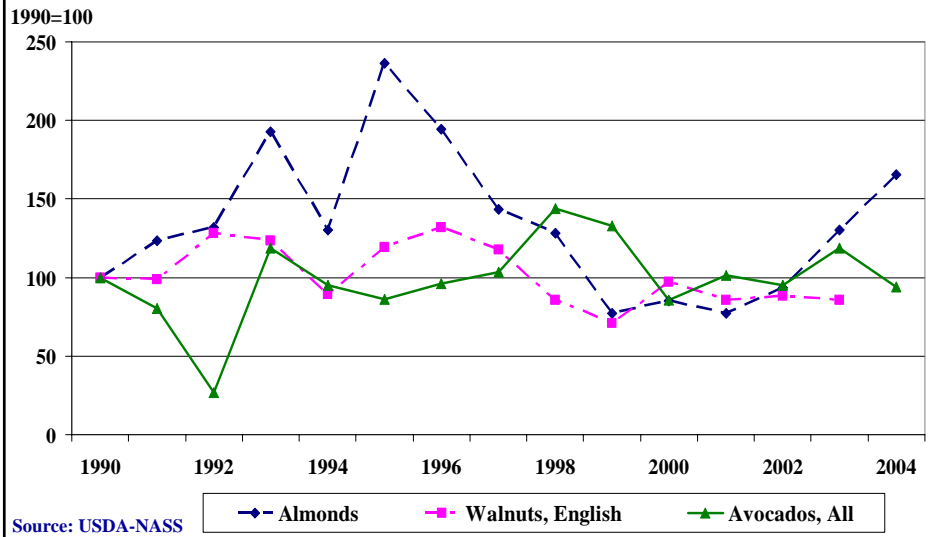
Source: USDA-NASS



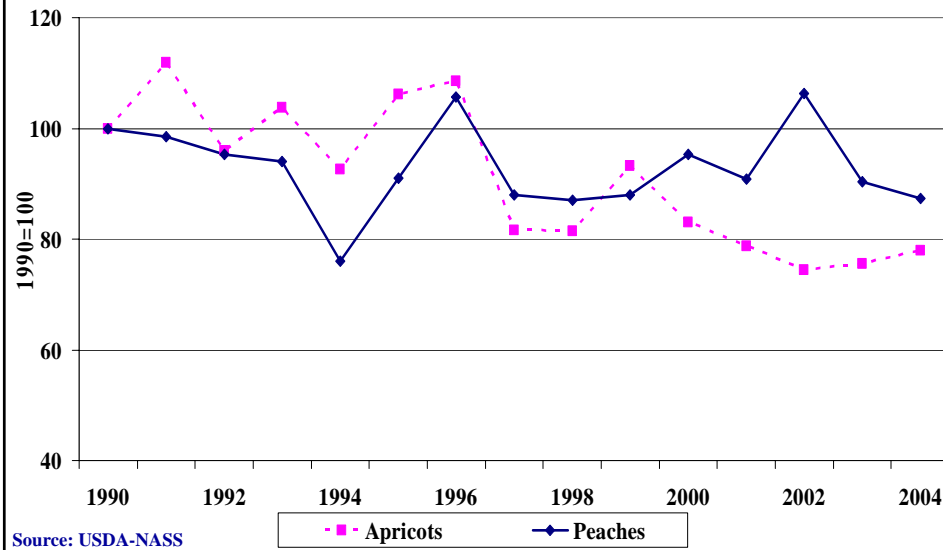
Price Indices for California Wine and Table Grapes and Raisins, 1990-2004, adjusted for inflation



Price Indices for California Almonds, Walnuts, Avocados, 1990-2004 (adjusted for inflation)



Price Indices for California Apricots and Peaches, 1990-2004 (adjusted for inflation)



Expected prices

Expected prices hinge on the interaction of expected long run supply conditions in competitive regions and long run tree crop demand conditions in relevant markets.

Expected future demand includes the US market and potential export markets.

