

## An Assessment of Market Shares of California Agricultural Exports in 2002

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### Introduction

This study estimates the California shares of selected agricultural commodities in selected markets for 2002. California agricultural exports totaled \$6.5 billion in 2002. California's main market is the United States. About 18 percent of the state's agricultural production is shipped overseas. California exports more than a hundred different agricultural products. The 10 most important products represent 55 percent of California's agricultural exports. Although California sells agricultural products to about 150 countries, 10 countries account for 88 percent of the export value.

We selected for intensive study the most important agricultural products that California exports to foreign markets. We then analyzed the principal destinations for those products and generated an estimate of the California share in each of the markets. Markets were selected for study if they accounted for at least 5 percent of California's exports.

Market share is defined here as the percent that the California-originated product represents in the available supply of that product in the specific market. Available supply in a market is measured by the local production plus carryovers from previous agricultural season plus imports less exports. This study also presents estimates of the share of California exports in the world export

market of selected products as well as the share of California's products in a foreign country's imports. Estimates of California's agricultural exports of the selected commodities were compared against world exports of those commodities.

### The data sources and methodology

California agricultural export data are from the Agricultural Issues Center annual report on international agricultural exports. For detailed information about procedures and results the reader may go directly to the AIC website <http://aic.ucdavis.edu/pub/exports.html/>. Production, export and import data for other countries were compiled from various sources.<sup>2</sup>

Available international statistics present several shortcomings. First, reporting varies across countries, especially when dealing with processed agricultural products. For example, statistics on tomato production do not normally distinguish between tomatoes that are produced for processing and those consumed fresh. Dairy is another example of a product that is traded in different forms and where statistics are sometimes difficult to consolidate. Milk contains components such as milk fat, protein and other solids, and different products contain those components in different proportions. This makes use of a single measure of the quantity of dairy products traded meaningless. Second, it is often difficult to account

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<sup>2</sup>The USDA Foreign Agricultural Service (<http://www.fas.usda.gov>), the European Commission (<http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat>), the United Nations Food and Agriculture Organization FOASTAT data base (<http://apps.fao.org/page/collections?subset=agriculture>), and the United Nations Comtrade database (<http://unstats.un.org/unsd/comtrade/default.aspx>).

for carryovers of stocks because of reporting deficiencies. Thus, for most of the products, carryovers were not taken into account.

Table 1 shows the main California agricultural exports that are included in this study. With the exception of beef, all were analyzed in detail. Preliminary analysis suggested that California's exports of beef do not represent a major share in any of the largest destination markets.

**Table 1. California's agricultural exports, 2002: 14 major commodities**

Product	\$Million	% of Total
1 Almonds	829	13
2 Cotton	513	8
3 Wine	486	8
4 Table grapes	367	6
5 Oranges	303	5
6 Dairy	301	5
7 Tomatoes, processed	215	3
8 Walnuts	184	3
9 Rice	183	3
10 Beef	168	3
11 Strawberries	157	2
12 Raisins	152	2
13 Lettuce	136	2
14 Pistachios	131	2

In addition to the by-commodity summary information about California export destinations presented in this *AIC Issues Brief*, more extensive trade information and details about methodologies are available at <http://aic.ucdavis.edu/>.

## Results

Table 2 shows the percent of California products in the world export market. Table 3 shows the percent of products imported from California by the listed countries. At the time of this study, the European Union had 15 member countries, thus the acronym EU(15). To estimate the California share in the other 49 U.S. states we assumed that California accounts for 12 percent of the national consumption of each item.

Finally, Table 4 shows the share of the California-originated product in the available supply of each of the foreign markets and in the rest of the United States. Tables 3 and 4 may show similar values in some cases. This is because when a local production is zero or almost zero, the share of imports equals the share of local supply.

### Tree-Nuts

Almonds are the number one California agricultural export. California represents the only state with exports of almonds to overseas markets and is the worldwide leader in almond markets, with 84 percent of the world exports (Table 2). California exports almonds to the EU (51 percent of total California almond exports), Japan (11 percent), India (8 percent), and 70 other countries. Within the EU, the principal importers of California's almonds are Spain and Germany, which together account for 50 percent of the total European purchases.

California accounts for 25 percent of the EU available supply of almonds (Table 4). Within the EU, Spain is the principal producer, followed by Italy and Greece. Germany is a major consumer. European varieties are different from those grown in California. Kernel yield in California is equivalent to 50 to 60 percent of the nut with shell. In Spain, where varieties are of the hard cover type, this yield is about 32 percent. California almonds' market share in India appears higher than 100 percent. The reason for this could be an error in reporting shelled vs. in-shell volumes imported by India.

