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Situation and Outlook Report

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Contents

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The *Fruit and Tree Nuts Situation and Outlook* is published semi-annually (March and August), and supplemented by a yearbook (October).

Summary

During the second half of 1998, the grower price index for fruit and nuts will likely average slightly higher than the same period a year ago, reflecting higher grower prices, mostly for noncitrus fruit. Due to weather problems, harvest of many noncitrus fruit crops in California, a major fruit production region in the United States, is expected to be smaller than a year ago.

Reduced production of stone fruit this summer and pears this fall will help to boost overall retail fresh fruit prices during the second half of 1998. Increased apple production in the fall will likely counter some of the strength in prices.

The United States Department of Agriculture (USDA) forecasts the 1998 U.S. apple crop to be up 9 percent from a year ago. Larger expected crops in the Western region, except in California, will offset production declines in the Central and Eastern regions. Washington's crop is expected to reach a record, likely increasing fresh use in 1998.

U.S. grape production in 1998 is forecast to decline 14 percent from last year's record crop. California's crop, about 90 percent of the U.S. total, despite being down 15 percent will be the second largest crop on record. Reduced grape production and expected smaller crops of many noncitrus fruit, especially in California, are going to help boost fresh-market grower prices during the 1998/99 marketing season.

The 1998 U.S. pear crop is forecast 12 percent smaller than last year's near-record production. Pacific Coast production of Bartlett pears is expected to be down 15 percent from 1997, while U.S. output of other varieties will likely decline 9 percent. Increased inventories from last year's record fresh use and the expected larger apple crop this fall could keep fresh pear prices from rising sharply.

U.S. peach production in 1998 is forecast down 9 percent from a year earlier, primarily due to smaller expected crops in California, South Carolina, and Georgia. Reduced production and less competition from other summer stone fruit has put some upward pressure on grower prices so far in 1998.

The 1998 U.S. apricot crop is forecast 6 percent smaller than the large production in 1997, putting upward pressure on grower prices. Production is expected to decline in California and Washington.

U.S. sweet cherry production is forecast down 12 percent from a year ago, but above average. Weather problems in California reduced its crop 70 percent and has already put a strain on U.S. fresh cherry exports in 1998. Production in Washington is forecast down only 1 percent, still above average and its third largest. In Oregon, output is forecast unchanged.

U.S. tart cherry production in 1998 is forecast up 1 percent from a year ago and the largest crop since 1995. This, along with large beginning stocks of frozen tart cherries, will put some downward pressure on grower prices.

Commercial strawberry production in the six major producing States (CA, FL, OR, WA, MI, NJ) is forecast down 7 percent from a year ago. Over 80 percent of U.S. strawberries are produced in California, where the crop is forecast down 6 percent due primarily to the winter rains that adversely affected production through most of the first half of the year. However, sharply higher shipments in June and July, resulting from improved weather, led to lower than year-earlier prices.

The North American Blueberry Council estimated the 1998 U.S. cultivated blueberry crop to be down 8 percent from last year. However, more blueberries are expected for fresh use, likely driving fresh-market grower prices down. Meanwhile, large stocks of frozen blueberries will likely keep grower prices for processing use from advancing from last year.

The California Kiwifruit Commission indicated that California's kiwifruit crop will likely match last year's average production. While fruit set was not adversely affected by weather problems in the State so far this year, crop development is about two weeks behind due to a late bloom and slow sizing of the fruit.

U.S. cranberry production is forecast up 2 percent from 1997's record crop. Beginning inventories for the 1998/99 season will likely remain large given last year's bumper crop and large 1997/98 beginning inventories. Increased production, large inventories, and an expected good crop in Canada, could put downward pressure on cranberry grower prices during 1998/99.

Imports provide for most of the tropical fruit supplies in the United States. Lower imports were largely responsible for the decline in U.S. fresh banana and papaya consumption in 1997. In the same year, increased imports helped raise consumption of fresh mangoes and pineapples.

The 1997/98 U.S. citrus crop increased 5 percent over the previous year, mostly because of a record orange crop, estimated up 9 percent. Production increased in all the major producing States.

Florida produced another record orange crop in 1997/98, estimated up 8 percent from a year ago. Higher juice yields contributed to a 6-percent increase in orange juice production in 1997/98 from a year-earlier. This is the fourth year of increased production. Strong demand for Valencia oranges by processors resulted in improved grower prices for the second half of the season.

Grapefruit production fell 9 percent in 1997/98, the lowest since 1991/92. Production is up in California but down in Florida, Texas, and Arizona. Grower prices for fresh grapefruit continued to decline in 1997/98 as they have over the last several years.

Production of almond, walnut, and pistachio crops in California, hazelnuts in the Pacific Northwest, and U.S. pecans will be significantly lower this season due to "off-year production" of nut trees and weather-related problems. Therefore, average grower prices are likely to be higher than a year earlier.

Smaller Crops To Raise Grower Prices for Many Noncitrus Fruit in 1998

During the second half of 1998, the grower price index for fruit and nuts could average slightly higher than the same period last year, reflecting higher grower prices, mostly of noncitrus fruit. In July, the index was up 3 percent from the same time last year (table 1). To a large extent, California's fruit production sector is responsible for why grower prices are likely to be up for the remainder of this year. California, a major fruit production region in the United States, experienced a combination of below-average temperatures and above-normal rainfall, including hail storms, through most of the first half of 1998, affecting blooms, pollination, and fruit development for many of its fruit crops. Harvest of many noncitrus fruit crops is expected to be later than typical and smaller than year-earlier levels. Meanwhile, a combination of drought conditions, hail storms, high winds from tornadoes, and freezes have also affected fruit production in other parts of the country.

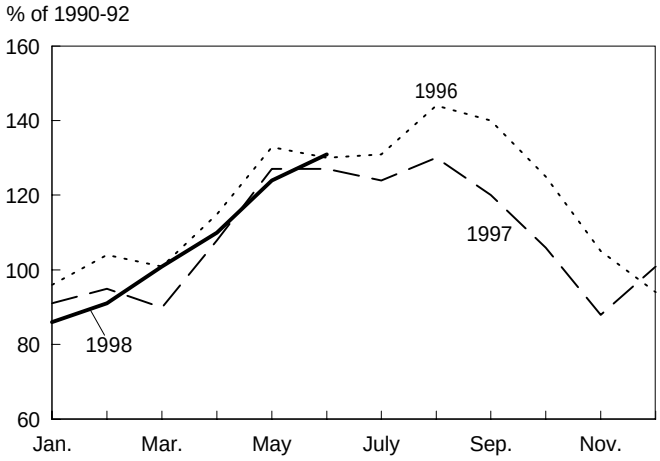
The harvest of California's stone fruit (peaches, nectarines, plums, apricots, and sweet cherries) during the summer of 1998 is forecast below a year ago. Adverse weather has also brought down supplies of peaches and nectarines from major producers in the Southeast region, namely South Carolina and Georgia. Grower prices for peaches have averaged well above a year ago thus far in 1998 (May through July), with the average in July up as much as 123 percent compared with the average in July 1997. Although still large, grape production in California is also expected to be down from last year. Strong demand, along with the lateness of the California crop, could also partly explain why grower prices for fresh grapes were up 54 percent in July. Fresh pear prices also averaged higher, up 25 percent, with 1998 production in California, Washington, and Oregon expected down from last year.

Table 1--Index of prices received by growers for fruit and nuts, 1994-98

Month	1994	1995	1996	1997	1998
			1990-92=100		
January	79	75	96	95	75
February	80	74	96	91	86
March	85	78	104	95	91
April	87	82	101	90	101
May	92	101	115	108	110
June	96	105	133	127	124
July	100	110	130	127	131
August	104	125	131	124	
September	102	122	144	130	
October	95	122	140	120	
November	86	109	125	106	
December	77	97	105	88	
Annual	90	100	118	108	

Source: National Agricultural Statistics Service,USDA.