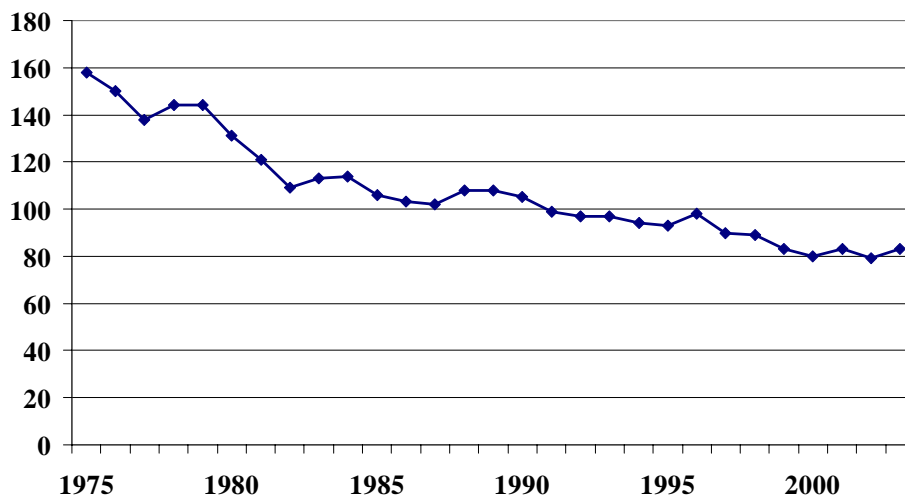
- In all markets, expected future demand depends on expectations about prices of substitute foods, new product developments, nutritional benefits, income growth, demographic trends such as age distributions, ethnicity and etc.
- In export markets, tariffs and other barriers to access also determine relevant demands.

Expected prices

Expected future supply in competitive regions depends on changes in costs per unit of output if output were to expand or contract.

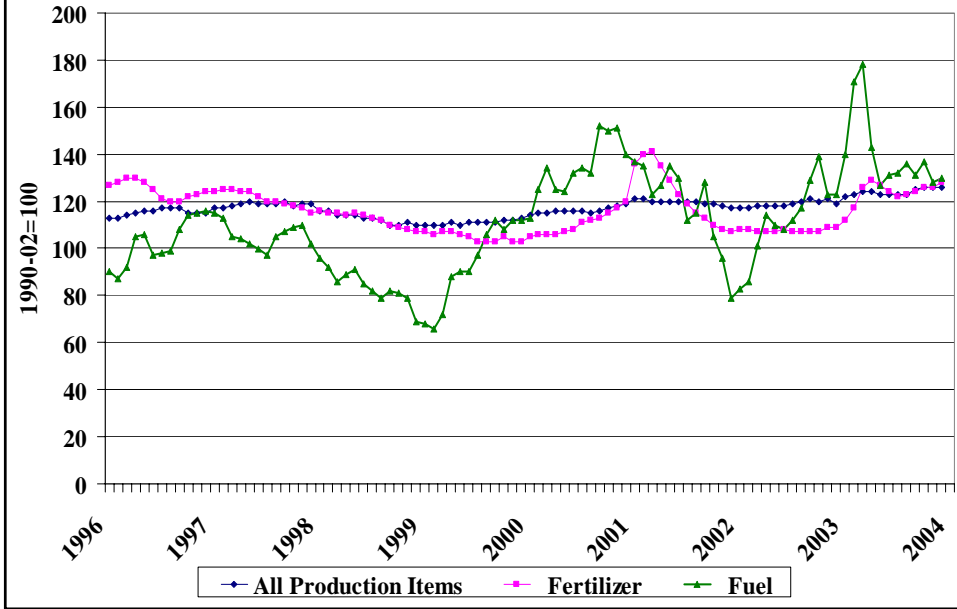
- **Important competitors are in Europe, South America, and Asia, but also, for some crops, in other parts of the U.S.**
- **Must project resource constraints faced by other producers, their input prices and potential technological improvements**
- **Also land prices and competition from other crops is crucial in other regions, as in the local area**
- **For some regions (Europe) farm subsidies drive current supplies and subsidies will likely be declining over the decades to come.**

