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# Fruit and Tree Nuts Outlook

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## 2002/03 Citrus Crop: Florida Production Down, California Up; Grower Prices Down

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Approved by the  
World Agricultural  
Outlook Board

The grower price index for January 2003 averaged 2 percent lower than last January and the lowest since 1975. All the major citrus crops produced during January experienced lower prices, except fresh grapefruit. Despite lower grower prices, the January Consumer Price Index for fresh fruit averaged 2 percent above last January. Consumers paid higher retail prices for citrus fruit, except navel oranges, Red Delicious apples, and bananas.

The 2002/03 citrus crop is forecast 9 percent smaller than last season, at 15 million tons. Florida's crop is expected to decline 14 percent, accounting for the decline in the Nation's citrus crops. California's orange, lemon, and tangerine crops are expected to be bigger.

California's fresh-market navel crop is forecast at 1.5 million tons for 2002/03. The Valencia crop is estimated to be 825,000 tons. Grower prices for navel oranges have been very low this season. Lemon production is expected to reach 980,000 short tons. As a result of the larger crop, grower prices have averaged lower during the season through February.

Florida's early- to mid-season oranges totaled only 5.1 million tons this season. The Valencia crop is estimated to be only 3.9 million tons. Orange juice production is projected to decline 11 percent to 1.3 billion single-strength gallons because of the smaller crop and lower juice yields. Grapefruit growers are still experiencing low prices, despite the smallest crop since the 1989/90 freeze.

California produced a record large almond crop in 2002. The pistachio crop was also larger. The other major tree nut crops, walnuts, pecans, macadamias, and hazelnuts, were all smaller.

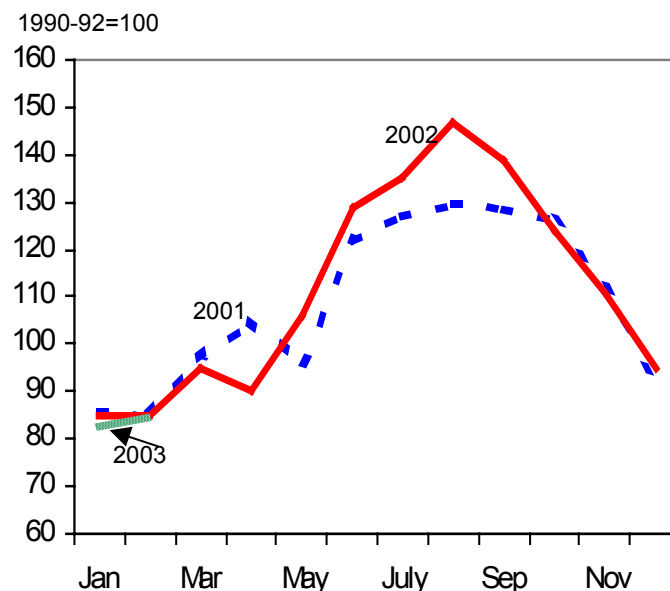
U.S. exports of fresh oranges and grapefruit have been strong during their 2002/03 season through January. Exports are lower for fresh apple, pear, and sweet cherry crops due to smaller 2002 crops.

## Price Outlook

### 2003 Grower Prices Start Lower But Catch Up By February

The grower price index for January 2003 was 2 percent lower than last January and the lowest since 1975. All the major citrus crops, the major crops produced during January, experienced lower prices except fresh grapefruit (table 1). Storage apples and pears commanded higher prices during January 2003 over last January, mostly due to the reduced size of this season's crop that is presently in storage. By February, the price index had turned around, and the index price of 85 was equivalent to the past 2 years. Prices rose in February from the previous month for grapefruit and oranges. While orange prices were below last February's, they were still higher than they were in 2000 and 2001. On the other hand, the higher grapefruit prices this February were significantly below prices growers received in any February since 1997. Lemon prices ran lower in both January and February in response to the larger crop out of California this season.

Figure 1  
Index of prices received by growers for fruit and nuts



Source: National Agricultural Statistics Service, USDA.

Table 1--Monthly fruit prices received by growers, United States

Commodity	2002		2003		2002-03 Change	
	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
Percent						
<b>Citrus fruit: 1/</b>						
Grapefruit, all	2.71	2.01	1.71	1.89	-36.9	-6.0
Grapefruit, fresh	4.91	4.63	4.30	3.99	-12.4	-13.8
Lemons, all	6.85	4.64	5.63	2.68	-17.8	-42.2
Lemons, fresh	14.54	12.63	10.56	6.79	-27.4	-46.2
Oranges, all	3.75	4.05	3.36	3.48	-10.4	-14.1
Oranges, fresh	10.62	10.51	5.75	4.51	-45.9	-57.1
<b>Noncitrus fruit:</b>						
Apples, fresh 2/	0.221	0.216	0.258	0.246	16.7	13.9
Grapes, fresh 2/	--	--	--	--	--	--
Peaches, fresh 2/	--	--	--	--	--	--
Pears, fresh 2/	0.141	0.138	0.204	0.183	44.7	32.6
Strawberries, fresh	1.340	1.040	1.090	1.030	-18.7	-1.0

1/ Equivalent on-tree price.

2/ Equivalent packinghouse-door returns for CA, NY (apples only), OR (pears only), and WA (apples, peaches, and pears). Prices as sold for other States.

Source: National Agricultural Statistics Service, USDA.

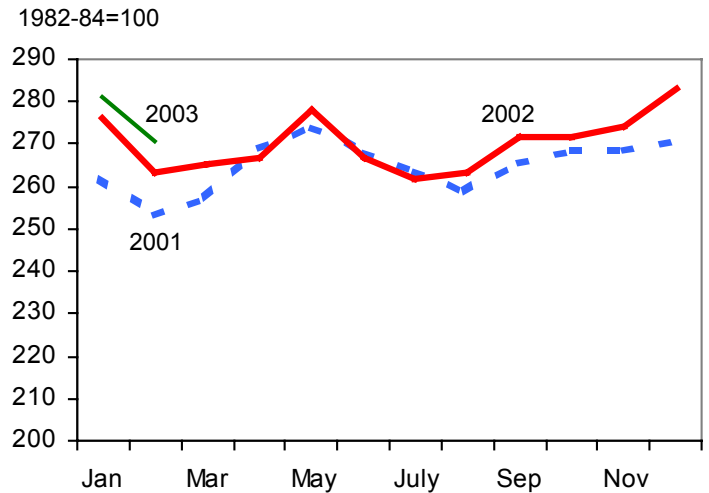
## Fresh Fruit Consumer Price Index Starts High in 2003

The January Consumer Price Index (CPI) for fresh fruit averaged 2 percent above last January despite lower grower prices. The index price of 281.1 was the highest for any January since ERS began tracking prices in 1989. Consumers paid more for all citrus fruit, except navel oranges, at their retail markets in January. Prices were also higher for Red Delicious apples and bananas. The importance of bananas in the American diet, especially during the winter and spring, likely played a major role in the very high CPI index. The orange juice price, for the 16-ounce frozen concentrate can, declined this January. This retail price, however, does not capture the price of the more popular not-from-concentrate orange juice purchased in the dairy section of the supermarket.

February retail prices were below last February's for navel oranges and lemons reflecting the greater availability of these fruit in the grocery stores this year. Grapefruit prices continued to rise, and were above January 2003 and February 2002. At \$0.640 per pound, the February 2003 price is the highest February price since at least 1989. Consumers paid more this February than last for Red Delicious apples, Thompson seedless grapes, and bananas. They also paid more for strawberries and wine, but just fractionally.

Figure 2

### Consumer Price Index for fresh fruit



Source: Bureau of Labor Statistics, U.S. Department of Labor.

Table 2--U.S. monthly retail prices, selected fruit, 2001-2002

Commodity	Unit	2002		2003		2002-03 Change	
		Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
--- Dollars ---							
Fresh:							
Valencia oranges	Lb	--	--	--	--	--	--
Navel oranges	Lb	0.715	0.759	0.713	0.711	-0.3	-6.3
Grapefruit	Lb	0.587	0.612	0.609	0.640	3.7	4.6
Lemons	Lb	1.357	1.270	1.418	1.224	4.5	-3.6
Red Delicious apples	Lb	0.877	0.892	0.977	0.968	11.4	8.5
Bananas	Lb	0.509	0.504	0.526	0.508	3.3	0.8
Peaches	Lb	--	--	--	--	--	--
Anjou pears	Lb	1.024	0.988	0.990	--	-3.3	--
Strawberries 1/	12-oz pint	2.498	2.137	--	2.153	--	0.7
Thompson seedless grapes	Lb	2.234	1.752	2.060	1.806	-7.8	3.1
Processed:							
Orange juice, concentrate 2/	16-fl. oz	1.876	1.937	1.848	1.875	-1.5	-3.2
Wine	liter	6.232	6.039	6.495	6.050	4.2	0.2

-- Insufficient marketing to establish price.

1/ Dry pint.

2/ Data converted from 12 fluid ounce containers.

Source: Bureau of Labor Statistics, U.S. Department of Labor.

### ***California Looking Forward to Higher Production But Florida's Citrus Crop is Smaller***

The 2002/03 citrus crop remains 9 percent smaller than last season, at 15 million tons, the same as the initial estimate in October 2002 (table 3). Florida's crop is expected to decline 14 percent and is responsible for the decline in the Nation's citrus crops. All of Florida's citrus crops, except tangelos are forecast to be smaller this season. California is expecting bigger crops this season, offsetting some of Florida's smaller crop. Grapefruit production is forecast lower from all the growing regions.