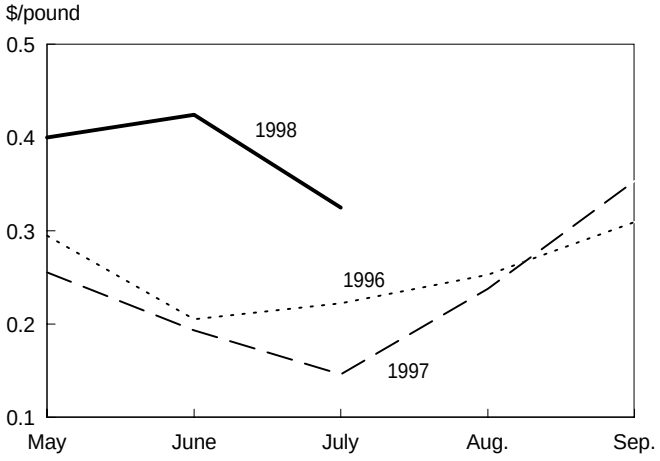
Figure 1
Prices Received by Growers for Fruit and Nuts



Source: National Agricultural Statistics Service, USDA.

Offsetting some of the higher prices in July were lower prices for oranges, grapefruit, lemons, and strawberries. Several other factors will likely continue to counter some of the strength in grower fruit prices for the remainder of the year. They are variable fruit quality resulting from a number of weather problems this year; heavy shipments of fresh strawberries from California, including improved berry quality since June; the likely possibility of another large Florida orange crop in 1998/99; and finally, the expected larger production of apples in the fall.

Figure 2
U.S. Grower Prices for Fresh Peaches



Source: National Agricultural Statistics Service, USDA.

During the first 6 months of 1998, the index of prices received by growers for fruits and nuts averaged 3 percent below the same period a year ago. Lower indexes were reported in January, February, March, and June. Lower prices received by growers for all oranges, processing grapefruit, lemons, and pears depressed overall prices in January and February. In the months that followed, strong movement helped prices for fresh and processing oranges to average higher than a year ago through June. Overall, fresh grapefruit prices fluctuated during the 6-month period, but stayed above year-earlier averages from April through June. Lemon and pear prices continued lower than last year through June, and strawberry prices, which were up significantly during the first 2 months, averaged slightly lower in March, possibly due to poor quality as supplies remained limited.

Retail Prices for Fresh Fruit To Continue Higher Than a Year Ago During the Second Half of 1998

Reduced production of stone fruit this summer and pears this fall will help to continue to boost overall fresh fruit prices during the second half of 1998. In July, the Consumer Price Index (CPI) for fresh fruit remained stronger than a year ago as in the first half of 1998, up 8 percent from last year's July index (table 2). Also contributing to the overall strength in fresh fruit retail prices are higher prices for California Valencia oranges which represent most of the fresh oranges marketed during the summer. Even with large supplies, average retail prices for fresh California Valencia oranges in June and July were up 14 percent and 13 percent, respectively, compared with the same 2 months in 1997, reflecting the good-quality fruit achieved from the 1997/98 crop and less competition due to the late arrival and generally reduced summer production of noncitrus fruit (table 3). While prices for many noncitrus fruit are expected higher, increased apple production this fall, especially in Washington, will likely mitigate some of the strength in retail fresh fruit prices.

Higher strawberry and apple retail prices were largely responsible for the overall boost in retail fresh fruit prices during the first 6 months of 1998. From January through June, the CPI for fresh fruit averaged 3 percent above the same period a year ago. Winter storms that reduced strawberry production in Florida and California have resulted in consistently sharply higher retail prices for fresh strawberries between January and June. Below average fresh-market production of apples in the fall of 1997 has also led to consistently higher fresh apple retail prices during the first half of 1998. Despite the large Florida grapefruit crop in 1997/98, higher retail prices were reported for fresh grapefruit during the months of March, April, and June. While the CPI for fresh fruit has remained above a year ago during all these months, some of the strength in fresh fruit prices were offset by invariably lower prices for navel oranges and lemons, reflecting the large 1997/98 crops in California, and for fresh Anjou pears, reflecting record fresh-market production in the United States last fall.

Retail prices for frozen concentrated orange juice (FCOJ) have been down during the 1997/98 marketing season, reflecting the lower prices growers received since November 1997, the beginning of the season, through February, the record 1997/98 crop, and the large juice stocks at the beginning of the season. Retail prices in 1997/98 through July ranged from $1.568 to $1.670 per 16-ounce can of FCOJ, and averaged 7 percent lower than the year-earlier average.

Table 2--U.S. consumer price indexes for fresh fruit,1995-98

Month	1995	1996	1997	1998
		1982-84=100		
January	214.2	228.0	239.1	240.2
February	213.3	218.8	231.5	240.3
March	207.0	221.5	234.6	235.9
April	210.3	232.3	235.8	241.6
May	219.6	234.2	239.4	249.0
June	216.3	233.7	228.5	247.3
July	218.4	232.7	229.9	247.4
August	221.8	231.8	237.0	
September	230.9	243.7	243.9	
October	227.5	243.9	242.6	
November	223.9	241.4	233.9	
December	224.2	251.1	239.4	
Annual average	219.0	234.4	236.3	

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

Table 3--U.S. monthly retail prices for selected fruits and juice, 1995-98

Month	Valencia oranges				Navel oranges				Orange juice, concentrate 1/				Grapefruit			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
	--Dollars per pound--				--Dollars per pound--				--Dollars per 16 fl. oz--				--Dollars per pound--			
Jan.	--	--	--	--	0.575	0.561	0.555	0.525	1.583	1.577	1.737	1.601	0.450	0.463	0.515	0.499
Feb.	--	--	--	--	.585	.559	.554	.507	1.609	1.625	1.768	1.568	.448	.460	.489	.481
Mar.	--	--	--	--	.571	--	.546	.505	1.629	1.609	1.747	1.587	.443	.464	.496	.503
Apr.	--	--	--	--	.606	.620	.598	.571	1.632	1.657	1.727	1.634	.458	.468	.512	.510
May	--	--	--	--	.650	.716	.706	.672	1.632	1.704	1.736	1.589	.476	.493	.518	.491
June	0.619	0.616	0.580	0.664	--	--	--	--	1.620	1.743	1.752	1.633	.578	.592	.520	.587
July	.654	.604	.607	.683	--	--	--	--	1.639	1.774	1.770	1.655	.629	.648	.592	.695
Aug.	.631	.717	.669		--	--	--		1.642	1.765	1.755		.677	.670	.646	
Sep.	.662	.779	.670		--	--	--		1.607	1.733	1.695		.709	.775	.681	
Oct.	.672	.799	.616		--	--	--		1.583	1.761	1.711		.654	.716	.628	
Nov.	--	--	--		.742	.707	.642		1.550	1.747	1.666		.561	.587	.543	
Dec.	--	--	--		.643	.593	.583		1.573	1.735	1.670		.490	.550	.532	