Ratio of Agricultural Price Received and Prices Paid by U.S. Farmers, 1975-2003

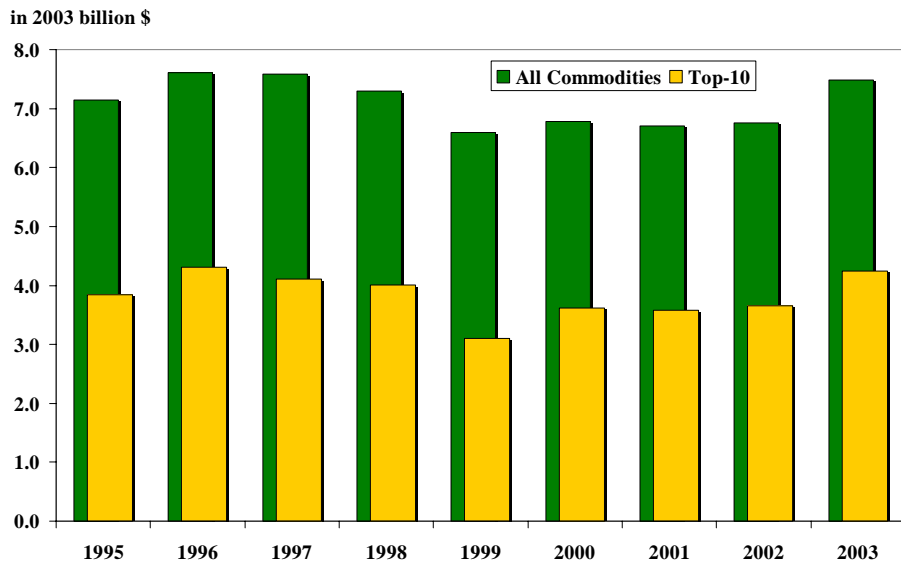


Source: USDA-NASS

Index of Prices Paid by Farmers, Jan 95-Dec 03



California's Agricultural Exports 1995-2003



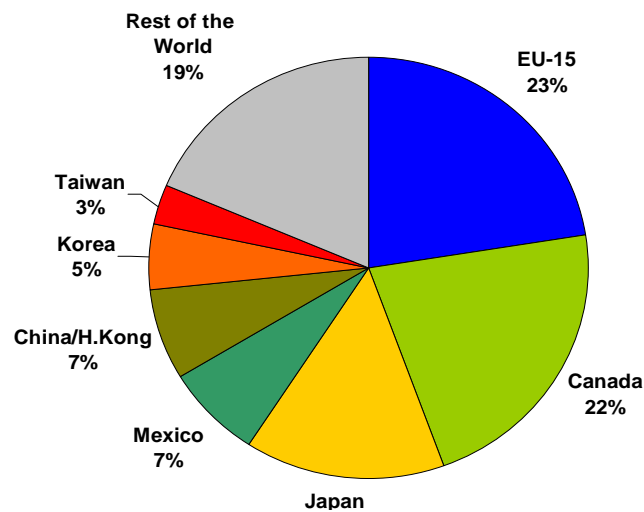
Source: Agricultural Issues Center

Top-10 California Exports, 2003

in million \$

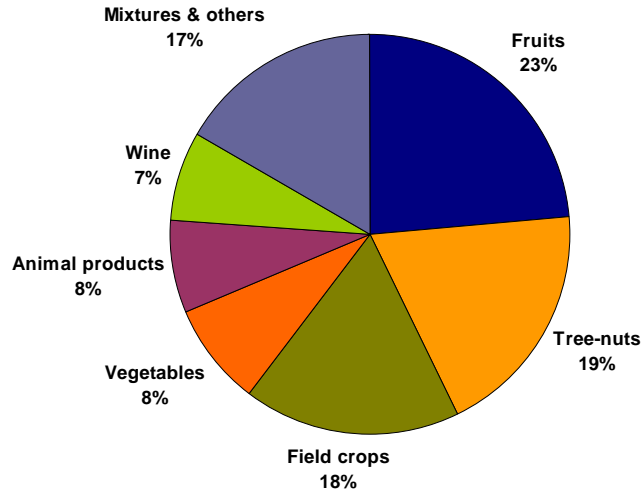
Rank	Commodity	2002	2003	Change %
1	Almonds	829.0	1,081.2	30%
2	Cotton	510.7	676.4	32%
3	Wine	485.0	548.5	13%
4	Table Grapes	367.3	386.3	5%
5	Oranges	303.2	343.9	13%
6	Dairy	300.9	326.2	8%
7	Tomatoes, Processed	215.2	230.8	7%
8	Rice	183.3	217.1	18%
9	Beef and Products	167.7	214.7	28%
10	Walnuts	183.9	213.9	16%

Agricultural Exports to Main Destinations, 2003



Source: Agricultural Issues Center

Agricultural Exports by Commodity Group, 2003



Source: Agricultural Issues Center

Ratio of Farm Quantity Exported to Farm Quantity Produced, 2003

Commodity	2002	2003
	Percent	
Grapes all	21	25
Almonds	61	65
Cotton ¹	93	103
Oranges	27	40
Dairy ²	5	N/A
Tomatoes, Processed	11	14
Rice	43	48
Beef and Products	7	7
Walnuts	39	39
Strawberries	12	12
Lettuce	10	10
Pistachios	29	70
Dry plums	48	42
Peaches & Nectarines	10	12
Hay	7	7
Weighted Average ³	18	21

Source: USDA/NASS and AIC estimates

¹ Cotton ratio is higher than 100% because part of what is exported in one year comes from accumulated stocks from previous season

² There is no reliable data on farm based quantity exported. The ratio reported here is from 2002.