### ***California's Fresh Citrus Crop Expected To Be Biggest in 6 Years***

Unlike the rest of the Nation's citrus crops, California is forecast to produce a 12-percent bigger crop this season over last. If realized, it would be the biggest since 1997/98. Its orange, lemon, and tangerine crops are bigger this season.

The U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) forecast California's fresh-market navel crop at 1.5 million tons in March. The estimate has remained unchanged from the initial estimate from October 2002. NASS forecast a slightly larger Valencia crop in March, increasing its estimate to 825,000 tons, up 5 percent from February's estimate, but 4 percent lower than October's initial estimate. If realized, this season's crop would be the same size as a season ago.

Market movement was slow after the winter holidays, but picked up by the end of January. The industry reports sales to be good these past few months, especially to major international markets, particularly Japan, South Korea, and Hong Kong/China.

The quality of California's and Arizona's navel oranges have been reported to be good this season, although both States began their marketing season with many small fruit. Rains and chilly night temperatures throughout the winter improved both the size and color of the fruit, boosting demand. Despite the good quality, however, navel prices have been very low this season. Some late season fruit are showing signs of puff and other adverse quality

attributes. Should this become more widespread, it would harm marketing and further erode prices.

### ***Smaller Florida Orange Crop Results in Projected Lower Orange Juice Production***

Florida's orange crop is forecast at 9 million short tons this season, down from 10.3 million tons a season ago. The early- to mid-season varieties were estimated in March to total only 5.1 million tons, 12 percent less than last season. The late-season Valencia crop is estimated to be only 3.9 million tons, 16 percent below a season ago. The March estimates did not change from the initial October forecast.

With the smaller crop this season, some growers have begun to harvest their Valencia crop earlier than previous years to keep pickers busy and reduce the risk of losing harvesters.

By the beginning of the second week of March, all of the early- to mid-season variety oranges had been harvested with 99 percent going to processing, the same as recent years. Harvesting of Florida's navel crop is slower than past seasons, even though the crop is smaller. The larger crop out of California is likely providing strong competition with the Florida crop, with both going to fresh use. The Valencia harvest is running slightly ahead of the previous 2 seasons. The slightly earlier start of the harvest and the smaller crops are likely the driving forces behind the slightly smaller quantity left to be harvested as of the beginning of March.

The frozen concentrated orange juice yield forecast dropped in March from 1.57 to 1.55 gallons per 85-pound box at 42° Brix. The overall wet season this year likely reduced the proportion of soluble solids in a piece of fruit, reducing yields for fruit processed into frozen concentrated juice (FCOJ). FCOJ production is estimated to account for about 60 percent of all orange juice production this season.

For not-from-concentrate juice, yields have averaged 6.09 gallons per box through the beginning of March, 2 percent lower than last season, but above 2 seasons ago. Because lower yields are expected from the 2002/03 crop, orange juice production is forecast to

Table 3--U.S. citrus: Utilized production, 1999/2000-2001/02 and forecast 2002/03 1/

Crop and State	Utilized production				2001/02-2002/03
	1999/2000	2000/01	2001/02	2002/03	Change
	--1,000 short tons--				Percent
Oranges	12,997	12,221	12,543	11,369	-9.4
Arizona	41	34	19	15	-21.1
California	2,400	2,044	2,100	2,325	10.7
Florida	10,485	10,048	10,350	8,955	-13.5
Texas	71	95	74	72	-2.7
Grapefruit	2,762	2,462	2,427	2,115	-12.9
Arizona	15	8	5	3	-40.0
California	241	211	201	188	-6.5
Florida	2,269	1,955	1,985	1,700	-14.4
Texas	237	288	236	224	-5.1
Tangerines	458	373	420	349	-16.9
Arizona	32	24	23	17	-26.1
California	94	83	83	94	13.3
Florida	332	266	314	238	-24.2
Lemons	840	996	828	980	18.4
Arizona	118	137	106	106	0.0
California	722	859	722	874	21.1
Other citrus 3/					
Florida	192	153	168	171	1.8
Total	17,249	16,205	16,386	14,984	-8.6

1/ The crop year begins with the bloom of the first year shown and ends with the completion of harvest the following year. 2/ Forecast as of March 11, 2003. 3/ Includes Temples, tangelos, and K-early citrus.

Source: National Agricultural Statistics Service, USDA.

be 1.3 billion single-strength equivalent (sse) gallons, 11 percent lower than last year (table 4). The lower yield coupled with this season's smaller crop may result in the lowest level of production since 1998/99. Large juice stocks at the beginning of this season will help boost supplies, but the industry will likely need to increase imports to meet consumer demand. As a result, USDA's Foreign Agricultural Service (FAS) forecast imports to increase 48 percent to 280 million sse gallons.

Through January, imports were 57 percent above last season. Brazil provides the bulk of the orange juice imports, accounting for 81 percent of the quantity imported. Brazil's share rose markedly from this time last season, when its imports accounted for 67 percent of imports. Mexican imports have declined 36 percent from last year at this time as Brazil's

production increased and its exports returned to more normal levels. For the first time, South Africa ranks third as a source of orange juice imports. Imports from South Africa did not even exist 4 years ago and now they account for 5 percent of the total. Most of what is imported is the largest size, bulk containers.

Due to the lower expected supplies this year, FAS projects U.S. orange juice exports to decline 23 percent to 99 million sse gallons. As of January, exports were running 4 percent behind last season. The United States exports mostly not-from-concentrate (NFC) orange juice and imports mostly FCOJ.

Exports to Canada, the major export market, are up 10 percent. Shipments to Japan and the Netherlands, the two other important markets, fell sharply. Exports

Table 4--United States: Orange juice supply and utilization, 1986/87-2002/03

Season 1/	Supply					Utilization		
	Beginning	Total			Ending	Consumption		
	stocks	Production	Imports	supply	Exports	stocks	Domestic	Per capita
--Million gallons, single-strength equivalent--								Gallons
1986/87	204	781	396	1,381	73	1,106	201	4.6
1987/88	201	907	296	1,404	90	1,103	212	4.5
1988/89	212	970	272	1,454	73	1,148	233	4.7
1989/90	233	652	350	1,235	90	920	225	3.7
1990/91	225	876	233	1,334	96	1,080	158	4.3
1991/92	158	930	203	1,291	107	1,014	170	4.0
1992/93	170	1,207	232	1,609	114	1,245	249	4.8
1993/94	249	1,133	287	1,669	107	1,202	360	4.6
1994/95	360	1,257	141	1,758	117	1,207	434	4.6
1995/96	434	1,271	261	1,966	130	1,420	417	5.3
1996/97	417	1,437	257	2,111	148	1,399	564	5.2
1997/98	564	1,555	305	2,423	148	1,596	679	5.8
1998/99	679	1,236	346	2,260	150	1,576	534	5.7
1999/00	534	1,507	339	2,380	146	1,589	645	5.7
2000/01	645	1,359	258	2,262	123	1,441	698	5.1
2001/02	698	1,407	189	2,295	129	1,500	666	5.2
2002/03 2/	666	1,252	280	2,198	99	1,559	540	5.3

1/ Season begins in December of the first year shown. As of 1998/99, marketing season begins in October. 2/ Preliminary. Sources: Economic Research Service and Foreign Agricultural Service, USDA.

were lower to the Netherlands and Belgium, where they are usually re-shipped to other European Union (EU) nations. Shipments to many other EU nations, however, have been higher so far this season, indicating shipments may be going direct, skipping the transshipment ports. Shipments to France and Germany have been considerably higher this season than during the same time period a year ago.

South Korea is evolving as an increasingly important destination for U.S. orange juice. Shipments to South Korea increased 67 percent over last season, accounting for 10 percent of all U.S. exports. Exports have also been growing to the Middle East, particularly to the United Arab Emirates, Saudi Arabia, and Israel.

Under the present assumptions for production and trade for 2002/03, U.S. per capita orange juice consumption is projected to increase to 5.3 gallons. At this rate, Americans would be consuming 3 percent more than last season and 6 percent more than in 2000/01. Juice movement data from the Florida Processors Association (FCPA) show NFC movement 7 percent ahead of last season as of March 1. FCOJ movement, however, is 16 percent behind. Consumers may be responding to the lower retail prices that have been reported by the ACNielsen Scantrack data through February for NFC at major retail stores versus higher FCOJ prices. If FCOJ movement does not pick up, ending stocks may wind up higher than is presently projected and consumption lower.

Florida growers have benefited from this season's smaller crop with higher prices received from processors. Grower prices rose 30 percent from October through February, 30 percent higher than last season (table 5). Growers are receiving an average of \$2.34 per 80-lb. box. Although improved over last season, prices are still considerably lower than in previous seasons: \$3.02 in 1999/2000 and \$3.91 in 1998/99.

### ***Brazilian Production Projected To Fall for the Coming Marketing Season***

Orange juice production in Brazil in 2002/03 (marketed in 2003/04), is forecast to total 1.5 billion sse gallons, a 17-percent drop from last season (table 6). Brazil is the world's biggest orange juice

Table 5--Processing oranges: Average equivalent on-tree prices received by growers, Florida, 1997/98-2001/02

Month	1998/99	1999/2000	2000/01	2001/02	2002/03
--Dollars/90-lb box--					
October	3.27	--	2.18	-0.30	0.75
November	3.70	2.82	2.44	1.81	1.95
December	3.93	2.97	2.45	2.06	2.85
January	4.26	3.14	2.49	2.63	2.90
February	4.39	3.13	2.58	2.78	3.25
March	5.29	3.15	3.54	3.61	
April	5.33	4.49	4.10	4.00	
May	5.45	4.60	4.11	4.10	
June	5.45	4.46	4.08	3.90	
July	--	3.98	--	--	
August	--	--	--	--	
September	--	--	--	--	

-- = Not available.