	Lemons				Red Delicious apples				Bananas				Peaches			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
	--Dollars per pound--				--Dollars per pound--				--Dollars per pound--				--Dollars per pound--			
Jan.	0.988	1.011	1.115	1.026	0.765	0.877	0.907	0.922	0.503	0.463	0.497	0.473	--	--	--	--
Feb.	.962	.902	1.084	.976	.789	.877	.912	.960	.496	.501	.518	.489	1.356	--	--	1.894
Mar.	.912	.896	1.005	.959	.793	.894	.914	.962	.508	.565	.532	.475	--	--	--	--
Apr.	.966	.934	.990	.946	.784	.915	.895	.949	.485	.505	.512	.511	--	--	--	--
May	.971	1.013	1.059	1.027	.813	.921	.912	.974	.483	.512	.484	.510	--	--	--	--
June	1.079	1.143	1.309	1.059	.833	.954	.914	.955	.490	.498	.488	.507	1.098	1.142	1.122	1.425
July	1.315	1.233	1.519	1.262	.864	.976	.918	1.000	.522	.498	.487	.530	.892	1.218	.951	1.179
Aug.	1.401	1.331	1.623		.901	.998	.935		.512	.478	.475		.930	1.101	.973	
Sep.	1.402	1.352	1.631		.923	1.006	.933		.490	.458	.458		1.174	1.244	1.143	
Oct.	1.343	1.274	1.477		.863	.949	.881		.471	.465	.459		--	--	--	
Nov.	1.179	1.140	1.162		.853	.907	.864		.462	.477	.468		--	--	--	
Dec.	1.117	1.144	1.057		.834	.886	.897		.454	.481	.461		--	--	--	

	Anjou pears				Strawberries 2/				Thompson seedless grapes				Wine 3/			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
	--Dollars per pound--				--Dollars per 12-oz. pint--				--Dollars per pound--				--Dollars per liter--			
Jan.	--	--	1.017	0.863	--	1.692	--	2.135	1.747	2.072	1.981	1.815		4.962	5.266	5.302
Feb.	0.774	--	1.001	.931	1.926	1.505	1.514	2.080	1.580	1.557	1.508	1.722		4.578	4.933	4.790
Mar.	--	.860	1.003	.878	1.340	1.236	1.317	1.751	1.336	1.350	1.675	1.579		5.031	5.337	5.306
Apr.	--	.895	1.011	.918	1.001	1.082	1.179	1.613	1.622	1.824	1.876	1.516		4.661	4.933	4.764
May	--	.878	1.026	.962	1.140	.957	1.073	1.386	1.972	1.893	2.136	--		5.096	5.320	5.322
June	--	.886	--	.996	1.180	1.226	1.213	1.413	1.549	1.934	1.606	1.651		4.703	4.992	4.808
July	--	--	--	--	1.209	1.247	1.383	1.346	1.460	1.532	1.372	1.256	4.675	5.118	5.406	5.319
Aug.	--	--	--		1.398	1.164	1.375		1.300	1.167	1.240		4.449	4.775	5.022	
Sep.	--	--	--		1.355	1.420	1.488		1.160	1.269	1.275		4.468	5.188	5.414	
Oct.	--	--	--		1.316	1.409	--		1.351	1.690	1.646		4.564	4.870	5.132	
Nov.	--	--	--		--	--	1.654		1.668	2.252	2.035		4.780	5.226	5.275	
Dec.	--	1.059	.854		--	--	--		1.863	--	2.188		4.471	4.902	5.001	

-- = Insufficient marketing to establish price.

1/ Data converted from 12 fluid ounce containers.

2/ Dry pint.

3/ Data series began August 1995.

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

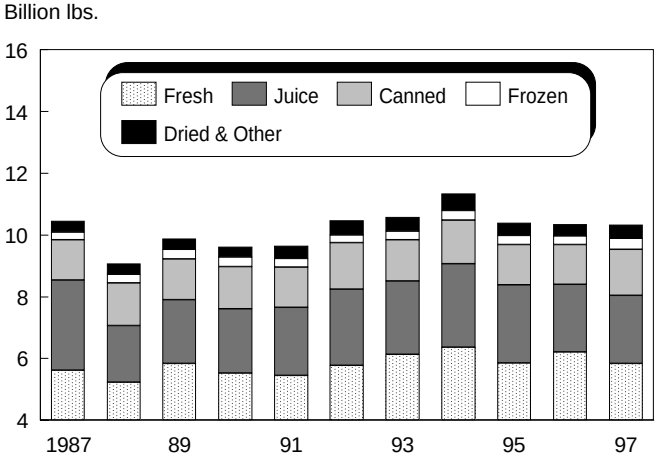
U.S. Apple Crop Expected Larger in 1998, Fresh-Market Supplies Likely To Be Up

Larger expected crops in the Western United States, except in California, will offset overall production declines in the Central and Eastern regions and help bring increased availability of domestic apples during the 1998/99 marketing season. The United States Department of Agriculture (USDA) forecasts the 1998 U.S. apple crop to be 11.3 billion pounds, up 9 percent from a year ago (table 4). If realized, this will be the second largest crop so far, next to the record 11.5 billion pounds in 1994. Washington's 1998 apple harvest is forecast at 6.1 billion pounds, up 22 percent from last year and the largest so far. Washington produces about half of the Nation's apples and is the largest producer for both the fresh and processed market. Apple orchards in the State bloomed heavily following a smaller crop in 1997. Weather was also very favorable for much of the Northwest, especially during the pollination period, fruit set stage, and during early-season growth. The State's potential crop size also reflects increased production on maturing trees that began bearing early in the 1990's. Meanwhile, relatively cooler temperatures and above-normal rainfall in California have slowed development of its 1998 apple crop by about 2 weeks, similar to many of its summer fruits. California's apple crop is forecast 5 percent smaller than a year ago, but still about average, at 915 million pounds. In Oregon and Idaho, production is forecast 13 percent and 73 percent, respectively, above a year ago.

Orchard blooms were generally good throughout Michigan, the largest producer in the Central region, and weather, especially during pollination, was mostly favorable. However, production there is forecast at 1.0 billion pounds in 1998, down 5 percent from a year ago. Several other States in the Central region are anticipating harvesting smaller crops, taking the region's production down 4 percent from last year. Smaller crops are expected in many of the Eastern States as well, including New York and Pennsylvania, two of the largest producers in this region. While orchard blooms in these States generally indicated average-to-large size crops, hail and wind damage later in the season have reduced potential crop size. Compared with their apple crops in 1997, production is expected to decline 7 percent in New York and 20 percent in Pennsylvania. Meanwhile, production increases are expected in Virginia, North Carolina, and Maryland.

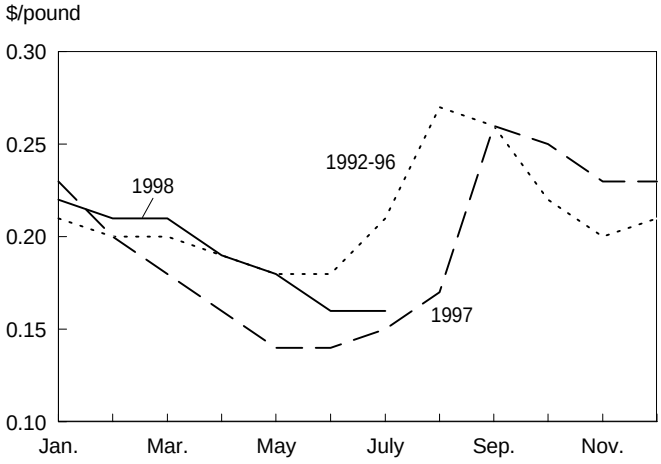
Over 50 percent of U.S. apple production is sold in the fresh market. Fresh use in 1998 is expected to increase from a year ago, especially given the record crop in Washington and still a relatively large crop in California. Over 70 percent and over 30 percent, respectively, of the apple crops in these two major apple-growing States are for the fresh market. Although increased production will likely put downward pressure on fresh-market grower prices during the 1998/99 marketing season, generally good size fruit from this year's apple crop, and a smaller 1998 pear crop, which tend to compete with apples in the fall, are forces that will help keep fresh apple grower prices from falling sharply. In 1997, fresh-market production declined 6 percent from the previous year, and correspondingly, the season-average grower price for fresh-market apples increased 7 percent, to 22.2 cents per pound.