³ Average ratio of the 50 principal commodities, weighted by production value of each commodity.

Budget projections for farm subsidies (\$Billions)

	Fiscal Year 2004/05
Feed grains	8.2
Soybeans	2.1
Wheat	1.6
Cotton	3.3
Rice	0.6
Dairy	0.8
Other commodity	0.5
Disaster	2.6
Other	1.0
Total	\$20.7 Billion

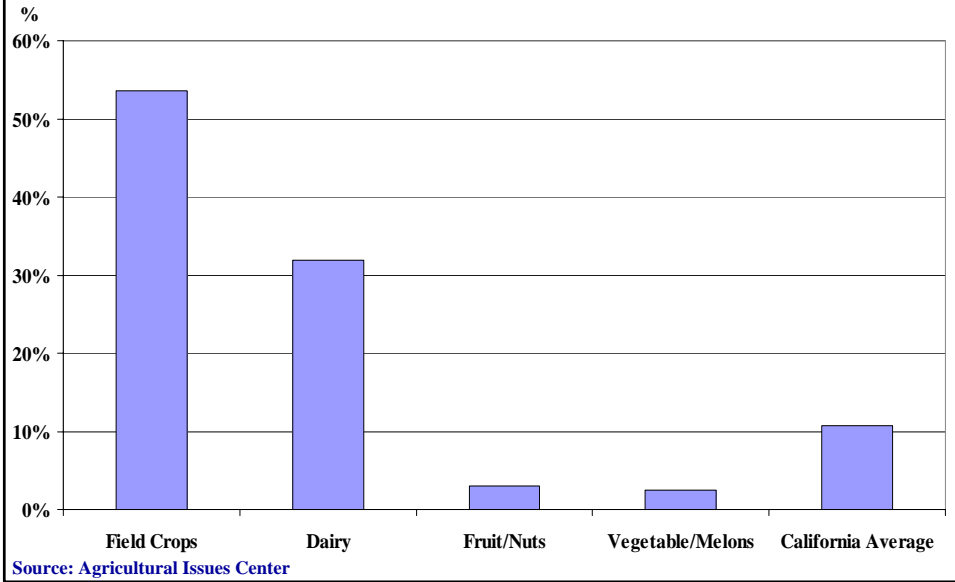
Source: U.S. Budget, 2005, Office of Management and Budget

Direct Federal Payments to Farmers, 1960 - 2003

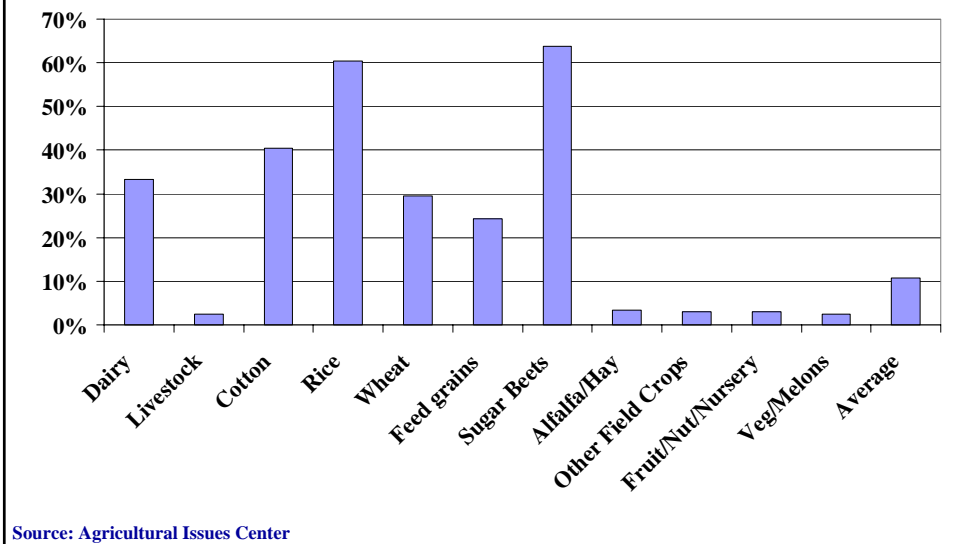
Year	US Payments (\$ million)	California	Payments in California as % of United States
1960	702	22	3.1%
1970	3,717	132	3.5%
1980	1,286	14	1.1%
1990	9,298	252	2.7%
1995	7,279	240	3.3%
2000	22,896	667	2.9%
2001	20,727	587	2.8%
2002	10,961	451	4.1%
2003	15,949	654	4.1%