Source: National Agricultural Statistics Service, USDA.

Table 6--Brazilian FCOJ production and utilization, 1991-2002

Season 1	Begin- ning stocks	Pro- duction	Domestic consump- tion	Exports	Ending stocks 2/
--Million SSE gallons 3/--					
1991	177	1,334	25	1,390	96
1992	96	1,610	25	1,532	148
1993	148	1,572	25	1,546	148
1994	148	1,583	31	1,482	218
1995	218	1,525	25	1,476	242
1996	177	1,954	22	1,778	331
1997	331	1,712	26	1,600	418
1998	418	1,912	22	1,821	486
1999	486	1,683	21	1,778	370
2000	370	1,375	21	1,511	212
2001	212	1,836	21	1,766	261
2002	261	1,527	21	1,597	170

1/ Season begins in July.

2/ Data may not add due to rounding.

3/ SSE = single-strength equivalent. To convert to metric tons at 65 degrees Brix, divide by 1.40588

Source: Foreign Agricultural Service, USDA.

producer. The decline in production is attributed to a 9-percent decline in orange production because of dry, hot weather in October causing flower and fruit droppage after the first blossoming, a decrease in the number of bearing trees, an increase in disease-related problems, and the off-cycle of the trees.

Imports into the United States this season are from the 2001/02 crop, which was the largest in 3 years. As a result, Brazil has ample supplies to meet higher

import demands by the United States. With supplies expected to be lower for Brazil's present season, exports are likely to decline for the next U.S. season. Brazilian exports for 2002/03 are projected to decline 10 percent.

***Smaller Grapefruit Crop Not Sufficient To Improve Grower Prices***

Despite the smallest crop since the 1989/90 freeze, grapefruit growers are still experiencing low prices for their crop. Supply appears to be playing an increasingly less important role in determining grapefruit prices.

Grapefruit production is forecast to total 2.1 million tons in 2002/03, 13 percent below last season. Florida's crop, which accounts for 80 percent of national production, is expected to total 1.7 million tons, 14 percent less than a season ago. Red grapefruit production is expected to decline 14 percent and white grapefruit 15 percent. Production is also expected to decline in California, Arizona, and Texas.

Florida's grapefruit has been reported to be of good quality, with fruit size among the largest in the past 10 seasons. Despite these favorable attributes, domestic demand for fresh grapefruit has been low. According to Florida's Citrus Administrative Committee (CAC), domestic shipment (with Canada included in the data) through early March ran 93 percent of last season.

Due to the smaller crop this season, however, only 35 percent of the crop remained to be harvested as of March 9, compared with 44 percent last season and 45 percent 2 seasons ago. A slightly higher proportion of this season's crop is going to fresh use compared with last season. So far, 59 percent of the red grapefruit have been sold to the fresh market, but only 21 percent of the white grapefruit were sold for fresh use. Grapefruit juice processing gets underway full scale in March after much of the orange crop is processed, so the proportion going to fresh use may decline as the season's end nears.

The Florida grapefruit grower price has averaged \$2.46 per 85-pound box from September through February (table 7). This is about 25 percent lower than last year's average price of \$3.26 for the same period. While the season began normally, with

Table 7-Grapefruit: Average equivalent on-tree prices received by growers, Florida, 2000/01-2002/03

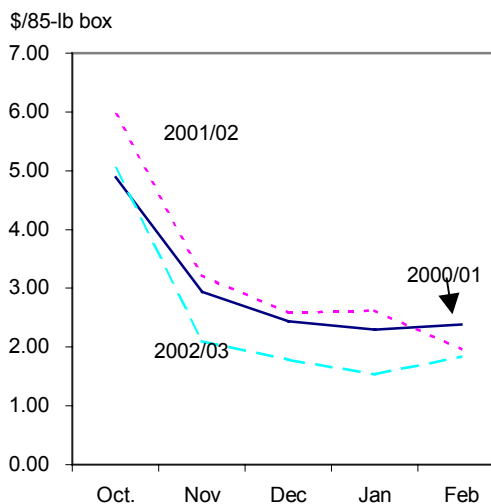
Month	2000/01	2001/02	2002/03
--Dollars per 85-lb box--			
September	--	--	--
October	4.89	5.94	5.04
November	2.94	3.22	2.10
December	2.44	2.58	1.79
January	2.30	2.62	1.53
February	2.38	1.96	1.84
March	1.98	1.70	
April	1.65	1.34	
May	1.44	0.90	
June	1.61	--	
<b>Average</b>	<b>2.40</b>	<b>2.53</b>	<b>2.46</b>

-- = Not available.

Source: National Agricultural Statistics Service, USDA.

Figure 3

**Florida grapefruit equivalent-on-tree prices, 2000/01 to 2002/03**



Source: National Agricultural Statistics Service, USDA.

growers getting \$5.04 per box, prices dropped off sharply in October and have remained behind previous seasons since (fig. 3). Growers are having a difficult time commanding better prices for their grapefruit, partially due to consumer apathy toward the fruit, but also due to the greater, high-quality variety of other fruit, such as summer fruit from Chile and more varieties of tropical fruit. The industry is also likely hurt by retailers' not passing along lower prices to consumers. Despite this season's lower prices, retail prices for fresh grapefruit averaged 3.7 percent above last season in January. Seasonally, retail prices have averaged 67 cents per pound this



season compared with 68 cents per pound last season when grower prices were higher. Retail prices are averaging 6 percent above prices in 2000/01 even though grower prices are 18 percent lower.

Fresh grapefruit exports through January were 3 percent higher in 2002/03 than the previous season. Exports increased 7 percent to Japan, the major export market. The good quality and larger size of this season's fruit would likely be a big advantage in sales to Japan. Exports to most of the other major Asia markets, however, were down, except to Mainland China. Shipments also increased to the major EU destinations, France, the Netherlands, and Germany.

Strong demand in most of the major export markets this season was partially offset by a decline in demand from Canada, the second most important destination outside the United States. Shipments to Canada were 5 percent lower through January than they were last season.

The unit value price for fresh grapefruit exports was also higher this season, indicating foreign markets were paying more for the fruit than they did last season. On average, the unit value rose 3 percent in 2002/03 from last season. The price of exports to Japan averaged 2 percent higher and those to Canada 5 percent higher. The unit price of grapefruit to France, Germany, and the United Kingdom averaged 5 to 6 percent higher, while those going to the Netherlands averaged 1 percent lower.

The grapefruit juice season began with the highest stocks in 5 years. The smaller crop and lower yields this season, however, are likely to drive overall supplies down. Juice yields per box averaged 1.24 gallons through the end of February, down from 1.25 gallons last season, according to FCPA data. Despite the smaller crop and lower yields, processors are paying less for grapefruit than they did last season. FCPA data show processors paid \$2.18 per box on average through February 22, 2003 versus \$2.70 per box through the same period last season. White grapefruit, more often used for concentrated juice commanded higher prices than red grapefruit. Frozen concentrated grapefruit juice movement has been slower this season than last and may account for the lower prices being paid for the fruit. Grapefruit juice exports increased 16 percent from October through January 2002/03, compared with last

season, but were 14 percent lower than 2 seasons ago for the same time period. Shipments increased to the Netherlands, Japan, and Canada, the three biggest markets. Each of these markets also received more juice this season than they did in 2000/01. Shipments to Belgium, however, the fourth largest market, fell 43 percent.

Texas grapefruit production is estimated to have declined 5 percent from last season. If realized, it will be the smallest crop since 1997/98. Fruit quality and size is reported to be excellent. Even with the good quality and smaller crop, grower prices have run about 42 percent below last season through February. Harvesting began later this season than in either of the previous 2 seasons. Ultimately, this may affect grower revenues because prices are generally higher during the first 2 months of the season. Once the season got underway and NASS began reporting prices in November, prices have been averaging 26 percent lower than last season.

### ***More Lemons Expected from California in 2002/03***

Lemon production is expected to reach 980,000 short tons in 2002/03, 18 percent higher than last season. If realized, this season's crop would be the second largest in 7 years. All of the increase comes from California's groves. Arizona's production is expected to remain the same as last season totaling 106,000 tons.

Due to the larger crop this year, lemon prices have averaged 9 percent less in 2002/03 than last season. Prices have ranged from a low of \$2.68 per 76-pound box in February to a high of \$16.82 per box in October (table 8). Prices were strong during the warm weather months when demand is highest, which should help maintain growers' revenue despite lower prices.

Fresh lemon exports declined 14 percent from a season ago during August through January. This is the second year in a row of declining exports. Shipments fell to all major markets, except Canada. While exports fell 25 percent to Japan, the number one market, they were up 20 percent to Canada, which ranks number two. Exports to China were also

Table 8--Lemons: Average equivalent on-tree prices received by growers, 2000/01-2002/03

Month	2000/01	2001/02	2002/03
--Dollars per 76-lb box--			
August	13.44	18.42	16.52
September	9.77	15.28	15.97
October	4.94	19.12	16.82
November	2.32	14.93	13.81
December	1.78	9.37	9.20
January	0.76	6.85	5.63
February	0.49	4.64	2.68
March	1.27	5.89	
April	3.70	8.48	
May	5.44	10.69	
June	9.05	15.68	
July	15.86	19.57	

Source: National Agricultural Statistics Service, USDA.

up. With an increase exceeding 200 percent, China became the 6<sup>th</sup> biggest destination for U.S. lemons. The increased shipments to China's mainland ports, however, were not big enough to offset the 15-percent decline in shipments to Hong Kong, most of which is destined for consumers on the mainland.