Figure 3
U.S. Apple Utilization



Source: National Agricultural Statistics Service, USDA.

Figure 4
U.S. Grower Prices for Fresh Apples



Source: National Agricultural Statistics Service, USDA.

Table 4--Apples: Total production and season-average price received by growers, 1995-97, and indicated 1998 production 1/

States	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	---- Million pounds ----				--- Cents per pound ---		
Eastern States:							
Connecticut	21	20	25	20	27.6	32.4	32.2
Delaware	15	15	2/	2/	12.5	18.5	2/
Georgia	30	22	26	24	16.4	17.0	15.1
Maine	65	67	64	47	17.9	20.2	19.4
Maryland	35	29	35	36	13.1	15.6	18.3
Massachusetts	65	58	64	30	20.8	26.2	25.8
New Hampshire	44	38	40	21	20.3	22.9	22.0
New Jersey	75	60	65	55	15.9	15.1	14.3
New York	1,110	1,030	1,120	1,040	12.1	13.5	12.6
North Carolina	270	200	152	200	8.4	12.0	11.0
Pennsylvania	500	391	535	430	9.5	12.9	13.3
Rhode Island	5	6	7	5	30.1	25.9	27.3
South Carolina	60	30	55	45	12.6	13.8	12.2
Vermont	45	38	40	30	18.1	18.7	19.2
Virginia	400	275	270	310	9.9	11.6	10.6
West Virginia	165	105	115	115	11.0	11.1	10.3
Total	2,904	2,384	2,612	2,408			
Central States:							
Arkansas	10	7	9	6	14.3	18.0	27.2
Illinois	80	53	74	50	21.0	29.0	19.6
Indiana	75	48	50	54	19.7	26.8	21.8
Iowa	10	10	11	9	30.3	31.3	28.7
Kansas	7	2	10	6	30.5	25.8	19.3
Kentucky	17	15	14	17	25.5	31.6	26.0
Michigan	1,220	700	1,050	1,000	9.9	12.6	9.5
Minnesota	22	21	22	22	40.3	46.0	44.3
Missouri	38	32	42	35	16.0	23.3	18.0
Ohio	120	90	65	80	20.0	26.6	22.5
Tennessee	16	11	10	12	21.5	24.1	23.8
Wisconsin	58	46	56	66	24.1	32.4	29.3
Total	1,672	1,035	1,413	1,356			
Western States:							
Arizona	11	100	45	46	7.1	12.4	10.7
California	850	950	962	915	18.3	16.6	16.8
Colorado	55	25	35	80	14.5	20.2	15.1
Idaho	80	190	110	190	17.4	13.6	13.9
New Mexico	3	5	9	3/	29.8	31.2	33.9
Oregon	140	156	160	180	11.6	9.1	23.8
Utah	20	48	40	47	18.8	13.6	16.5
Washington	4,850	5,500	5,000	6,100	21.5	16.6	16.5
Total	6,009	6,974	6,361	7,558			
United States	10,585	10,392	10,386	11,322	17.0	15.9	15.3

1/ Commercial production from orchards of at least 100 bearing-age trees. 2/ Estimates discontinued in 1997. 3/ Forecast discontinued in 1996.

Source: National Agricultural Statistics Service, USDA.

Increased fresh-market supplies, mostly of good exportable quality, will help promote U.S. fresh apple exports in 1998/99. However, the stronger U.S. dollar relative to other countries' currencies, particularly to Southeast and other East Asian countries, will likely continue to dampen export prospects to these markets in 1998/99. U.S. exports to its largest market in Asia—Taiwan—fell nearly 10 percent during the period August 1997 to May 1998, compared with the same period a year earlier. Similarly, exports to other important Asian markets such as Indonesia, Thailand, the Philippines, and Malaysia declined 58 percent, 53 percent, 50 percent, and 54 percent, respectively. Some of the decline in exports to Asia was offset by export gains to Canada, the second largest foreign market for U.S. apples. During the same period, exports to Canada increased 7 percent. Exports to Mexico, another important export market, fell 39 percent, attributed mainly to Mexico's September 1997 decision to impose an anti-dumping duty of 101.1 percent on imports of U.S. Golden and Red Delicious varieties. Export prospects to Mexico this season could return to more normal levels with the March 19, 1998, agreement between the U.S. apple industry and Mexican commerce officials to suspend the anti-dumping investigation on U.S. apples launched on March 6, 1997.

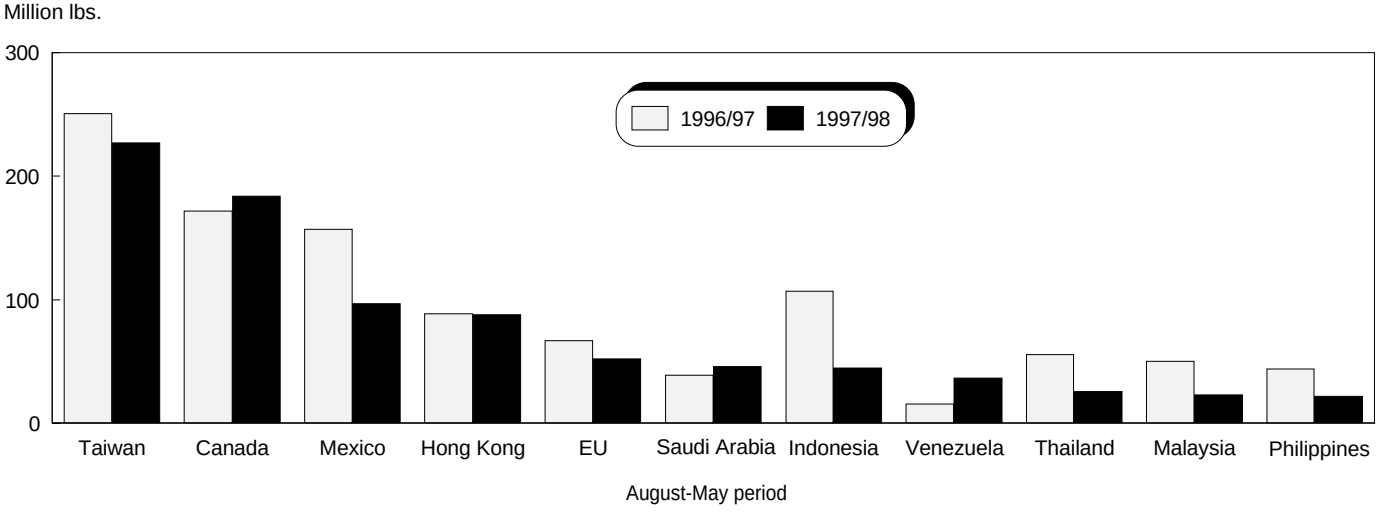
Supplies of processing apples from the Central and Eastern regions during the 1998/99 marketing year will be limited by reduced overall production in these regions. However, large stocks of processing apples entering the new season and large supplies from Washington and California, whose combined output provide about 44 percent of total domestic apples for processing, will likely help keep supplies at normal levels. As of July 1, 1998, holdings of processing apples were still 48 percent above the same period last year, according to the U.S. Apple Association. Despite the smaller crop in 1997, good demand from processors increased processing use last year and resulted in higher grower prices for processing apples.