Source: USDA, Economic Research Service

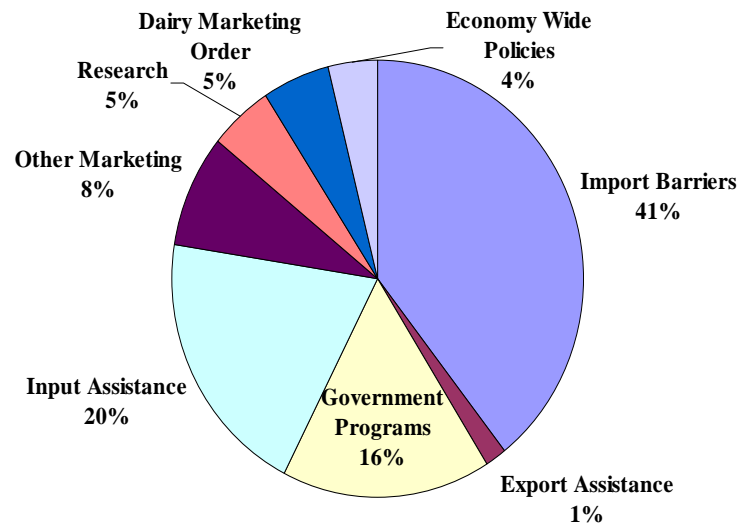
Producer Support Estimate by Commodity Group, 1999-2001



Producer Support Estimate in California, by Commodity or Commodity Group, 1999-2001

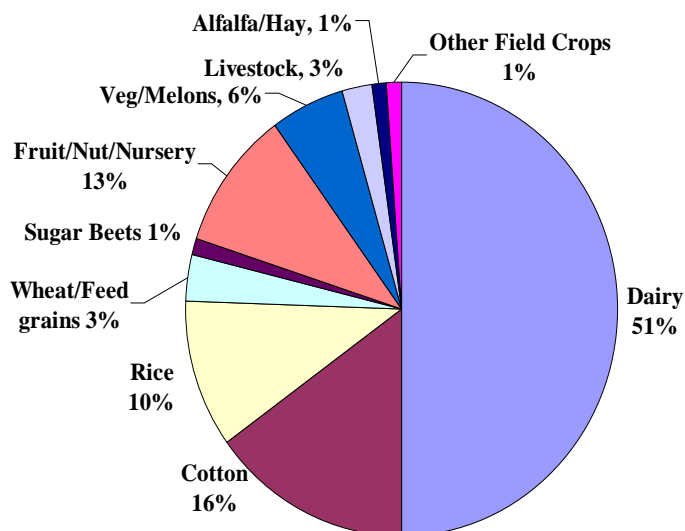


Share of Support by Policy, California, 1999-2001



Source: Agricultural Issues Center

Share of Total Producer Support by Commodity, California, 1999-2001



Source: Agricultural Issues Center

Projected Changes in Food Consumption, 2001 to 2030

Commodity Group	California	United States
	---Percentage growth---	
Fruit, nuts and vegetables	62	34
Food grains	54	26
Dairy	51	23
Meats	49	21
Other	52	24
Total	54	26