### ***Higher Grower Prices Despite Smaller Tangerine Crop for 2002/03***

The U.S. tangerine crop is expected to be 17 percent smaller this season than last. Florida's crop is projected to be 24 percent smaller. During most years, Florida's production accounts for about 75 percent of the national crop. This year, however, its production will likely make up only 68 percent of all production. California's production, on the other hand, is expected to be 13 percent greater, and its share of the total crop should increase to 27 percent this season from 20 percent last season.

Both the smaller crop and strong demand have resulted in only 32 percent of Florida's honey tangerines remaining to be harvested by early March according to Florida's CAC data. Last season, 34 percent of the crop was remaining; two seasons ago, 40 percent of the crop was remaining to be harvested at this time.

Fresh tangerine grower prices have averaged \$13.65 per 95-pound box from October through February (table 9). Prices have ranged from \$9.73 per box in October to \$16.67 in January. Prices this season

average 2 percent above last season and 17 percent above 2 seasons ago.

Clementine imports resumed from Spain this season after being banned in 2001/02 when Mediterranean fruit fly larvae were discovered in some of the boxes in grocery stores. USDA's Animal and Plant Health Inspection Service and Spain agreed on a new inspection protocol, and shipments were allowed to resume just in time for the beginning of the season. As a result, clementine imports increased 24 percent between October 2002 and January 2003 over the same period last season. Imports, however, were still lower than in 2000/01 and 1999/2000. Spain's shipments were up 10 percent over last season, but the industry was a little skittish about returning its marketing efforts in the United States to before 2001/02 levels in case there were any further phytosanitary issues. To make up for some of the slack in Spain's shipments to the United States, Morocco increased its shipments by over 300 percent. Tangerine imports from other sources, chiefly Mexico and Israel, were also higher in 2002/03 (October through January) than last season.

### ***California Strawberry Shipments Ahead of Last Year, Prices Lower***

Strawberry production in California generally dictates market conditions in the U.S. strawberry industry as it represents over 80 percent of the total domestic crop. Production in the State begins in the south (San Diego, Orange, Los Angeles, and Ventura Counties)

Table 9--Fresh tangerines: Average equivalent on-tree prices received by growers, 2000/01-2002/03

Month	2000/01	2001/02	2002/03
--Dollars per 95-lb box--			
October	7.67	11.12	9.73
November	12.04	13.48	15.66
December	9.47	11.66	14.04
January	14.43	16.68	16.67
February	14.40	13.71	12.17
March	15.85	14.30	
April	12.15	17.37	
May	21.40	17.77	

Source: National Agricultural Statistics Service, USDA.

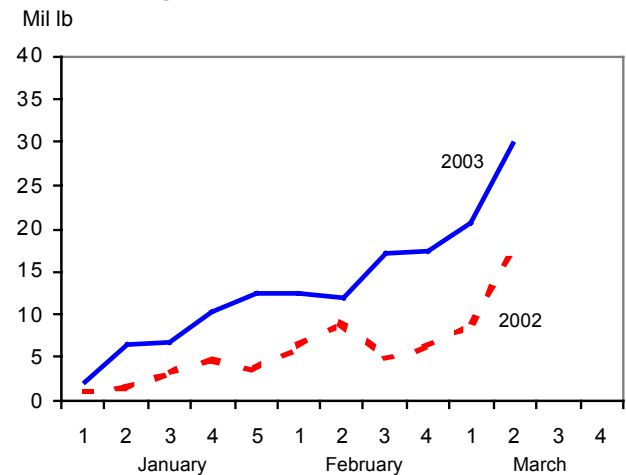
and moves up to the north to the Watsonville and Salinas area in Santa Cruz and Monterey counties. Some strawberry acreage is also found in Fresno, San Benito, and Santa Clara Counties.

With the aid of relatively new strawberry varieties, California strawberries are marketed year round. Shipments of fresh-market strawberries from southern California begin in January (or sometimes late December) and last through June, with the heaviest volume around April. The Oxnard area, in Ventura County, provides deliveries to processors from April to July, while in the Santa Maria area, north of Oxnard, picking usually starts in late February and continues through December. Shipments from the northern areas usually begin in April and continue into November, with peak shipments around May and June. While the marketing season for the southern growing districts has already begun, strawberry fields in the northern districts have already developed blooms.

Weekly shipments of California fresh strawberries have been consistently higher than last year every week through the first week of March, according to data from the U.S. Department of Agriculture's Agricultural Marketing Service (fig. 5). The total cumulative volume thus far is more than double the quantity shipped during the same period a year ago. As the early crop got underway, shipments also continued to increase seasonally except during the week ending February 15, when cooler temperatures and heavy rains around mid-week hit the southern growing areas, particularly in Orange County. Prior to the rains, relatively warm winter temperatures encouraged rapid berry development and pushed an early start to the season. The rains disrupted harvesting around mid-February and also caused bruising and rot problems on some ripe berries. Shipments that week declined about 4 percent from the previous week, but remained larger than the same period a year ago.

Larger supplies for the season thus far are keeping grower prices lower than a year ago. Prices are also declining from week to week as harvest volumes rise seasonally. So far this winter, freeze-reduced supplies in Florida, the second largest strawberry-producing State in the country (marketing winter strawberries in the East Coast region), have not helped much to boost overall prices.

Figure 5  
**Weekly shipments of fresh strawberries from California larger**



Source: Agricultural Marketing Service, USDA.

South District, California f.o.b. prices (shipping point basis) as of March 17 ranged from \$7.90 to \$8.90 per flat of 12, 1-pint baskets of medium-large berries, compared with \$10.90 to \$12.90 last year. Prices in early January ranged from \$16.90 to \$18.90 per flat, and declined slightly as the early-season crop progressed. However, the supply disruption during the rainy week in mid-February pushed prices higher, the same week as Valentine's Day, typically a day when retailers heavily promote strawberries. F.o.b. prices that week averaged as high as \$16.90 per flat, slightly higher than the prior week and comparable to the high-end price range a year ago. In the week that followed, prices dropped to \$8.90 to \$9.90 per flat, again much less than last year. With the peak season for the early crop in California yet to come and an estimated 5-percent increase in the State's strawberry acreage this year (according to the California Strawberry Commission), supplies are expected to continue to grow in the coming weeks, barring any weather problems. Consequently, prices will likely continue to fall.

Given that current supplies are already larger than last year's, acreage expansion for the 2003 California strawberry crop may indicate an overall increase in production this year. If realized, increased supplies and lower prices should help boost domestic and export demand during 2003. Last year, a large production increase (both for the fresh market and for processing), mostly from the California crop, weakened grower prices, particularly for fresh-market berries. The U.S. season-average price for fresh-

market strawberries fell 6 percent from 2001, to \$71.10 per hundredweight (1 cwt = 100 pounds) while strawberry retail prices averaged about the same, at \$1.86 per 12-ounce pint. Domestic consumption of fresh strawberries rose from an estimated 4.15 pounds per person in 2001 to a record 4.84 pounds in 2002. Fresh strawberry exports were also at a record high, reaching 156.9 million pounds, with increased exports to the top 5 markets—Canada, Mexico, Japan, the United Kingdom, and France.

Domestic consumption of frozen strawberries was also at an all-time high in 2002, estimated at 1.68 pounds per person compared with the 1.19 per pound average during the 1990s. Exports increased 6 percent from 2001, with larger shipments to leading markets such as Canada, Japan, Mexico, and France.

### ***Value of 2002 Fruit and Tree Nut Crop Up from Previous Year***

The 2002 fruit and tree nut crop was valued at \$12.8 billion, up 10 percent from 2001. California's share of the value continued to grow and it received 60 percent of the returns. Florida received the second largest share of the returns with 13 percent of the total, but its share of the fruit and tree nut market continues to decline and Washington is likely to have the second highest value in the next few years. In 2002, Washington had a 13-percent share of all fruit and tree nuts sales.

The apple crop value rose 12 percent to \$1.6 billion. A smaller crop in 2002 helped boost prices and raise returns after several years of low prices. The value of the 2002 crop was the highest since 1996.

The value of production rose for all the other major fruit as well, except grapes. Average grape prices fell 9 percent in 2002 in response to a 9-percent increase in production. Much of the decline was in the processing sector. Prices were lower for California's processed grapes which dominate the market, pulling down the national average price. Prices also were lower in New York and Pennsylvania, important States in the grape juice sector.

Lower prices coupled with lower production brought down revenues for wild blueberry, black raspberry, boysenberry, olive, papaya, and Florida K-early citrus growers. Lime and tart cherry growers faced a similar situation. Florida's lime crop is rapidly disappearing due to disease and past hurricane damage. As of 2002, there were only slightly more than 100 acres of lime trees compared with over 1,000 the previous year. A damaging freeze in early 2002 cut Michigan's tart cherry crop by 95 percent. Since Michigan is the Nation's leading tart cherry producer, overall industry revenues declined despite much higher prices.

Lower prices brought on by higher production reduced revenues for California raspberry and nectarine producers. The inverse, higher prices but lower production resulted in lower returns for the 2002 hazelnut, macadamia nut, pecan, and Hawaiian banana, crops.