Walnuts are the state's eighth most important agricultural export. As with almonds, California is the only state that exports walnuts to overseas markets, and it is also the world leader in exports with 40 percent of market share. The export destinations are concentrated in three markets: the EU, Canada and Japan. Walnuts from California account for 25 percent of the EU's available supply (although 55 percent of their imported walnuts). The market share in Japan is close to 100 percent. California walnuts comprise two-thirds of the market in Canada (see Table 3).

Exports of pistachios have grown significantly in recent years. In the world market, Iran accounts for

the majority (75 percent) of world exports, but California's share has increased recently. Iran exports have decreased by about 18 percent since 1996, while in the same period California doubled its exports. Main markets for California's pistachios are the EU, China, Canada and Japan. Market share is high in Japan and Canada but only marginal in China.

### *Field Crops*

Cotton lint is the second most important California agricultural export commodity measured by value exported. California accounts for 20 to 30 percent of U.S. cotton exports to overseas markets and 7 percent of world exports. California exports cotton to a large number of countries. Nine countries each purchased at least 5 percent of the state's exports. California's cotton exports account for an important share of the Canadian and Japanese import markets, with 25 and 18 percent respectively. California's share of the Chinese market is minimal, although more than 30 percent of Chinese imports of cotton come from California.

California accounts for one-third of total U.S. rice exports but only 3 percent of the world exports. Thailand, India and Vietnam are the largest exporters in the world market, with a combined 59 percent of world exports. Main markets for California's rice are Japan (53 percent of California's rice export), Turkey and Jordan (15 percent) and Taiwan (13 percent). Despite the fact that 70 percent of Japanese imports of rice come from California, the state's share of the local Japanese market is only 4 percent because imports are restricted and comprise only a very small share of Japanese rice supply. In Uzbekistan, a country that receives about 8 percent of the California's rice, the market share of California rice is 19 percent.

### *Grapes and Raisins*

California is the second most important world exporter of table grapes after Chile. California is the third most important exporter of raisins after Turkey and Iran. California table grapes comprise 60 percent of Canada's imports and 37 percent of imports by China. These are the two most important export markets, accounting for more than 50 percent of all fresh grapes exported from California. California produces almost all of the table grapes grown in the U.S., but it accounts for only 44 percent of the other 49 states' consumption. This is because the United States is a net importer of table grapes.

Year-round consumption and seasonal production account for the pattern of import and export.

The EU is the main destination for California raisins. California is the source of 17 percent of all EU imports of raisins. Japan is the second most important destination for California raisins. Exports from California account for 77 percent of total Japanese imports of raisins. Grapes and raisins (fresh basis) are considered together in Table 4, which shows available supply, since available statistics do not report production figures separately. Thus, the percents shown in Table 4 represent the combined shares of California's grapes and raisins in the local supply.

### *Wine*

Wine is the third most important export commodity for California agriculture. California accounts for 95 percent of U.S. wine exports to overseas markets and for 72 percent of domestic consumption within the other 49 states. In terms of value, 60 percent of the state's foreign exports of wine go to the EU market. The EU has historically been the leader in wine exports worldwide. California accounts for about 7 percent of worldwide exports but is a more important supplier to the EU, representing 14 percent of the total sales from outside of the union. Yet, California's share of the EU market is very small (1 percent) because of the large local production.

### *Dairy*

California exports mostly nonfat dry milk (NFDM), whey and lactose. Other countries export mainly butter, cheese and other dairy products. To make the figures comparable, all dairy products considered were transformed into total solids equivalent using USDA/ERS conversion factors. As shown in Table 2, California is not a major player in the overall international markets of dairy products. The EU, New Zealand and Australia considered together account for almost 70 percent of worldwide exports in this highly restricted market. The EU, with subsidized exports, is also a major player in many markets.

Main foreign markets for the state's dairy exports are Mexico, China, Japan and Korea. Mexican purchases consist almost exclusively of NFDM, whereas whey and lactose are exported to the other three markets. California accounts for 11 percent of all dairy imports into Mexico and 8 percent of Japanese imports.

#### *Fresh Oranges*

This study considers California's exports of fresh oranges only, excluding orange juice. California accounts for 16 percent of the world exports of fresh oranges behind South Africa and the EU. The results show that California accounts for the whole Korean market and 57 percent of the Canadian market. In 2002, California accounted for 90 percent of U.S. exports of fresh oranges.