The largest product category in the apple processing sector is juice and cider, followed by canned, frozen, dried, and other processed products. About 49 percent of all the apples processed from the 1997 crop was used for juice and cider production, down from the 1992-96 average of 54 percent. Product share increases were captured by the canned, frozen, and other processed categories. U.S. apple juice and cider imports so far in 1997/98 (August-May) totaled 7.1 million hectoliters, down 21 percent from the same period a year ago. Increased imports from major suppliers such as Argentina and China were not large enough to offset a 58-percent decline in shipments from the European Union. U.S. apple juice and cider exports also declined by almost the same magnitude, to 339,211 hectoliters. Shipments to major customers, Canada and Japan, fell 41 percent and 21 percent, respectively.

FDA's Proposed HACCP Regulation for Juice

As part of a larger effort by the Federal Government to strengthen the Nation's food safety system, the Food and Drug Administration (FDA), on April 1998, released a proposed regulation that requires all domestic and foreign fruit and vegetable juice processors to use Hazard Analysis and Critical Control Point (HACCP) systems. These HACCP systems are designed to prevent, reduce, or eliminate (i.e., control) hazards in juice, which include physical contaminants and biological pathogens, such as illness-causing bacteria. The comment period on this rule was extended to August 7, 1998, as reported in the *Federal Register* on July 8, 1998. FDA will evaluate all comments received on the proposal and use this information to decide whether and how to develop a final HACCP rule for juice.

Figure 5
U.S. Shipments of Fresh Apples to Important Export Markets



Source: Bureau of Census.

HACCP programs use science to identify the steps in the food production chain where food hazards are most likely to occur and put preventative controls in these steps to prohibit contaminated food from going to the marketplace. The seven principles of HACCP are to: (1) conduct a hazard analysis, (2) determine the critical control points, (3) establish critical limits for hazards, (4) establish monitoring procedures, (5) establish corrective actions, (6) establish verification procedures, and (7) establish record keeping and documentation procedures.

The proposed HACCP rule targets farms and manufacturers that make packaged fruit and vegetable juice products in the United States. This proposal does not cover firms that squeeze and sell fresh juice for consumption on their premises such as juice bars and restaurants. Grocery stores, health food stores, and other retail outlets that sell fresh-squeezed juice for off-site consumption do not have to specifically treat their juice to control pathogens, but they must use warning labels (see box). Retailers of packaged juice, as well as very small processors that are also retailers who sell less than 40,000 gallons of fresh juice per year, will be exempt from this rule. The proposed phase-in period for this regulation allows smaller firms more time to comply than larger firms.

One part of the proposed HACCP rule requires that juice and juice products made by these manufacturers be processed in a manner that will produce, at a minimum, a five-log reduction in pathogen concentration (i.e., a decrease by 100,000-fold), for a period at least as long as the shelf life of the product when stored under normal and moderate abuse conditions, in the "pertinent" illness-causing pathogen. Heat pasteurization is one process that will achieve the five-log reduction performance standard. The pertinent organism is the most resistant organism of public health significance likely to occur in juice.

To achieve this five-log reduction, processors can choose what risk-reducing methods they want to use—pasteurization, other food safety precautions, or a combination of precautions. For example, they can wash, scrub, or apply sanitizers to the fruit and vegetables to reduce the pathogen count. [Jean Buzby (202) 694-5453; jbuzby@econ.ag.gov and Stephen Crutchfield (202) 694-5460; scrutch@econ.ag.gov]

Warning Labels on Unpasteurized Juice

FDA's proposed rule requiring warning labels on all juice that has not been pasteurized or otherwise treated to control illness-causing pathogens was finalized and published in the *Federal Register* on July 8, 1998. This labeling rule was proposed because of the phase-in time necessary to implement the HACCP regulation. This rule requires warning labels be placed on all packages of juice that are not produced under HACCP or other programs which achieve at least a 100,000-fold reduction in the pertinent pathogen (see discussion on the proposed HACCP beginning rule on page 10). The warning label states:

"WARNING: This product has not been pasteurized and, therefore, may contain harmful bacteria that can cause serious illness in children, the elderly, and persons with weakened immune systems."

People with weakened immune systems include people who have AIDS, organ transplants, cancer, and other significant health problems. As 98 percent of all juice sold in the United States is pasteurized, this regulation affects roughly 2 percent of juice produced.

The compliance dates depend on the type of juice. Following the July 8, 1998, publication of the final rule, manufacturers of packaged apple juice and apple cider have 60 days to comply, whereas manufacturers of all other juices have 120 days. All manufacturers of packaged juice, regardless of size, may temporarily comply by using signs or placards posted at the point of sale for up to one year from their respective compliance dates. This temporary alternative gives firms time to make label changes and deplete existing label inventories.

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California Grape Crop Expected Smaller in 1998, But Still Above Average

California's grape crop, representing about 90 percent of total U.S. grape production, is forecast at 11.3 billion pounds in 1998, down 15 percent from last year's bumper crop (table 5). If realized, California's production, although smaller, will be the third largest on record, and about 3 percent larger than average production during the last 5 years. Production will consist of the following: 13 percent table varieties, 46 percent wine varieties, and 41 percent raisin varieties; production of all varietal types is expected to be smaller, down 9 percent, 12 percent, and 20 percent, respectively. Increased acreage coming into production in recent years, especially for wine grape varieties, has contributed to two consecutive years (1997 and 1998) of above-average production in California. The California Agricultural Statistics Service reported bearing area to be 675,175 acres in 1997, up 3 percent from the previous year. Bearing acreage increased only fractionally for raisin varieties, but was up 3 percent for table varieties and up 6 percent for wine varieties. Nonbearing area totaled 96,751 acres in 1997, up 10 percent from 1996, with the increase attributed solely to

Table 5--Grapes: Total production and season-average price received by growers in principal States, 1995-97, and indicated 1998 production

State	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
Arizona	52	50	46	48	44.9	40.2	29.5
Arkansas	16	18	16	20	31.7	31.5	29.6
Georgia	6	7	7	8	55.5	53.5	49.3
Michigan	140	130	122	146	11.9	11.4	12.6
Missouri	5	4	4	6	24.0	24.0	24.0
New York	330	378	278	268	11.4	11.9	13.5
North Carolina	3	2	2	3	39.1	37.9	48.4
Ohio	18	16	14	15	11.4	12.2	13.8
Oregon	28	30	37	40	47.5	51.0	56.0
Pennsylvania	126	166	116	100	8.6	10.5	12.5
South Carolina	1	1	1	1	59.5	54.5	61.0
Washington	652	288	638	510	11.3	20.1	19.5
Total 1/	1,377	1,091	1,281	1,165			
California:							
Wine	4,550	4,450	5,880	5,200	21.2	26.8	29.9
Table	1,414	1,184	1,650	1,500	26.2	32.5	22.4
Raisin 2/	4,504	4,384	5,754	4,600	11.7	14.1	12.1
All	10,468	10,018	13,284	11,300	17.8	21.9	21.2
United States	11,845	11,109	14,565	12,466	17.3	21.4	21.0

1/ Some figures may not add due to rounding. 2/ Fresh weight of raisin-type grapes.

Source: National Agricultural Statistics Service, USDA.

wine varieties. Barring any adverse weather, California has the potential to continue to produce large crops in the next few years as more acreage comes into production.

USDA forecasts grape production in 12 other States to be 1.2 billion pounds in 1998, down 9 percent from a year ago, due to smaller crops in New York, Pennsylvania, and Washington. Combined with California's expected crop, U.S. grape production is forecast at 12.5 billion pounds, 14 percent below last year.