Source: Agricultural Issues Center

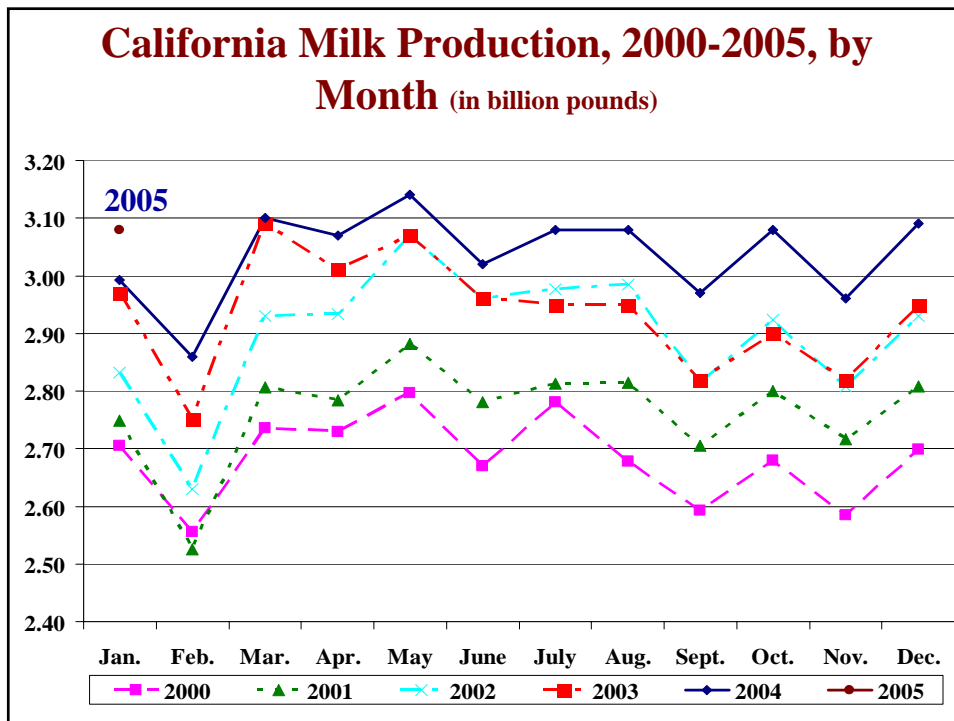
Changes in California food production 2001–2030, in value terms

Source	Percent change
Technical change: yield growth (1.2% per year)	+ 43
Climate change: yield growth	+ 15
Crop shifts (high value/acre)	+ 10
Land loss, urbanization, etc.	- 10
Net production change	+ 58

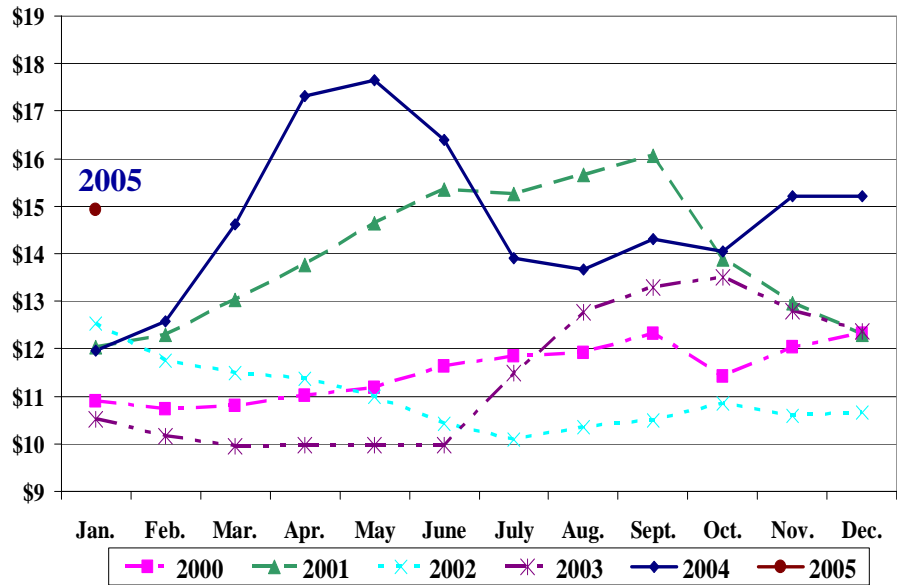
Source: Agricultural Issues Center

Outlook Dairy

- Nationwide, the all milk price is projected to \$14.85 to \$15.25 per cwt for 2004/05
- Cheese demand shows continued strength and class III prices are forecast higher at \$13.80 to \$14.20 per cwt and class IV at \$12.35 to \$12.95 per cwt.
- Dairy exports are expected to repeat the previous season strong showing



California Average (Statewide Blend) Dairy Price by Months (\$/cwt), 2000-2005



Outlook Citrus

- California orange production forecast at 2.4 million, 23 percent up from last season and highest since 99/00. Grower prices have been averaging above last season due to intermittent rains hampering harvest.
- Fruit quality is also good contributing to higher prices

Citrus Outlook Continued

- U.S. lemon crop is forecast at 832,000 tons, 4 percent higher than last season, with a bigger crop in California. Lemon prices are likely to decline through the season.
- U.S. grapefruit crop (80% Florida) this season is only expected to reach 985,000 tons, 54 percent below last season. If realized, this season's crop would be the lowest since 1935/36.