Table 10--Value of fruit and tree nut crops, by State, 2000-2002

State	Crop value			Share of U.S.			Percent change
	2000	2001	2002	2000	2001	2002	'2001-02
	--1,000 dollars--			--Percent--			
Alabama	17,694	17,282	12,777	0.1	0.1	0.1	-26.1
Arizona	99,709	59,066	88,263	0.8	0.5	0.7	49.4
Arkansas	10,952	9,223	9,280	0.1	0.1	0.1	0.6
California	6,826,403	6,870,399	7,710,488	57.4	58.5	60.2	12.2
Colorado	13,078	15,384	15,679	0.1	0.1	0.1	1.9
Connecticut	8,043	7,989	5,959	0.1	0.1	1/	-25.4
Florida	1,917,407	1,637,942	1,693,821	16.1	14.0	13.2	3.4
Georgia	161,166	121,354	106,264	1.4	1.0	0.8	-12.4
Hawaii	159,899	157,114	151,473	1.3	1.3	1.2	-3.6
Idaho	26,137	21,030	24,884	0.2	0.2	0.2	18.3
Illinois	18,566	16,795	20,147	0.2	0.1	0.2	20.0
Indiana	14,234	11,832	12,716	0.1	0.1	0.1	7.5
Iowa	2,411	2,562	1,796	1/	1/	1/	-29.9
Kansas	806	1,730	2,058	1/	1/	1/	19.0
Kentucky	1,777	2,907	1,926	1/	1/	1/	-33.7
Louisiana	13,923	6,907	4,651	0.1	0.1	1/	-32.7
Maine	52,354	34,550	30,800	0.4	0.3	0.2	-10.9
Maryland	8,091	9,518	7,290	0.1	0.1	0.1	-23.4
Massachusetts	52,235	45,291	53,023	0.4	0.4	0.4	17.1
Michigan	218,999	218,234	145,721	1.8	1.9	1.1	-33.2
Minnesota	7,523	7,363	9,008	0.1	0.1	0.1	22.3
Mississippi	2,945	2,625	2,160	1/	1/	1/	-17.7
Missouri	10,697	11,750	13,639	0.1	0.1	0.1	16.1
Montana	1,569	2,082	3,791	1/	1/	1/	82.1
New Hampshire	7,655	7,133	7,290	1/	0.1	0.1	2.2
New Jersey	76,956	83,685	87,822	0.6	0.7	0.7	4.9
New Mexico	49,982	40,308	40,907	0.4	0.3	0.3	1.5
New York	177,497	177,826	167,743	1.5	1.5	1.3	-5.7
North Carolina	62,551	57,403	68,735	0.5	0.5	0.5	19.7
Ohio	33,272	32,104	31,483	0.3	0.3	0.2	-1.9
Oklahoma	8,463	13,348	10,547	0.1	0.1	0.1	-21.0
Oregon	248,515	250,960	246,850	2.1	2.1	1.9	-1.6
Pennsylvania	98,858	101,989	87,292	0.8	0.9	0.7	-14.4
Rhode Island	790	536	783	1/	1/	1/	46.1
South Carolina	32,679	38,761	44,516	0.3	0.3	0.3	14.8
Tennessee	3,330	3,221	3,141	1/	1/	0.0	-2.5
Texas	92,149	98,053	79,120	0.8	0.8	0.6	-19.3
Utah	16,834	9,464	4,706	0.1	0.1	1/	-50.3
Vermont	8,665	9,150	5,760	0.1	0.1	1/	-37.0
Virginia	40,598	44,632	38,603	0.3	0.4	0.3	-13.5
Washington	1,214,809	1,385,161	1,627,343	10.2	11.8	12.7	17.5
West Virginia	9,678	11,330	11,725	0.1	0.1	0.1	3.5
Wisconsin	68,224	78,984	111,920	0.6	0.7	0.9	41.7
United States	11,898,123	11,734,977	12,803,900	100.0	100.0	100.0	100.0

1/ Less than 0.05 percent.

Source: National Agricultural Statistics Service, USDA.

## Tree Nuts Outlook

### *Many Tree Nut Crops on Off-Cycle in 2002*

Unlike many of the other deciduous tree crops, nut trees still experience very strong alternate bearing cycles. Since big crops were produced in 2001, 2002 showed declines in many of the domestically produced crops, in particular hazelnuts, macadamia nuts, pecans, and walnuts. Pistachio nut trees are on the opposite cycle of most of the other domestic tree nut crops and the 2002 pistachio crop was larger than the 2001 crop. Unlike the other nut trees, almond trees demonstrated no cyclical change in production in 2002. With increased yields and bearing acreage, almond production increased for the second consecutive year.

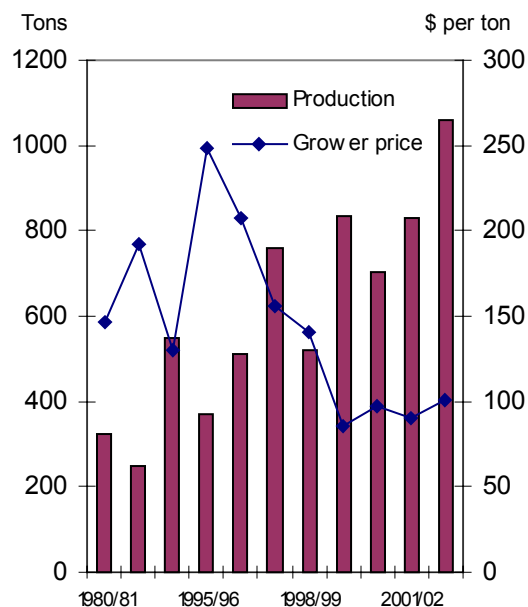
### *Almond Prices Keep Rising Despite Record Crop*

The almond crop by far dominates tree nut production in the United States. The 2002 almond crop totaled 1.1 billion pounds, shelled basis. Again, the industry produced a record-breaking crop as it did several times in the nineties. Despite the very large crop, grower prices were higher in 2002, averaging \$1.01 per pound, 11 percent more than in 2001 (fig.4). Monthly f.o.b. prices were also higher in 2002. Prices ranged from a low of \$1.55 for a pound of nonpareil supreme almonds to a high of \$1.75 (table 11). Last year, f.o.b. prices topped out at \$1.65 per pound, with most months averaging \$1.30 to \$1.40 per pound.

Even with higher prices, shipments have been strong, according to data from the Almond Board of California. So far this season, from August through February, shipments were 16 percent above the same period a year ago. Domestic shipments were up 23 percent and exports were up 13 percent. As of February, exports accounted for 72 percent of total shipments, a slightly smaller share than through last February. With about 643 million pounds of almonds (shelled basis) already shipped, another 168 million pounds have been sold but not yet delivered, 8 percent more than the same time a year ago. That leaves 304.4 million pounds remaining. Because this year's crop is so large, the inventory was 65 percent greater than last February, even with the bigger shipments.

Figure 4

### **Almond production and price, 1980/81 to 2002/03**



Source: National Agricultural Statistics Service, USDA.

### *Smaller Walnut Crop in 2002*

California's walnut trees produced 282,000 tons of nuts in 2002, down 8 percent from the previous year, but up 18 percent from 2 years ago when the production cycle was similar.

Grower price data for walnuts is not available until July 2003, however, monthly f.o.b. prices indicate growers received less per pound for their crop in 2002 than in 2001. F.o.b. prices for a pound of walnut light halves and pieces ranged from \$1.95 to \$2.15 throughout 2002. In comparison, in 2001 prices ranged from \$2.10 to \$2.50 per pound. With both a smaller crop and lower f.o.b. prices, growers' revenues for the 2002/03 will likely be lower than a season ago.

Although the walnut crop is smaller this season, shipments have been higher than a year ago in domestic markets and equal to last year in the international market. From August through February, the Walnut Marketing Board reported that 120,686 tons of walnuts, inshell equivalent, had been shipped

Table 11--Free-on-board tree nut prices, 2001-02

Month	Almonds		'Pecans		Hazelnuts	
	Nonpareil supreme		Fancy halves		Large	
	2001	2002	2001	2002	2001	2002
--Dollars per pound--						
January	1.65	--	3.85-4.15	2.15-2.25	2.49	1.69
February	1.65	1.55-1.65	3.50-3.90	--	2.49	1.69
March	1.65	1.65-1.70	3.50-3.90	2.65	--	1.75
April	1.45	1.65-1.72	3.20-3.80	2.65	2.49	1.82
May	1.45	1.66-1.70	3.50	2.65	--	1.82
June	1.30-1.40	1.70-1.75	3.40-3.50	2.65	--	1.79
July	1.30-1.40	1.60-1.70	3.40-3.50	--	--	1.79
August	1.35-1.40	1.60-1.65	3.40-3.50	2.80	--	1.79
September	--	1.60-1.65	3.40-3.50	--	--	--
October	1.35-1.40	1.60-1.65	3.40-3.50	--	--	2.20
November	1.30-1.35	1.60-1.65	2.80-2.90	2.85	1.69	--
December	1.35-1.40	1.60-1.65	2.50-2.60	2.85	1.69	--
	Macadamia nuts		Walnuts		Pistachios	
	Style 2		Light halves and pieces		U.S. No. 1 21/25 Count	
	2001	2002	2001	2002	2001	2002
--Dollars per pound--						
January	--	4.00-4.50	2.40-2.50	2.10-2.15	--	2.00
February	--	4.00-4.51	2.40-2.50	2.10-2.15	--	2.00
March	--	4.00-4.52	2.45-2.50	1.95-2.00	1.75-1.80	2.00
April	--	4.00-4.53	2.45-2.50	1.95	--	2.00
May	--	4.00-4.54	2.40-2.45	1.95	1.70-1.75	2.00
June	--	--	2.40-2.50	1.95-2.00	1.55-1.65	2.00
July	--	4.00-4.50	2.40-2.45	2.00-2.10	1.55-1.65	2.00
August	--	4.00-4.50	2.40-2.45	2.05-2.15	1.55-1.65	2.00
September	--	--	2.40-2.45	2.05-2.15	1.55-1.65	2.00
October	--	4.00-4.50	2.15	2.05-2.15	1.55-1.65	2.00
November	--	4.00-4.50	2.10-2.15	1.95-2.05	1.85	1.90-1.95
December	--	4.00-4.50	2.10-2.15	1.95-2.05	1.85	1.90-1.95

-- = Not available.