Although fresh use only makes up about 14 percent of total grapes utilized, growers generally receive higher average prices for fresh-market grapes compared with those for processing. The value of fresh-market production is second largest, next to the value of grapes used for wine. Reduced grape production, especially in California, and expected smaller crops of many noncitrus fruit are going to help boost fresh-market grower prices during the 1998/99 marketing season. So far, average grower prices for fresh grapes in June and July rose 2 percent and 54 percent, respectively, from the same months last year. The record crop in 1997 produced the largest outputs for fresh use and processing use. Growers then received an average of 30.4 cents per pound ($607 per ton) for fresh-market grapes in 1997, down from 36.2 cents per pound ($725 per ton) in 1996. However, the average price growers received for grapes intended for processing was slightly higher in 1997, up 3 percent from the year before. The average grower price was up for all processing uses, except for the dried category. Grower price increases were more significant in the juice and wine categories.

Despite the record U.S. crop last year, strong domestic and export demand has led to a 15-percent increase in U.S. fresh grape imports during the 1997/98 marketing season (May 1997-April 1998) compared with the previous year (table 6). Imports from Chile, which made up over three-fourths of

Figure 6
U.S. Grape Utilization

Source: National Agricultural Statistics Service, USDA.

the total volume, were up 12 percent. Imports from Mexico also increased 12 percent. Gaining in importance in the U.S. fresh grape market, imports from the Republic of South Africa rose 37 percent. Although only 3 percent of the total import volume in 1997/98, shipments from this small supplier have increased from 1.2 million pounds in 1993/94 to 22.7 million pounds in 1997/98.

U.S. fresh grape exports in 1997/98 (May 1997-April 1998) totaled 606.6 million pounds, up 33 percent from the previous season. Exports increased sharply to all major markets—Canada (up 16 percent), Hong Kong (up 61 percent), and Mexico (up 171 percent). Exports to other important markets in Asia, such as Japan, China (mainland), the Philippines, Malaysia, Singapore, and Indonesia also rose, despite the ongoing currency crisis in that region. Exports to Taiwan, however, the fourth largest market, declined 25 percent.

Consumption of wine in the United States has been rising continuously in the past 4 years, from an estimated 1.79 gallons per person in 1994 to an estimated 2.65 gallons per person in 1997. Strong domestic demand in recent years could be attributed, to some extent, to research findings linking moderate daily consumption of wine to lowering the risk of heart disease. U.S. imports of wine over the past 4 years continued to climb, despite increasing quantities of domestic grapes going into wine production. Imports totaled 4.5 million hectoliters in 1997, up 27 percent from a year ago, and up 84 percent from 1993. Combined imports from Italy, France, Chile, New Zealand, and Spain accounted for 88 percent of the total volume that entered the United States in 1997. Individually, imports from these five countries were all up from the year before.

Demand has also been strong for U.S. wine in the international market, as reflected by increasing exports during the past 3 years. U.S. wine exports rose from 1.2 million hectoliters in 1994 to 2.1 million hectoliters in 1997. Export growth, however, was much more pronounced during the past 2 years. Exports in 1997 grew 25 percent from a year ago, with increases to the European Union (up 30 percent), Canada (up 6 percent), and Japan (32 percent). Combined shipments to these three markets made up 74 percent of the total export volume. Export demand for U.S. wines will likely continue strong in 1998. Cumulative exports of wine from January through May 1998 totaled 1.1 million hectoliters, up 35 percent from the same period last year.

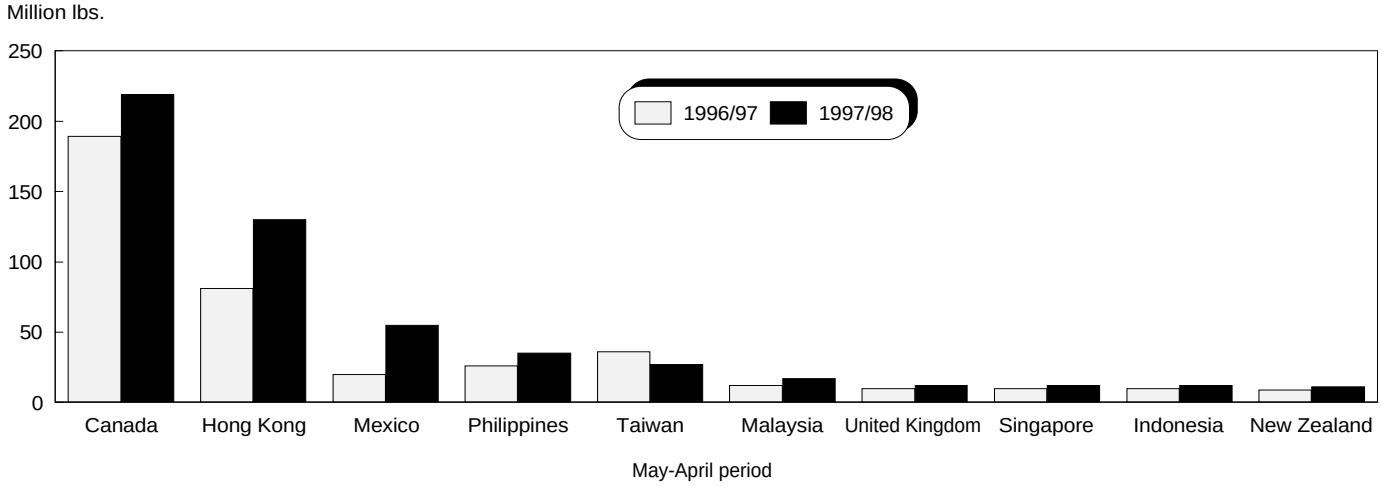
The United States is a net importer of grape juice. Imports totaled 2.4 million hectoliters in 1997, while exports amounted to 873,302 hectoliters. Imports rose 7 percent from a year ago as shipments increased dramatically from the European Union. Shipments from Mexico and Brazil also grew. Shipments from Argentina, which supplied 70 percent of the total volume, were down by a fraction. Cumulative imports from January through May 1998 were down 13 percent from the same period in 1997, reflecting increased supplies of grapes for juice from last year's record crop.

Table 6--U.S. imports of fresh grapes, by country, (May-April) 1993/94-1997/98

Source	1993/94	1994/95	1995/96	1996/97	1997/98
	Million pounds				
Chile	586.2	619.0	603.4	590.1	662.2
Mexico	91.1	90.5	177.6	132.2	166.9
Republic of South Africa	1.3	6.6	6.5	16.6	22.7
Canada	0.6	1.6	2.8	6.5	7.1
Italy	0.7	0.4	0.3	0.5	2.5
Other	0.8	0.9	2.0	0.6	0.8
World	680.7	719.0	792.6	746.5	862.2

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

Figure 7
U.S. Exports of Fresh Grapes to 10 Leading Markets



Source: Bureau of Census.

U.S. grape juice exports were up 10 percent, due mainly to large increases in shipments to Japan and Hong Kong. Exports to Canada, the largest market, were only up less than 1 percent. Exports remained strong to Canada and Japan going into 1998, but lower shipments to Hong Kong and other Southeast Asian countries led to a 7-percent decline in exports from January through May 1998 compared with the same period a year ago.

The United States is a net exporter of raisins. Exports totaled 247.2 million pounds in 1997, while imports reached 25.9 million pounds. Exports fell 9 percent from 1996, decreasing sharply to major markets such as Japan, the United Kingdom, Federal Republic of Germany, and Sweden. Meanwhile, exports to Canada, Taiwan, Hong Kong, and South Korea, also important markets, grew. Imports during 1997 were up 2 percent from a year ago, attributed to significant increases in shipments from Chile and the Republic of South Africa. Shipments from Mexico, the largest supplier, fell 36 percent.

