

California's International Agricultural Exports in 2003

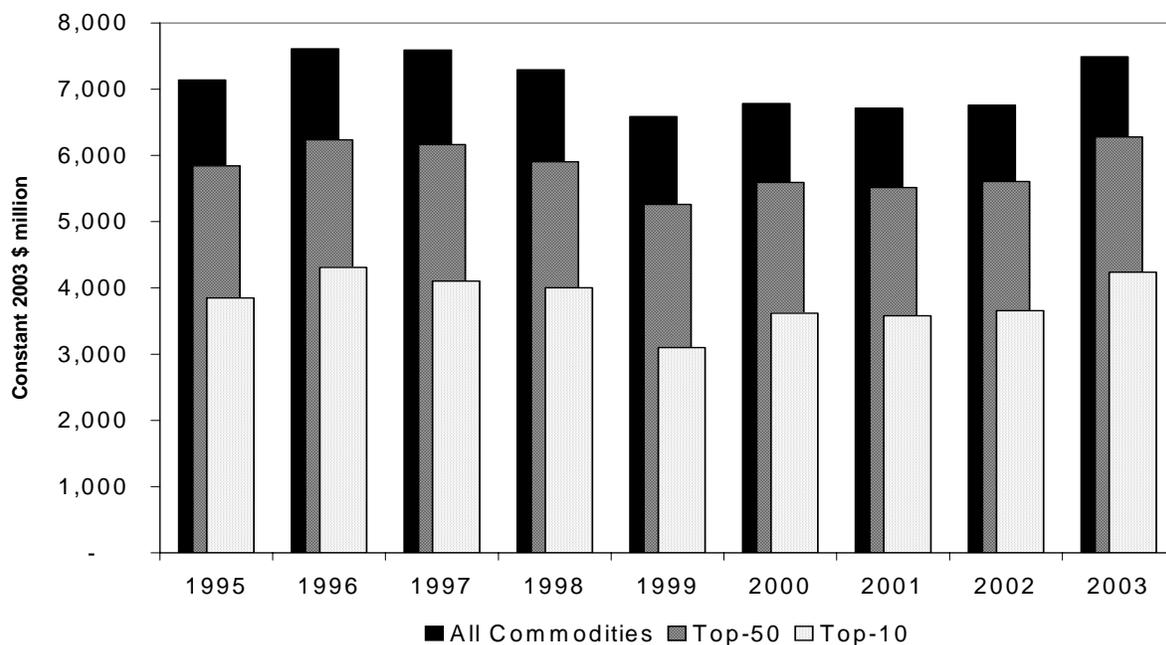
José E. Bervejillo and Daniel A. Sumner¹

In 2003 California's agricultural exports increased 14 percent over 2002, reaching \$7.5 billion, the highest value for the past six years in real terms (Figure 1). The data reported in this *AIC Issues Brief* describe international agricultural exports for 2003 as well as revisions for 2001 and 2002. They are the product of a seven-year collaborative effort between the AIC and the Agricultural Export Program of the California Department of Food and Agriculture to develop accurate estimates of the value of California agricultural products shipped to international markets. More detail about the history, methods, and early results from the project, along with export data since 1995, is available at <http://aic.ucdavis.edu>. The website also contains additional facts about individual commodities and markets.

Agricultural Exports in 2003

Our estimates of California's agricultural exports differ from those estimated by other sources. We have developed separate procedures for each of California's 50 top agricultural commodities and a process for assessing the California content for agricultural exports containing a mixture of products. Our estimates are based on various sources, primarily the U.S. International Trade Commission database (which contains official U.S. Department of Commerce data), Canadian official statistics, and industry sources. The data from each source is checked and analyzed with particular emphasis on formal and informal reports from California industry experts.