#### *Fresh Strawberries*

California is the largest exporter of strawberries in the world with 32 percent of global exports. The main foreign markets for California strawberries are Canada and Japan. California has an important share of the Canadian market with an estimated 66 percent, but accounts for a much smaller share of the Japanese market (4 percent). Poland has been an important exporter of strawberries in the recent past. Interestingly, since most Polish exports go to the EU, and since Poland is joining the Union in 2004, its EU shipments will no longer be considered international trade.

#### *Processed Tomatoes*

All processed tomato products, including sauces, ketchup, paste, puree and canned tomatoes were combined into one group, using accepted conversion factors to bring the different products to an equivalent basis. California ships 14 percent of the world's exports of processed tomatoes, behind the EU (32 percent) and China (24 percent). Canada is the main market for California's exports of processed tomatoes (with more than 50 percent of the exports). California's share of the Canadian market was estimated at 54 percent. California's processed tomatoes also share a large proportion of the Korean market (40 percent).

#### *Lettuce*

California is the world leader in exports of lettuce, with more than 80 percent of its international exports going to Canada and 10 percent to Mexico. Because of the product characteristics, international trade in lettuce tends to be regional. California accounts for 67 percent of the Canadian market of lettuce and 69 percent of the other 49 states market.

### **Conclusions**

This study shows the importance of agricultural exports from California in the international market of a number of products. The selected products represent about two-thirds of the state's total agricultural exports. As an international exporter, California is the worldwide leader in four of the 13 products included in this report—almonds, lettuce, walnuts, and fresh strawberries. In four other cases, the state occupies the second or third position within the world's major exporters.

Overall, the most important market for California's products is the other 49 states. With the exception of table grapes, dairy products, rice and cotton, California is the source for at least 69 percent of the "Rest of the U.S." market for each of the other products.

California is a major factor in global markets for agricultural products and in one important case—almonds—it is the major source of world supply. In other cases, too, California is a major source of export supply. Nonetheless, California industries face serious competition in most markets and therefore are challenged to continually improve their competitiveness. ■

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Table 2. California's Share of World Export Market, 2002  
(percent)

<b>Almonds (shelled)</b>		<b>Walnuts (in shell)</b>		<b>Pistachios</b>			
California	84	California	40	Iran	75	<b>Cotton lint</b>	
Iran	7	Mexico	13	California	13	Rest of U.S.	30
Rest of World	7	Moldova	8	China	7	Rest of World	20
EU(15)	3	Ukraine	7	Rest of World	5	Uzbekistan	13
		China	6				
		Rest of World	6				
		India	6				
		Romania	6				
		Chile	4				
		Kyrgyzstan	3				
		EU(15)	2				
<b>Table grapes</b>		<b>Raisins</b>		<b>Wine</b>			
Chile	32	Turkey	32	EU(15)	39		
California	15	Iran	21	Australia	14		
Rest of World	14	California	19	Chile	10		
South Africa	10	Rest of World	8	Rest of World	10		
EU(15)	9	Chile	7	California	7		
Mexico	6	South Africa	5	South Africa	6		
Turkey	4	Afghanistan	3	Moldova	5		
China	4	Argentina	3	Argentina	4		
Rest of U.S.	3	EU(15)	2	Bulgaria	3		
Australia	3			Hungary	2		
<b>Oranges (fresh)</b>		<b>Strawberries (fresh)</b>		<b>Tomatoes (processed)</b>			
South Africa	22	California	32	EU(15)	32		
EU(15)	19	Mexico	18	China	24		
Rest of World	16	Indonesia	12	California	14		
California	16	Morocco	10	Rest of World	13		
Morocco	8	EU(15)	10	Turkey	9		
Turkey	5	Rest of World	8	Mexico	6		
Australia	4	Poland	8	Canada	3		
Egypt	4	Russian Fed.	3				
Argentina	3			<b>Lettuce</b>			
Rest of U.S.	2			California	46		
China	2			Rest of U.S.	2		
				15			
				EU(15)	10		
				Mexico	9		
				Rest of World	6		
				Guatemala	4		
				Jordan	4		
				Canada	3		
				Syria	2		
						<b>Dairy</b>	
						EU(15)	36
						New Zealand	20
						Rest of World	18
						Australia	13
						Rest of U.S.	3
						Argentina	3
						California	3
						Poland	2
<b>Notes:</b>							
■ Rest of World is estimated as a residual.							
■ EU(15) is 15-country European Union, excluding intra-bloc trade.							
■ China data includes Taiwan and Hong Kong.							
■ Dairy products refer only to fluid milk, dry milk, cheese, butter, whey and lactose, expressed in terms of value.							