Fewer Bartlett Pears in 1998, Fresh-Market Grower Prices To Improve

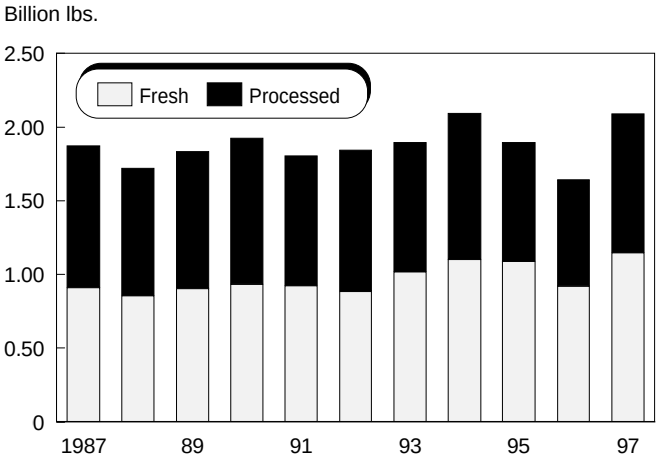
The 1998 U.S. pear crop is forecast at 1.8 billion pounds, 12 percent smaller than the previous year's near-record production, primarily due to reduced production in the Pacific Coast (California, Oregon, and Washington). Pacific Coast production of Bartlett pears is expected to be down 15 percent from 1997, while output of other varieties in the United States is expected down 9 percent (table 7). Bartlett pears are mostly used for canning, although some reach the fresh market, especially early in the season. Other varieties (fall and winter pears) are intended mostly for fresh use. A combination of a wet winter, cooler and wet spring, and spring hail storms are some of the reasons for the expected smaller production in the Pacific Coast this year. The unusually cooler spring also slowed crop maturity in most growing areas, especially in California.

California produces more than 50 percent of the Pacific Coast Bartlett pear crop. Bartlett pear production in California is expected to drop 4 percent from a year ago. Larger production declines are expected in Washington and Oregon, down 27 percent and 20 percent, respectively. Over the last 3 years, Bartlett pear production from these three States averaged 53 percent of total U.S. pear production.

The decline in production this year indicates higher prices for fresh-market pears in 1998/99. However, increased fresh pear inventories from last year's record fresh-market production and abundant supplies of apples in 1998/99 could keep prices from rising sharply, especially later in the season. Stocks of fresh pears (other-than-Bartlett varieties) in cold storage as of June 30, 1998, were 3 percent larger than the same period in 1997. On June 30, 1997, stocks were 2 percent larger than the year before.

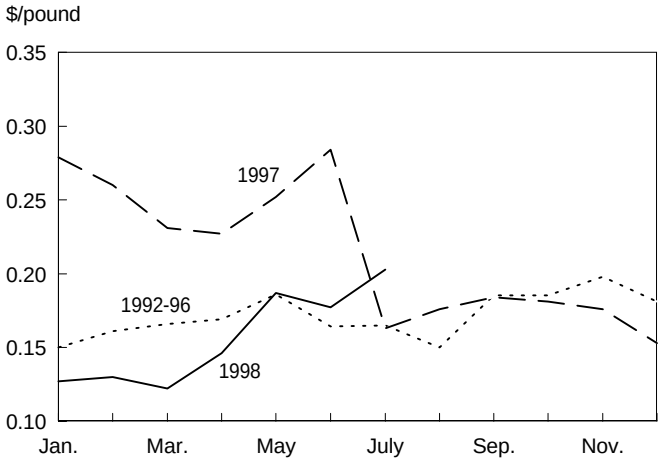
Average monthly grower prices for fresh-market pears were sharply lower than a year ago during the first 6 months in 1998, reflecting record fresh-market production in the fall of 1997. In spite of monthly fluctuations, prices generally moved up seasonally, from 12.7 cents per pound ($253 per ton) in January to 17.7 cents per pound ($353 per ton) in June, as the 1997/98 season came to a close. In July, the beginning of the 1998/99 marketing season, the average price rose to 20.2 cents per pound ($405 per ton), 25 percent higher than in July 1997. Some of the strength in prices may be attributed to the late start of the California Bartlett pear harvest. While expected stronger than last year, prices could decline seasonally in the next few months, particularly as production in Washington and Oregon overlap with some of California's production.

Figure 8
U.S. Pear Utilization



Source: National Agricultural Statistics Service, USDA.

Figure 9
U.S. Grower Prices for Fresh Pears



Source: National Agricultural Statistics Service, USDA.

Table 7--Pears: Total production and season-average price received by growers, 1995-97, and indicated 1998 production

State	Production 1/				Price		
	1995	1996	1997	1998	1995	1996	1997
	---- Million pounds ----				--- Cents per pound ---		
Pacific Coast:							
California:							
Bartlett	494	574	564	540	10.6	13.4	13.2
Other	40	60	60	60	26.9	25.0	18.6
Total	534	634	624	600	11.9	14.5	13.7
Oregon:							
Bartlett	140	90	150	120	12.6	18.1	15.0
Other	320	260	360	300	14.9	24.5	13.5
Total	460	350	510	420	14.2	22.9	13.9
Washington:							
Bartlett	360	210	410	300	11.5	18.8	13.1
Other	480	390	500	460	16.0	22.1	14.0
Total	840	600	910	760	14.1	21.0	13.6
Three States:							
Bartlett	994	874	1,124	960	11.2	15.2	13.4
Other	840	710	920	820	16.1	23.3	14.1
Total	1,834	1,584	2,044	1,780			
Colorado	6	2	6	8	17.9	21.8	15.9
Connecticut	2	2	2	2	35.0	36.3	35.0
Michigan	11	12	8	10	14.0	13.0	12.5
New York	29	30	18	23	18.6	19.2	19.2
Pennsylvania	13	8	8	11	18.2	25.3	27.6
Utah	2	3	2	2	23.0	24.2	29.3
Total	63	58	44	57			
United States							
Bartlett	994	874	1,124	960	11.2	15.2	13.4
Other	903	768	964	877	16.1	23.3	14.1
Total	1,897	1,642	2,088	1,837	13.6	18.8	13.8

1/ Includes unharvested production and production not sold.

Source: National Agricultural Statistics Service, USDA.

Increased production in 1997, not to mention record fresh use, led to lower U.S. imports of fresh pears during the 1997/98 (July-June) season. Cumulative imports from July 1997 to May 1998 totaled 135.3 million pounds, down 17 percent from the same period the previous season. During the same period, U.S. exports of fresh pears jumped 36 percent and was already at a record, at 351.1 million pounds. Aside from record U.S. fresh-market production, good fruit quality from the U.S. crop and smaller exportable supplies from the European Union helped boost exports in 1997/98. Canada and Mexico together account for over half of total U.S. fresh pear exports, followed by the European Union, Brazil, and Taiwan. Exports to these important markets were up sharply, except to Brazil and Taiwan, where shipments dropped 3 percent and 12 percent, respectively. Along with Taiwan, exports to much smaller markets in Asia, such as Malaysia, Indonesia, the Philippines, and Vietnam also fell sharply, reflecting the currency devaluations in these countries against the U.S. dollar. However, exports increased markedly to Hong Kong and Japan. The Asian financial crisis will likely continue to slow shipments of U.S. pears to many of its Asian markets in 1998/99. This, along with the expected smaller fresh-market production in 1998, will likely curtail exports in 1998/99.