FIGURE 1. California's Agricultural Exports, 1995-2003



¹José E. Bervejillo is an assistant specialist at the University of California Agricultural Issues Center; Daniel A. Sumner is the Frank H. Buck, Jr., Professor, Department of Agricultural and Resource Economics, University of California, Davis, and director, University of California Agricultural Issues Center.

TABLE 1. California agricultural commodity export values and rankings, 2001 - 2003

Rank 2003	Commodity	2001	2002	2003	% change 2003/2002 ⁷
		Export value \$ million			
1	Almonds	685.6	829.0	1081.2	30
2	Cotton ¹	607.4	510.7	676.4	32
3	Wine	474.7	485.0	548.5	13
4	Table Grapes	394.5	367.3	386.3	5
5	Oranges ²	298.2	303.2	343.9	13
6	Dairy	338.4	300.9	326.2	8
7	Tomatoes, processed ³	211.8	215.2	230.8	7
8	Rice ²	168.3	183.3	217.1	18
9	Beef and products	154.8	167.7	214.7	28
10	Walnuts	179.1	183.9	213.9	16
11	Strawberries ³	136.0	155.8	197.1	27
12	Lettuce ^{1,3}	150.0	159.6	178.1	12
13	Raisins	144.1	151.9	164.7	8
14	Pistachios	108.9	130.7	135.3	4
15	Prunes	149.5	127.9	133.6	4
16	Peaches/Nectarines	118.7	106.7	125.8	18
17	Hay	86.3	103.9	104.8	1
18	Broccoli ³	90.1	94.3	97.2	3
19	Lemons ⁴	85.1	86.7	78.6	-9
20	Carrots ^{2,3}	68.0	71.3	75.7	6
21	Cherries ⁵	80.5	62.9	65.4	4
22	Plums	53.5	54.9	58.5	7
23	Tomatoes, fresh	56.6	48.7	54.0	11
24	Cauliflower	45.5	51.4	53.2	3
25	Grapefruit ²	38.3	34.3	48.0	40
26	Celery	46.0	42.3	42.8	1
27	Onions ²	42.2	36.5	42.7	17
28	Melons ⁶	39.3	40.0	39.4	-2
29	Wheat ⁵	30.0	26.9	38.4	43
30	Flowers & nursery ⁶	39.7	36.8	37.8	3
31	Grape juice	31.4	28.5	30.4	7
32	Asparagus	31.0	17.1	29.0	69
33	Potatoes	26.4	30.2	28.3	-6
34	Garlic	24.8	23.2	22.3	-4
35	Bell & chili peppers ⁶	18.3	19.5	21.9	12
36	Apples	29.2	31.1	19.9	-36
37	Apricots	15.6	17.5	15.5	-12
38	Pears ⁴	24.0	17.5	14.5	-17
39	Dates	11.5	10.9	13.9	27
40	Turkey	17.4	5.6	12.3	119

TABLE 1. California agricultural commodity export values and rankings, 2001 - 2003 (continued)

Rank 2003	Commodity	2001	2002	2003	% change 2003/2002 ⁷
		Export value \$ million			
41	Olives	10.3	11.3	11.1	-2
42	Cottonseed byproducts	7.0	6.9	9.2	35
43	Kiwi	6.4	7.6	8.8	15
44	Figs	6.7	7.1	8.0	14
45	Dry Beans	5.6	10.4	8.0	-23
46	Eggs ³	8.6	8.5	6.4	-25
47	Chickens	11.3	5.3	5.5	2
48	Artichokes	3.3	3.1	2.9	-5
49	Mushrooms ²	3.4	2.9	2.1	-27
50	Avocados	2.1	1.5	1.5	-3
Total Principal Commodities		5415.3	5435.4	6281.4	16
Total Other Products		1173.4	1116.5	1209.1	8
Total All Agricultural Exports		6588.7	6551.9	7490.5	14

¹ Estimation method was re-calibrated and applied to 2001, 2002 and 2003 data.

² 2001 and 2002 figures were revised based on updated port data from the United States Department of Commerce, International Trade Commission.