Cotton Outlook

- The 2004/05 U.S. cotton crop is projected to reach 23 million bales, up from 18.3 million last year. With beginning stocks, U.S. supply will be highest in nearly four decades
- Demand is projected to reach 19.5 million bales, which results in ending stocks of 7.1 mil bales and stock-to-use ratio of 36%
- California acreage is projected unchanged from last season. Pima acreage is expected slightly higher

Rice Outlook

- U.S. production in 04/05 projected at record 230.8 million cwt, up 16% from previous year.
- U.S. ending stocks for 04/05 are estimated at 40 million cwt, the largest since 86/87 and season average price projected at \$7.25 to \$7.55 per cwt, down from over \$8 in 03/04
- U.S. supplies of medium/short grain rice in 04/05 remain projected at 77.5 million cwt, the largest since 83/84.

Other California Crop Outlook

- Almonds: Growers optimistic about successful pollination and likely good crop
- Strawberries: After initial setbacks due to rain, Calif. production is recovering and might reach new production record (California Strawberry Commission)
- Processing tomatoes: Early intentions report indicated 9 percent fewer tons contracted

Wine Grapes

- California wineries shipped record 428 million gallons of wine in 2004
- Wine sales in the U.S. grew 4% to 668 million gallons in 2004 (table wine sales were 88%, desert wines 7.5% and champagne/sparkling wine 4.5%)
- U.S. wine consumption has increased 63% since 1991

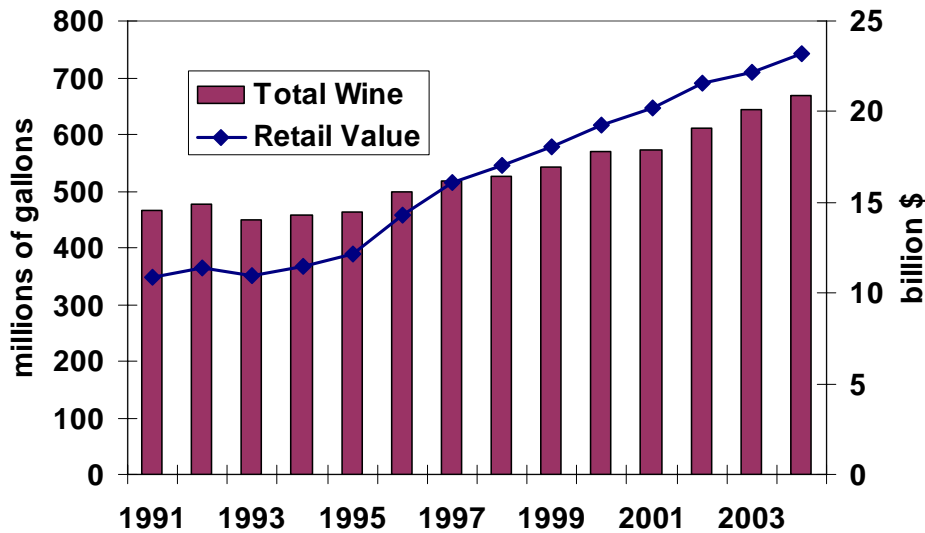
Source: The Wine Institute

Table Wine Volume Share by Color in U.S. Supermarkets

Color	1991	1995	2004
Red	17%	25%	41%
White	49%	41%	40%
Blush	34%	34%	19%
Total	100%	100%	100%

Source: The Wine Institute

Wine Sales in the U.S. 1991-2004. millions of gallons



Source: The Wine Institute

Expected Quantity

- **Future crop yields for each crop will be driven by the specific parcel used for that crop, technology available in the future and choice of inputs**
- **Each parcel has different relative yields so the decision must start there. Obviously, some land is just not well suited to some crops**
- **Also, high crop price or low input prices may stimulate higher yields**
- **Future technology must be projected to see how relative yields grow across crops**