Source: Food Institute Report, January 2003.

to domestic markets, 14 percent more than last season. International shipments totaled 83,758 tons, fractionally more than last season. The domestic market mostly purchases its walnuts already shelled, while the bulk of the walnuts exported outside the United States are inshell. The European Union is the major destination for both shelled and inshell walnuts. Within the EU, Spain, Germany, and Italy are the major markets. Outside of the EU, Canada and Venezuela are major destinations for U.S. walnut shipments.

### ***Small Crop Drives Down Hazelnut Revenues Despite Near-Record Grower Price***

The 2002 hazelnut crop totaled 18,000 tons, inshell equivalent, the smallest crop since 1998. Production declined 64 percent from 2001 and 19 percent from another off-cycle crop in 2000. As a result of the much smaller crop this season, grower prices increased 43 percent to \$1,000 a ton, the highest since 1980. The high price, however, was not sufficient to bring up total crop revenue. Therefore, the value of the 2002 crop reached only \$18 million, 48 percent below the previous year.

The Hazelnut Marketing Board Disposition Report July 2002 through February 2003 showed domestic shipments of the current year's crop down 36 percent from the 2001/02 marketing season, and down 18 percent from 2 seasons ago. Beginning inventories were large this year, increasing the quantity available for marketing. As a result, as of the end of February, domestic shipments of all available hazelnuts were down by only 1 percent.

Exports have been considerably lower this marketing season. The small U.S. crop and normal production in Turkey, the world's major hazelnut producer, lowered the U.S. industry's reported shipments to 9,500 tons, down from 20,300 tons the same time last season. Hong Kong is the major destination for the exports.

### ***Pistachio Crop Sets Record in 2002***

The 2002 pistachio crop totaled 300 million pounds in 2002, the biggest on record. The crop was 86 percent bigger than the 2001 crop and 23 percent bigger than the previous record crop in 2000. Increases in bearing acreage and the trees' cyclical bearing habit resulted in the large crop. Bearing

acreage increased 6 percent from a year ago to 83,000 acres. Pistachio acreage is the third largest among tree nuts, after almonds and walnuts.

Although the crop is very large this season, grower prices rose 10 percent to \$1.11 per pound. This is the highest price growers have received since 1999.

Domestic shipments have been slower this season, according to the California Pistachio Commission. As of the end of February, domestic shipments totaled 56.3 million pounds, 7 percent less than last season for open, inshell nuts. Open inshell nuts account for the bulk of pistachios marketed. Export shipments, on the other hand, have been up. Bigger shipments went to Europe this season through February over last season. Germany, France, and Luxembourg are the three largest markets for California pistachios outside the United States. Hong Kong shipments, however, declined. Last season Hong Kong received the greatest shipment of U.S. pistachios; this season it ranks fourth.

### ***Value of Macadamia Crop Lowest Since 1984***

A smaller macadamia crop in Hawaii coupled with lower prices in 2002 reduced the crop's value to \$28.6 million, the lowest since 1984. The trees' off cycle reduced yields in 2002 and production totaled 52 million pounds. While production was 7 percent lower than in 2001, it was 4 percent higher than 2000. Prices declined in 2002, even though production was down. With prices 7 percent below the previous 2 seasons, growers' returns declined.

### ***Weather Conditions Reduce Pecan Forecast***

NASS forecast the 2002 pecan production to be down 47 percent from the previous year at 178.4 million pounds (inshell basis). The forecast made in December was down 12 percent from its initial forecast in October. Adverse weather conditions, including wet weather and tropical storms damaged production in the southern States. These factors, combined with the low cycle of the alternate-bearing cycle of the pecan trees produced the smaller crop.

Georgia's share of the crop dropped dramatically in 2002, totaling 45 million pounds, 59 percent less than in 2001. The off year of the alternate-bearing cycle was the major factor in this decrease. While Georgia's crop accounted for 34 percent of the



national crop in 2001, in 2002, it accounted for only 25 percent of the crop. Declines in other States' crop left Georgia still as the number one producer of pecans. Texas' and New Mexico's production also declined. They are the second and third biggest pecan producers in the United States. Texas' crop was especially hurt by storms.

Grower prices increased in 2002 to 95 cents per pound, up 61 percent from 2001. Despite this sharp increase, the crop value was down 16 percent to \$169.3 million as a result of the markedly smaller crop. Pecan f.o.b. prices for fancy halves ranged from \$2.15 to \$2.25 per pound at the beginning of 2002 to \$2.85 in November and December. In 2001, prices began the year much higher at \$3.85-\$4.15 per pound in January declining to \$2.50-\$2.60 in December. Prices ran much higher throughout the year in 2001 than 2002.

Cold storage supplies in January 2003 were about 56 percent of the inventory in January 2002. According to industry sources, stocks have been declining more rapidly this season than in the previous season. Many processors who buy pecans for their products, such as ice cream, need to purchase the nuts 2 years ahead of time some years because of the alternate-bearing nature of the trees to insure they will have sufficient supplies. With the smaller crop this season, they are turning to the nuts in storage to meet their needs.

Excellent pecan crops are presently expected from both Georgia and Texas for 2003. Weather conditions in the fall and winter were ideal for the trees and 2003 is a big-production year for the trees in their cycle. However, weather always plays a major factor in pecan production and the final crop size will depend on weather conditions for the remainder of 2003 until the September harvest.

## Fruit and Tree Nut Trade Outlook

### *Citrus Exports Strong, But Reduced Supplies Dampen Shipments of Some Noncitrus Fruit*

U.S. exports of fresh oranges and grapefruit have been strong during the 2002/03 season through January relative to the same period last season (table 12). Good quality and lower prices this season likely contributed to the strong international demand. Lemon shipments, however, have run about 14 percent behind a season ago. See the Fruit Outlook section for more in-depth analysis of citrus trade.

Smaller apple, pear, and sweet cherry crops in 2002 reduced the quantities of fresh fruit available for export. The export value of the fresh apple crop is lower so far this season due to the lower shipments. Exports of U.S. apples increased this season to Canada, the major international destination, but were about half the quantity shipped last season to Mexico, the second biggest market. Also affecting shipments to Mexico was the sharp tariff increase on Washington

Red and Golden Delicious apples related to an antidumping investigation by Mexicans in 1997. Mexico mostly imports the Delicious varieties of apples. Exports were up this season to many Asian markets, but were down to China and Hong Kong.

Fresh pear exports fell 9 percent from July 2002 through January 2003 compared to the same time period last season. While there are ample cold-storage stocks of many varieties of pears, the major Bartlett variety supplies are low. Exports remained level to both Mexico and Canada, but were about half the quantity of last season through January to the Netherlands and Taiwan.

Not-from-concentrate orange juice exports continue to grow at the expense of frozen concentrated orange juice. The United States has the competitive advantage in world trade for NFC presently, but Brazil controls the FCOJ market.

Table 12--U.S. exports of selected fruit and tree nut products

Commodity	Marketing season	Season-to-date (through January)		Year-to-date change
		2002	2003	
		--- 1,000 pounds ---		Percent
Fresh-market:				
Oranges	November-October	246,580	303,887	23.2
Grapefruit	September-August	344,091	356,585	3.6
Lemons	August-July	109,005	94,083	-13.7
Apples	August-July	720,735	590,810	-18.0
Grapes	May-April	641,013	671,919	4.8
Pears	July-June	272,985	248,906	-8.8
Peaches (including nectarines)	January-December	3,771	1,683	-55.4
Strawberries	January-December	4,540	7,530	65.9
Sweet cherries	January-December	347	117	-66.3
		--- 1,000 gallons ---		
Processed:				
Orange juice, frozen concentrate	October-September	1,526	1,207	-20.9
Orange juice, not from concentrate	October-September	1,596	1,793	12.3
Grapefruit juice	December-November	309	460	48.9
Apple juice and cider	August-July	363	258	-28.9
Wine	January-December	467	575	23.1
		--- 1,000 pounds ---		
Raisins	August-July	127,802	140,648	10.1
Canned pears	June-May	8,584	7,079	-17.5
Canned peaches	June-May	12,681	32,911	159.5
Frozen strawberries	January-December	3,035	847	-72.1
		--- 1,000 pounds ---		
Tree nuts:				
Almonds (shelled basis)	August-July	342,594	391,211	14.2
Walnuts (shelled basis)	August-July	80,574	85,257	5.8
Pecans (shelled basis)	July-June	12,105	18,485	52.7
Pistachios (shelled basis)	September-August	14,049	15,614	11.1

Source: Bureau of the Census, U.S. Department of Commerce.