**Table 3. California's share of imports, in major markets, 2002**  
(percent)

Almonds		Walnuts		Pistachios			
India	141	Rest of U.S.	100	Rest of U.S.	100		
EU(15)	104	Japan	99	Japan	97		
Rest of U.S.	100	Canada	66	Canada	81		
Canada	98	EU(15)	55	EU(15)	24		
Japan	88			China <sup>2</sup>	2		
United Arab Emirates	74						
China	13						
Table grapes		Raisins		Wine			
Maylasia	100	Rest of U.S.	94	Rest of U.S.	75		
Canada	60	Japan	77	Canada	17		
Rest of U.S.	44	Canada	43	Japan	16		
Mexico	43	EU(15)	17	EU(15)	14		
China	37						
EU(15)	3						
Oranges (fresh)		Strawberries (fresh)		Tomatoes (processed)		Lettuce	
Korea	101	Rest of U.S.	87	Rest of U.S.	96	Rest of U.S.	97
Rest of U.S.	94	Canada	81	Canada	85	Canada	79
Japan	81	Mexico	41	Korea	38	Mexico	18
Canada	57	Japan	40	Mexico	14		
China	42			Japan	16		
				EU(15)	7		
Cotton lint		Rice		Dairy			
China	31	Japan	70	Rest of U.S.	74		
Canada	25	Rest of U.S.	45	Korea	12		
Japan	18	Uzbekistan	36	Mexico	11		
Bangladesh	16	Korea	34	China	8		
Pakistan	15	Turkey	30	Japan	8		
Korea	10	China	19				
Indonesia	9						
Thailand	8						
EU(15)	3						

### Notes:

- Data from 2001 were used for Germany, Belgium, Luxemburg, India, Indonesia, Pakistan and Thailand.
- European Union figures were adjusted to exclude intra-bloc trade.
- China data includes Taiwan and Hong Kong.
- Data on volumes of wine imported by Spain, Portugal, Denmark and Ireland were not available. Volumes were estimated using average prices for the other EU countries.
- Dairy products are expressed in terms of total solids equivalent.

Table 4. California's share of available supply, in major markets, 2002  
(percent)

Almonds (shelled)		Walnuts (in shell)		Pistachios		Cotton lint	
India	141	Rest of U.S.	100	Rest of U.S.	100	Canada	21
Rest of U.S.	100	Japan	99	Japan	97	Japan	15
Canada	100	Canada	66	Canada	83	Bangladesh	11
Japan	88	EU(15)	25	EU(15)	21	Indonesia	8
United Arab Emirates	74			China	4	Korea	7
China	46					Thailand	5
EU(15)	25					EU(15)	2
						China	1
						Pakistan	1
Grapes and Raisins		Wine		Dairy			
Malaysia	117	Rest of U.S.	72	Rest of U.S.	8		
Japan	55	Canada	15	Korea	3		
Canada	53	Japan	10	Mexico	3		
Rest of U.S.	43	EU(15)	1	China	2		
Mexico	32			Japan	2		
EU(15)	12						
China	4			Rice			
				Uzbekistan	19		
				Turkey	16		
				Rest of U.S.	6		
				Japan	4		
				Korea	1		
Oranges (fresh)		Strawberries (fresh)		Tomatoes (processed)		Lettuce	
Korea	101	Rest of U.S.	76	Rest of U.S.	91	Rest of U.S.	69
Rest of U.S.	74	Canada	66	Canada	54	Canada	67
Canada	57	Japan	4	Korea	40	Mexico	8
Japan	40	Mexico	3	Mexico	23		
China	3			Japan	14		
				EU(15)	1		

**Notes:**

- Data from 2001 were used for Germany, Belgium, Luxemburg, India, Indonesia, Pakistan and Thailand.
- European Union figures were adjusted to exclude intra-block trade.
- China data includes Taiwan and Hong Kong.
- Grapes and raisins (fresh basis) were combined due to lack of data on production of raisins in foreign countries.
- For the rest of the U.S., the fresh grape share is 43 percent; the raisin market share is 94 percent.
- Data on volumes of wine imported by Spain, Portugal, Denmark and Ireland were not available. Volumes were estimated using average prices for the other EU (15) countries.
- Dairy products are expressed in terms of total solids equivalent.

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