³ 2001 and 2002 figures were revised based on updated production data from the United States Department of Agriculture, National Agricultural Statistics Service.

⁴ 2001 and 2002 figures were revised based on updated industry data.

⁵ 2001 and 2002 estimation procedures were re-assessed, based on new information from industry sources.

⁶ 2001 and 2002 figures were revised based on updated Canadian import data.

⁷ Export values for each year are rounded. More precise numbers are used in the percent change calculations.

While U.S. agricultural exports increased by 12 percent in 2003, California's exports increased by 14 percent. Table 1 provides agricultural export values and rankings by commodity for 2003 and revisions for 2001 and 2002. We include the top 50 agricultural products by export value and an "Other Products" category comprised of smaller commodities, mixtures of commodities, and other agricultural products for which the commodity composition is difficult to determine. Of the \$7,490 million in exports in 2003, \$6,281 million were associated with the 50 principal commodities and the remaining \$1,209 million were associated with other products and composites.

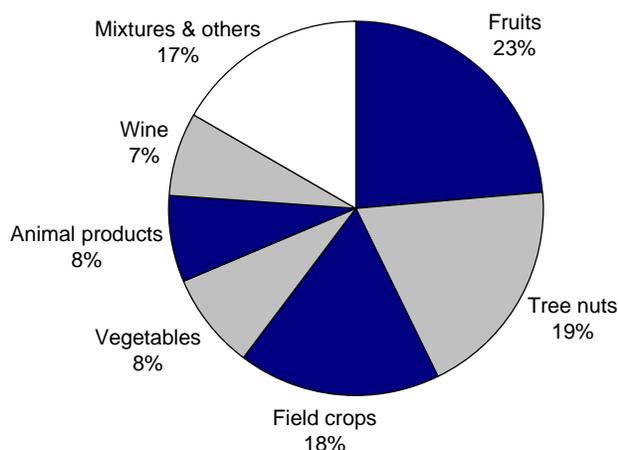
The top 10 export products have not changed much in the last nine years. Since 1995 almonds, cotton, table grapes, wine, processed tomatoes and rice have been in the top 10 commodities; dairy, oranges, beef and walnuts have been most years, and raisins were in this group until 1999 but have remained out of the top 10 since

then. Overall, the top 10 products account for two-thirds of the total export value of the 50 principal commodities and more than half of all California's agricultural exports.

In 2003, thirty-seven of the 50 principal export products increased in export value while only 13 products decreased in export value. By and large, agricultural exports have been favored by a devalued dollar, which helps increase the competitiveness of U.S. products in international markets and leads to higher prices in U.S. dollar terms.

Almonds have been the top export commodity for several years and showed a 30 percent increase in export value in 2003, most of which is a result of higher prices. However, if the four grape export products—wine, table grapes, raisins and grape juice—are combined, the total value of grape exports is more than \$1.1 billion, slightly exceeding almond exports. The total value of exports

FIGURE 2. California agricultural exports by commodity group, 2003



Note: Flowers and nursery are included in “Mixtures and others”

for the grape industry increased by more than 9 percent—wine exports were up 13 percent, but table grape and raisin exports grew by only 5 and 8 percent respectively.

Cotton exports increased from \$510 million in 2002, which was an especially poor year in terms of export value, to \$676 million in 2003. Total volume exported increased only 3 percent, with a net decrease in export volume of upland cotton. Because of much higher prices, the value of cotton exports increased overall by 32 percent, while exports of American Pima cotton increased by 82 percent in value. However, cotton exports remained well below the 1995-99 average annual value of approximately \$827 million.

The export value of oranges jumped from \$303 million in 2002 to \$344 million in 2003, a 13 percent increase. Export quantity increased by 31 percent and prices fell.