## Winter Fruit Imports Increase from the Southern Hemisphere

Fresh fruit imports were up 24 percent from Chile from November 2002 through January 2003. Chile is the major source of fresh summer fruit found in U.S. markets during the late fall and winter months. Fresh grapes accounted for 55 percent of the summer fruit Chile shipped to the United States. Demand has been strong in U.S. markets for the grapes because of their good quality. As a result of the good quality and the large crop in Chile, fresh grape imports increased 18 percent over the same time period a year ago. Similar situations hold for fresh peach and plum shipments as well. Chilean avocado exports to the United States continue to increase as the U.S. appetite for them continues to grow. During calendar year 2002, Chilean avocado shipments to the United States increased 59 percent.

Lime imports experienced the most dramatic increase during 2002/03 among all fresh fruit (table 13). Almost all limes are imported into the United States from Mexico. Small quantities also come in from El Salvador and Honduras. The growing Hispanic population in the United States has helped increase the popularity of limes, which are an important ingredient in many Mexican, Central American, and Caribbean dishes. The United States is almost exclusively dependent on imports for its lime supplies. The decline in Florida's lime production over the past year due to citrus canker disease has had little impact on overall lime supplies since America has become increasingly dependent on imports since 1994 when Florida's industry was severely damaged by a hurricane.

Table 13--U.S. imports of selected fruit and tree nut products

Commodity	Marketing season	Season-to-date (through January)		Year-to-date change
		2002	2003	
		--- 1,000 pounds ---		Percent
Fresh-market:				
Oranges	November-October	12,418	6,330	-49.0
Tangerines (including clementines)	October-September	119,774	148,203	23.7
Lemons	August-July	46,572	36,381	-21.9
Limes	September-August	52,788	234,227	343.7
Apples	August-July	68,964	86,674	25.7
Grapes	May-April	1,119	1,393	24.5
Pears	July-June	26,356	27,468	4.2
Peaches (including nectarines)	January-December	40,019	50,491	26.2
Bananas	January-December	667,228	653,145	-2.1
Mangoes	January-December	30,800	33,580	9.0
		--- 1,000 gallons ---		
Processed:				
Orange juice, frozen concentrate	October-September	61,889	97,020	56.8
Apple juice and cider	August-July	182,452	175,941	-3.6
Wine	January-December	10,054	12,808	27.4
		--- 1,000 pounds ---		
Canned pears	June-May	16,903	21,071	24.7
Canned peaches	June-May	85,648	80,886	-5.6
Canned pineapple	January-December	63,155	59,836	-5.3
Frozen strawberries	January-December	5,982	8,157	36.4
		--- 1,000 pounds ---		
Tree nuts:				
Brazil nuts (shelled basis)	January-December	2,534	565	-77.7
Cashews (shelled basis)	January-December	19,089	19,740	3.4
Pine nuts (shelled basis)	January-December	734	758	3.3
Pecans (shelled basis)	July-June	21,084	28,617	35.7

Source: Bureau of the Census, U.S. Department of Commerce.

### *California's Central Valley: Center of U.S. Raisin Industry*

Raisins are dried grapes. Technically, a grape becomes a raisin when, during the drying process, its sugar content drops below 16 percent. In the United States, raisins are produced almost entirely in the Fresno area in California's Central Valley. Arizona produces a small fraction of all grapes used for making raisins, according to data from the U.S. Department of Agriculture's National Agricultural Statistics Service (USDA-NASS). The long, hot growing season and abundant water supplies in the Central Valley helped turn this region of California into the center of the U.S. raisin industry. Over the last 5 years, the area harvested to raisin grapes ranged from 230,000 to 280,000 acres. It is difficult, however, to determine the actual acreage devoted solely to raisin production.

Commercial raisin production in California began in the 1870s. As early as 1909, California produced 280,000 short tons of raisin grapes (fresh-weight basis) and dried about 95 percent of that volume. Now, California's raisin grape production averages over 2.0 million short tons annually, and about 70 percent of this volume is used each year in making raisins. Raisins generate a farm value ranging from \$200 million to \$300 million annually. With production capacity ranging from about 300,000 short tons to nearly 500,000 short tons (dried-weight basis) over the last 13 years, the United States has become the world's largest producer of raisins and the third largest exporter, after Turkey and Iran.

### *Raisins Made Mostly From Thompson Seedless Grapes*

Grape varieties are classified into three major groups: table-type, raisin-type, and wine-type grapes. Several varieties can be used for both fresh and processing regardless of type classification. The very first raisins produced in California were made from Muscat grapes, a large, seeded wine-type grape variety brought into this country by Spanish missionaries. Just as Muscat raisins were becoming popular, a Scottish immigrant, William Thompson, introduced seedless grape cuttings to California in 1872. Today, industry sources report that the Thompson seedless grape is not only the leading grape variety grown in

California but it also represents more than 95 percent of all the grapes used to make raisins. This variety is classified as a raisin-type grape that produces a green, seedless fruit. While dominating raisin production, it is also widely used for fresh consumption and for making juice concentrate and wine as well. Several other raisin grape varieties are used for raisin production, including Muscat, Black Corinth, and Sultana.

While most of the raisins are made from raisin-type grapes, about 1-2 percent of all the grapes dried in California comprise of table grape varieties. The most widely used table grape variety for raisin production is Flame seedless.

Different varieties of grapes are dried into the following types of raisins:

- **Dark raisins or natural seedless** – sun-dried Thompson seedless grapes that naturally develop a dark brown color during the drying process. These raisins account for over 90 percent of production.
- **Golden raisins or golden seedless** – Thompson seedless grapes mechanically dried to prevent them from turning dark. During processing, the raisins are treated with sulphur dioxide to preserve the golden color. These raisins account for about 5 percent of production and are rising in popularity, especially in the baking arena.
- **Dipped seedless** – sun-ripened Thompson seedless grapes, bathed in hot water, and mechanically dried. These raisins have a light brown color.
- **Muscat raisins** – sun-dried Muscat grapes, whose raisins are large, dark, extra sweet, and with a distinct fruity taste. The seeds are mechanically removed during processing. These raisins are considered a specialty item, especially for holiday baking.
- **Zante Currants** – sun-dried Black Corinth grapes. These raisins, also popular for baking, are seedless, very dark, and about one-fourth the size of other raisins, with a tart and tangy flavor.

- **Sultanas** – dried large, yellow-green grapes that are available in many gourmet and health food stores.
- **Flame seedless** – sun-dried Flame seedless grapes, whose resulting raisins are large, dark red, and very sweet; used primarily for baking, especially in fruit cakes.

### ***Raisins Are Second Largest Use of Grape Production***

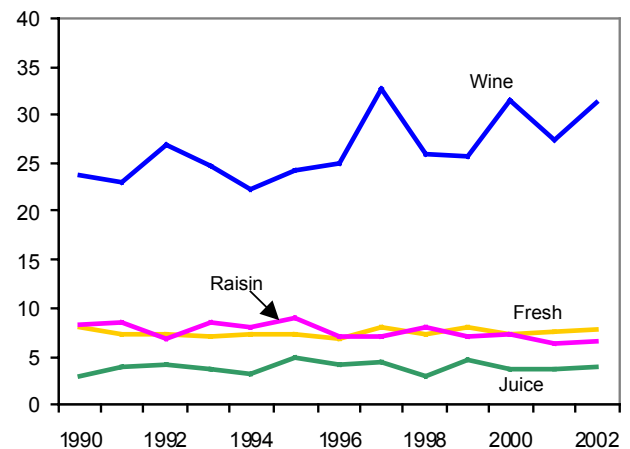
Next to wine production, raisin production accounts for the second largest share of California’s total grape crop. Nearly 30 percent of the State’s production is processed into raisins each year. At the consumer end, this trend has also been evident through most of the last 13 years (fig.6). On a per capita fresh-weight basis, wine is by far the major form in which grapes are consumed in the United States. Prior to the last 3 years, raisin consumption remained slightly ahead of fresh grape consumption. Domestic raisin consumption averaged between 1.5 pounds and 2.0 pounds per person (dried-weight) over the last several years. Regarded as one of the most nutritious dried fruit, raisins are rich in dietary fiber and are a good source of iron, potassium, vitamin B, and natural sugars for quick energy.

### ***Making Raisins A Labor-Intensive Process***

Raisin production is a highly labor-intensive process, with nearly all stages of the growing period requiring hand labor. Because most raisins produced in California follow the traditional “dried-on-the-ground” (sun-drying) system, the most critical need for labor is during harvesting (including drying).

In late August through mid-September, when the sugar content in the grapes reaches a desirable level, the grapes are hand picked, set on paper trays laid between the vine rows, and dried in the sun. The grapes are turned once to ensure evenness in drying. As soon as the moisture content of the dried grapes reaches 15 percent, the paper trays are rolled carefully by hand and left to bake under the sun for a few more days. The rolled up trays are then moved out of the vineyard to an open space on the farm. The dried grapes are shaken off the trays and onto a conveyor belt where the larger stems are manually separated. Finally, the dried grapes are transferred to

Figure 6  
**U.S. per capita grape consumption\***  
Pounds



\* Fresh-weight basis.

Source: National Agricultural Statistics Service, USDA.

wooden bins or sweat boxes where they are stored until they are ready to be processed.

Harvesting grapes for raisin production is expensive because it requires a large, temporary workforce to carry out the work that occurs over approximately 2 to 3 weeks. It is also during this period that the crop is most vulnerable to adverse weather causing quality problems such as disease, mold, or embedded sand that may result in price discounts. In a cost study conducted by the University of California Cooperative Extension in 1998, harvesting cost to produce raisins following best management practices amounted to \$460 per acre, about one-third of the total cash cost per acre (including cash overhead) incurred by growers. Now under pressure from high labor costs and low prices, there is a growing interest in the industry to shift to new production systems that could make mechanical harvesting more economically feasible.