California’s dairy products export value increased by 8 percent in 2003, partly because of a recovered Mexican market for nonfat dry milk. In 2002, reduced shipments to Mexico affected the state’s exports of dairy products, but in 2003 total sales to Mexico from California more than doubled. Nevertheless, total exports of dairy products during 2003 were still less than during 2001.

The 2003 export value of processed tomatoes was \$231 million, 7 percent higher than 2002. Export quantity increased by 14 percent, despite the fact that production was 16 percent lower than the record crop in 2002.

Rice export value increased from \$183 million to \$217 million (18 percent) due to increased average export prices. Export quantities actually decreased for the second consecutive year and were 96 percent of the 2001 volume.

Beef and beef products export value increased 28 percent, from \$168 million to \$215 million. Export quantities increased 11 percent and reached the highest volume in the last five years.

Walnuts export value increased from \$184 million in 2002 to \$214 million in 2003, a 16 percent increase. Quantities exported increased 18 percent, but prices were slightly lower.

Other commodities that showed significant increases in export value were grapefruit, wheat, asparagus, turkey and cottonseed byproducts. Grapefruit exports benefited from growing markets in Korea, New Zealand and Malaysia. Wheat exports increased 43 percent, most of which resulted from increased shipments to Italy, a country that almost doubled its past imports of California’s durum wheat. Asparagus exports increased by 69 percent. The year 2002 was a bad year for exports, and 2003 was closer to 2001 values. With lower prices and similar production level, volumes of asparagus exported to Canada and Western Europe increased dramatically.

Significant decreases in export values were recorded for apples, dry beans and mushrooms. Export value of apples and associated products decreased by 36 percent. An increase in export quantities of fresh apples was not enough to compensate for the reduced export prices. Dry bean exports decreased by 23 percent following a similar decrease in production. Mushroom exports decreased by 27 percent because of reduced demand from Canada for fresh mushrooms.

Figure 2 shows the share of total export value by commodity group. Horticultural commodities—fruits, wine, tree nuts and vegetables—accounted for 57 percent of the state’s total agricultural export value. Most of the “Mixtures and Others” category is comprised of highly processed products which are not easily separated into

TABLE 2. Percent of California export value shipped to major markets by commodity group, 2001 - 2003

Commodity group	EU-15	Canada	Japan	Mexico	China/ H.Kong	Korea	Rest of the World	Grand Total
Animal Products ¹	1	1	22	35	9	15	17	100
Field crops	7	14	18	7	10	6	37	100
Flowers & Nursery	18	43	5	26	2	1	5	100
Fruits ²	11	31	15	6	11	6	20	100
Tree nuts	54	6	10	2	4	2	22	100
Vegetables ³	3	70	13	5	1	0	8	100
Wine	60	16	11	1	1	1	10	100
All commodities ⁴	23	22	15	7	7	5	22	100

¹ Only beef and dairy products

² Excluding avocados

³ Excluding mushrooms

⁴ Mixtures and food preparations not included.

individual commodities. The commodity groups whose value increased the most from 2002 to 2003 were tree nuts (25%) and field crops (21%).

International Destinations

California exports agricultural products to almost 150 countries, but 10 principal destinations account for 87 percent of the export value, and four destinations—Canada, the EU, Japan, and Mexico—account for two-thirds of that total. Figure 3 shows the share of total export value shipped to each of the top 10 countries, considering the EU as one country.

Canada has long been a leading market for California's agricultural exports, accounting for 22 to 23 percent of total exports. In 2003 the European Union (EU) became the leading market with 23 percent of total purchases. EU imports reached a record high of \$1.4 billion in 2003. Canada shifted to second place with 22 percent. Last year, European import values increased by 33 percent whereas Canada's purchases increased 18 percent. Canada is an important market for flowers, nursery products, vegetables and fresh fruits. The EU is important for wine, tree nuts, flowers and nursery, and fruits, particularly dried fruits such as raisins and prunes.