### ***Family-Owned Farms Dominate***

Currently, there are about 5,000 raisin growers in California. The average grower has about 50 acres of raisin grapes. Most of these farms are family owned and operated, and while raisin grapes are their primary crop, most of the growers produce other crops or rely on off-farm income as well. There are also about 600 table grape growers in California and although the fresh market is their largest outlet, some

of these growers also produce for the raisin industry. Currently, between 3 and 5 percent of table grape production in California is processed into raisins. Growers sell their raisins to packers or handlers. A packer takes on the responsibility of processing and packaging the raisins. A handler, on the other hand, is responsible for shipping. Processing generally includes: size grading, washing, and sorting to discard any unwanted material and ensure that the final product meets exacting standards and quality. After final inspections, the raisins are weighed and packed for distribution to various retail outlets.

There are 22 raisin packers in California, including 3 cooperatives and 19 privately owned operations. Sun Maid Growers Cooperative of California is the largest of the three cooperatives, handling a large share of the industry's production. All of the packers are also handlers, and there are two handlers who are not packers.

### ***Federal Marketing Order in Place***

The marketing of California raisins is regulated by a federal marketing order, authorized by the U.S. Congress through the Agricultural Marketing Agreement Act of 1937. Marketing orders are designed to help stabilize market conditions for specific agricultural products. The marketing order for California raisins was established in 1949 and is administered by the Raisin Administrative Committee (RAC), a group that consists of 47 members, including 35 producers, 10 handlers, 1 cooperative bargaining association member, and 1 public member (someone who is not involved in raisin production and marketing). Each RAC member has an alternate.

Under the marketing order, RAC determines whether volume control measures are necessary during a given crop year. When volume regulation is in effect, RAC determines how much of the crop should be sold by handlers in the open market (free tonnage). The remainder of the crop remains in a reserve pool (reserve tonnage) for future use (example, during a short crop year) or marketed to noncompetitive outlets such as government purchases for the school lunch program or for international food aid programs. The actual price received by growers is a weighted average of the free tonnage price and the reserve price.

### ***Glut Leads to Sharply Lower Prices***

As with other agricultural commodities, raisin production in California fluctuates from year to year. On average, however, production over the last three decades has increased. Based on NASS data, which include all varieties dried, raisin production in the 1970s averaged slightly over 200,000 short tons, rising to an average of over 300,000 tons during the 1980s and 1990s, and to over 400,000 short tons during the past 3 years (table 14). Total raisin deliveries (both free and reserve tonnage) reported by RAC closely follow this trend. Grower prices for dried raisin grapes over this same time period have fluctuated from over \$200 per ton to \$1,250 per ton, with the average being over \$800 per ton (NASS).

Raisins are a storable product and the large production in recent years, combined with stagnant domestic demand and increased foreign competition, has forced the industry into a glut situation. The percentage allotments for free tonnage set by RAC for natural seedless raisins over the last 3 years averaged 56 percent, lower than any year since 1984.

Continued large production in recent years may be partly attributed to the diminishing demand from U.S. wineries for Thompson seedless grapes--once the most popular grape variety crushed for juice and wine. During the mid-1970s, Thompson seedless grapes made up about a third of all the grapes crushed in California for juice and wine production. This share has dropped to an average of 13 percent over the last 5 years as U.S. wineries increased their use of premium wine varieties to improve quality and further boost both domestic and foreign demand. As production of wine grape varieties rapidly expanded during the 1990s, production of raisin grapes typically intended for the wine market were more than likely processed into raisins.

Record-large raisin production in 2000 led to a sharp drop in grower prices (for dried raisin grapes) from \$1,220 per ton in 1999 to \$569 per ton. Although production the following year was reduced, prices generally remained below average and lower than the cost of production for many growers.

Table 14--Raisin production in California, 1970-2002 1/

Year	Grape variety type		Price per ton	
	Raisin	Table	Raisin	Table
	----- Tons -----		----- Dollars -----	
1970	193,000	450	283	350
1971	194,100	730	329	400
1972	105,000	350	560	550
1973	224,000	526	754	752
1974	241,500	630	602	666
1975	284,000	645	665	640
1976	218,000	400	706	1,050
1977	248,300	600	840	878
1978	146,200	250	1,121	1,750
1979	302,300	1,090	1,151	1,200
1980	309,000	1,550	1,151	1,200
1981	255,000	1,810	1,198	1,120
1982	292,000	3,300	1,150	1,250
1983	396,000	2,500	587	1,020
1984	334,500	850	635	609
1985	346,000	1,940	612	650
1986	277,000	1,900	757	582
1987	356,000	1,950	817	783
1988	363,000	3,500	898	767
1989	430,000	3,200	977	770
1990	393,000	2,500	903	805
1991	345,000	3,000	963	842
1992	388,300	3,200	911	866
1993	382,000	6,300	937	874
1994	418,600	3,400	923	550
1995	306,400	2,800	980	750
1996	311,500	2,400	1,070	880
1997	428,500	4,300	908	914
1998	277,400	3,800	1,250	933
1999	341,000	5,800	1,220	1,030
2000	484,500	9,200	569	700
2001	411,300	5,800	548	644
2002	396,500	5,300	2/	2/

1/ Dried basis.

2/ Prices for California grapes utilized for raisins will be available on July 8, 2003.

Source: National Agricultural Statistics Service, USDA.

## ***The Raisin Diversion Program***

To address the current oversupply situation in the U.S. raisin industry, the raisin diversion program (RDP) was implemented for the 2003 crop year. The RDP is another program authorized under the Federal Marketing Order that concerns reserve raisins. During a given crop year when there is overproduction, RAC can decide to implement the RDP and announce the total tonnage eligible for diversion during the upcoming crop year. Participating growers are required to curtail production by either vine removal or spur pruning. RAC decides which method to use.

To participate in the program, growers need to submit an application to RAC. If the total tonnage applied for by the growers exceeds the allotment, RAC conducts a lottery. Growers who are accepted in the program will receive an RDP certificate indicating the total volume that they will not be producing in the coming crop year. A grower may sell his or her certificate to a handler during the new crop year (marketing season runs from August through September) and is paid according to the free tonnage applicable in the diversion certificate minus the established harvest cost for the diverted tonnage. The handler presents the certificate to RAC, along with payment in the amount equal to the established harvest cost as well as other costs associated with receiving, storing, fumigating, handling and inspecting the tonnage represented on the certificate. In return, the RAC provides the handler with raisins from the prior year's reserve pool equal to the volume indicated in diversion certificate. Tonnage acquired through the RDP will also be subject to the new crop year's allotment percentages for free and reserve tonnage.

In January of this year, RAC approved a total of 35,000 tons of raisins to be diverted from the 2003 crop. Production will be curtailed solely by vine removal. With a production cap of 2 tons per acres, the total volume eligible for diversion covers 17,500 acres. A harvest value was set at \$340 per ton. So far, applications to the RDP for 2003 are at 57 percent of the total allotment, covering a total of 10,000 acres.

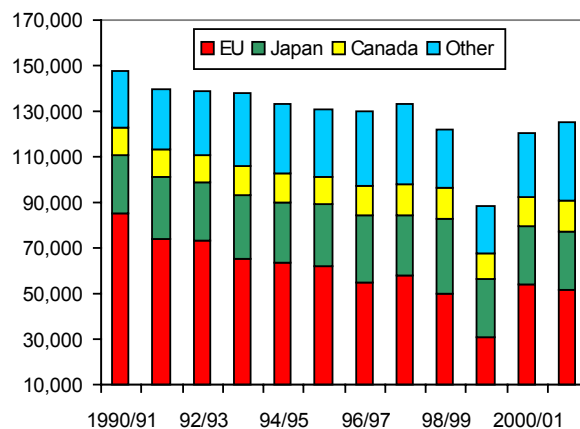
## ***Top 5 Countries Supply Bulk of World Exports***

More than 80 percent of world raisin exports come from five countries--Turkey, Iran, the United States,

Greece, and Chile. Turkey supplies more than a third of the total export volume, while Iran and the United States each supply over 15 percent. Greece and Chile account for 8 percent and 7 percent of total export volume, respectively.

In the United States, the export market has become a vital part of the raisin industry. U.S. raisin exports during the 1990s increased more than 50 percent from the average volume exported in the 1980s and were more than double those in the 1970s. Exports averaged 239.4 million pounds (119,697 tons), dried weight equivalent during the past five marketing seasons, averaging over \$171 million and almost half the average annual farm value of domestic raisin production. Export volumes during this 5-year period, however, were slightly below those in the early- to mid-1990s (fig. 7). Increased exports of cheaper raisins from low-cost producing countries continue to put pressure on U.S. exports. For the 2002/03 marketing season, a large decline in exports from Turkey due to heavy rains that curtailed the crop will likely open more opportunities for U.S. exporters, particularly in the EU where both countries are large suppliers. About three-quarters of U.S. raisin exports go to the European Union (42 percent), Japan (23 percent), and Canada (11 percent). Other leading markets include Taiwan, Hong Kong, Singapore, and South Korea.

Figure 7  
**U.S. raisin exports, crop years 1990/91-2001/02\***  
Thousand tons



\* Dried basis. Crop year runs from August-July.

Source: National Agricultural Statistics Service, USDA.



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