Canada imported at least \$2 million each of 40 separate commodities from California, and the EU imported \$2 million or more of each of 23 commodities, with only two (almonds and wine) accounting for 64 percent of all imports. The two principal products going to Canada

(lettuce and strawberries) accounted for only 20 percent of all Canadian agricultural imports from California.

The China/Hong Kong market had displaced Mexico in 2002 but was again fifth in 2003 with more than 7 percent of total California shipments. China/Hong Kong increased purchases of California's agricultural products by 24 percent, but Mexico increased 56 percent. China/Hong Kong's main imports were cotton, oranges and table grapes. Mexico's main imports were dairy products (40 percent of total Mexican purchases), cotton and table grapes.

FIGURE 3. California agricultural exports to the top 10 destinations, by value, 2003

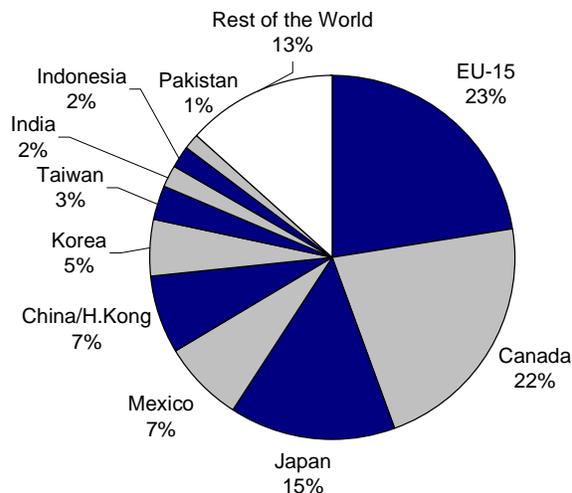


Table 2 shows the export share by commodity group among the six principal destinations and the “Rest of the World” based on data of 44 commodities—the top 35 export commodities and nine additional commodities with reliable data on export destinations. No reliable destination data was available for six commodities with relatively low export values or for the “Mixtures and Others” category.

Farm Quantity Exported

Table 3 shows the ratio of farm quantity exported in 2003 to farm quantity produced in 2003 for the top 15 commodities in export value. We used standard USDA conversion ratios to translate export quantities of processed products back to farm gate production. For example, to estimate the farm quantity equivalent of all grape products in terms of fresh grapes, we converted export quantities of raisins, wine and grape juice back to fresh grapes and then added this figure to fresh grape exports.

For certain crops such as cotton, the ratio of farm quantity exported to farm quantity produced may not represent the share of production in 2003 because the exports may have been produced in a previous year and stored before export. For crops not easily stored, such as lettuce and table grapes, this ratio approximates the annual share of farm production exported, except when harvest is late in the year and shipments take place early in the subsequent year. Nonetheless, the data in Table 3 provide a picture of the importance of exports across commodities.

The average ratio of exports to production for the top 50 commodities is weighted by the production value of each product. For 2003, the ratio was 21 percent, three points higher than in 2002.

Aside from cotton, which may be considered a special case, the 2003 ratio of exports to production ranged from 1 percent for avocados to 70 percent for pistachios. Fifteen commodities had an exports to production ratio equal to or higher than 25 percent in 2003. This group includes eight of the 15 commodities in Table 3 plus cherries, dates, grapefruit, kiwi, olives, plums and wheat.

Final Remarks

The year 2003 showed a significant change for California’s agricultural exports compared to previous years. The dollar became less expensive relative to other currencies and demand from California’s major trade partners recovered. The export gains were widespread across markets and products. Thirty of the first 32 products recorded higher values in 2003 than in 2002. ■

TABLE 3. Ratio of farm quantity exported to farm quantity produced, 2002 and 2003

Commodity	2002 Percent	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 was exported in one year comes from accumulated stocks from previous season.

² Reliable data on farm based quantity exported for 2003 are not available.

³ Average ratio of the 50 principal commodities, weighted by production value of each commodity. To account for dairy in 2003, the 2002 ratio was used.