Summer Stone Fruit Production Down in 1998

Stone fruit, which includes peaches, nectarines, plums, prunes, apricots, and cherries (sweet and tart), are marketed mostly during the summer. California is a major production region, whose overall production this year was adversely affected by a relatively cooler, wet spring and a series of hail storms. All stone fruit crops in this region are expected smaller than a year ago and generally 2 to 3 weeks late. USDA's August forecast puts the State's peach, sweet cherry, apricot, and dried prune production in 1998 down 10

Table 8--Plums and prunes: Production and season-average price received by growers in principal States, 1995-97, and indicated 1998 production

State/item	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
California:							
Plums	248	456	486	na	47.5	21.0	15.6
Prunes (fresh basis)	1,195	1,408	1,255	na	16.0	13.1	13.5
Total California	1,443	1,864	1,741	na			
Prunes (dried basis)	362	446	428	340	52.0	42.0	41.4
Prunes and plums:							
Idaho	6	11	9	10	31.3	30.0	26.6
Michigan	15	5	10	12	11.5	16.8	17.8
Oregon	11	12	26	23	12.1	17.7	11.8
Washington	13	12	13	12	15.8	22.4	9.2
Total four States	45	40	58	57	15.7	22.3	14.5
United States	1,488	1,904	1,799	na			

na= Not available.

Source: National Agricultural Statistics Service, USDA.

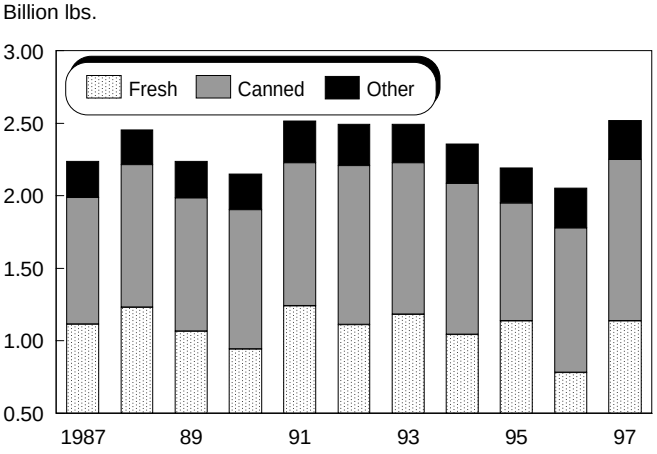
percent, 70 percent, 5 percent, and 21 percent, respectively, from a year ago. USDA also forecast combined production of prunes and plums from Idaho, Michigan, Oregon, and Washington to be 2 percent smaller in 1998 (table 8). It will not be until January 1999 when USDA will release its first official estimate for nectarine and plum production. However, based on estimates from the California Tree Fruit Agreement, total packout for nectarines and plums, as of August 5, 1998, are running 31 percent and 42 percent, respectively, behind the same period a year ago. Some quality problems, especially with nectarines, were reported. Fruit could not hold up very well and therefore, many were not harvested at all.

Smaller 1998 Peach Crop, Prices Average Higher

U.S. peach production in 1998 is forecast at 2.4 billion pounds, down 9 percent from a year earlier as major production regions—California, South Carolina, and Georgia—are harvesting smaller crops (table 9). The U.S. freestone crop, mostly for fresh use, and the California clingstone crop, mostly for processing, are both forecast to be 9 percent smaller. The California crop is developing about 2 weeks behind normal, and above-average rainfall has growers concerned about problems with brown rot, mold, and split pits. Aside from weather, the bumper peach crop in California during the past 2 years could have influenced its crop size this year, given its alternate-bearing nature. California's peach crop is forecast at 1.7 billion pounds, compared with 1.9 billion pounds last year.

In the Southeast region, specifically in South Carolina and Georgia, a 3-day freeze in March brought significant bloom damage to early peach varieties, and very dry, hot weather since June is resulting in generally smaller-sized fruit, mostly of the mid-to-late season varieties. Georgia's crop also suffered from hail damage in early May. Peach production, however, from both States is not expected to fall close to 1996 levels, when freezing weather damaged more than 90 percent of their crops. USDA forecast South Carolina's peach production to decline 13 percent from last year and Georgia's crop to be 56 percent smaller. In other parts of the United States, the performance of this year's peach crop varied. For example, total harvest in New York and Michigan are expected to be 17 percent and 26 percent smaller, respectively, due to poor pollination. Pennsylvania and New Jersey, on the other hand, are anticipating production to be up 7 percent and 15 percent, respectively.

Figure 10
U.S. Peach Utilization



Source: National Agricultural Statistics Service, USDA.

Table 9--Peaches: Total production and season-average price received by growers, 1995-97, and indicated 1998 production

State	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
Alabama	22	1	29	16	28.5	50.6	30.2
Arkansas	20	1	14	13	17.7	15.5	29.0
California							
Clingstone	865	1,093	1,148	1,050	10.7	11.0	13.0
Freestone	502	674	739	650	18.6	21.7	12.2
Colorado	17	17	7	20	49.6	49.6	66.1
Connecticut	2	3	3	3	60.0	55.0	70.0
Delaware	2	2	2/	2/	38.6	42.5	2/
Georgia	160	10	160	70	20.3	33.8	24.3
Idaho	4	9	6	8	34.5	47.0	57.4
Illinois	13	2	13	15	33.9	64.0	40.6
Indiana	5	2	4	6	36.1	47.3	54.5
Kansas	1	0	0	1	41.0	45.0	42.0
Kentucky	6	1	1	6	32.2	62.3	29.9
Louisiana	5	0	4	3	54.6	78.0	45.3
Maryland	12	9	10	11	30.8	40.0	43.0
Massachusetts	1	2	2	2	70.0	55.0	70.0
Michigan	60	40	61	45	21.0	27.2	26.5
Missouri	9	3	11	10	31.5	46.0	35.0
New Jersey	70	78	65	75	38.5	43.7	44.9
New York	12	12	12	10	20.7	34.8	46.1
North Carolina	35	2	10	25	22.0	40.2	35.0
Ohio	6	7	6	6	42.1	46.2	40.0
Oklahoma	30	1/	2	26	37.0	1/	22.4
Oregon	9	11	13	14	29.7	41.1	53.2
Pennsylvania	90	75	75	80	27.4	33.1	33.8
South Carolina	215	8	160	140	18.0	59.1	20.7
Tennessee	10	0	4	3	35.4	67.5	38.0
Texas	24	6	20	24	36.0	74.0	35.0
Utah	6	7	7	7	25.0	32.0	27.0
Virginia	26	14	9	22	23.0	34.0	28.0
Washington	44	11	45	47	31.8	46.4	42.9
West Virginia	18	16	13	13	22.4	36.9	29.5
United States	2,302	2,116	2,651	2,420	18.5	19.2	17.9

1/ No significant commercial production due to frost damage.

2/ Estimates discontinued in 1997.

Source: National Agricultural Statistics Service, USDA.

The smaller crop and less competition from other summer stone fruit has put some upward pressure on grower prices so far in 1998. Grower prices for fresh peaches in May through July averaged about 100 percent higher than the same period last year.

With the large 1997 U.S. freestone peach crop, U.S. imports of fresh peaches (including nectarines) declined 83 percent from a year earlier in 1997/98 (May-April), to 15.6 million pounds, with lower imports from both Chile and Canada.

During the same period, U.S. exports of fresh peaches (including nectarines) gained about 38 percent, reaching 231 million pounds. Exports to Canada, Taiwan, and Mexico were up 24 percent, 64 percent, and 84 percent, respectively. Combined exports to these three countries accounted for about 90 percent of the total export volume. The smaller crop expected for this year will likely limit the potential for U.S. exports during the 1998/99 marketing season.

Reduced Apricot Production Expected in 1998

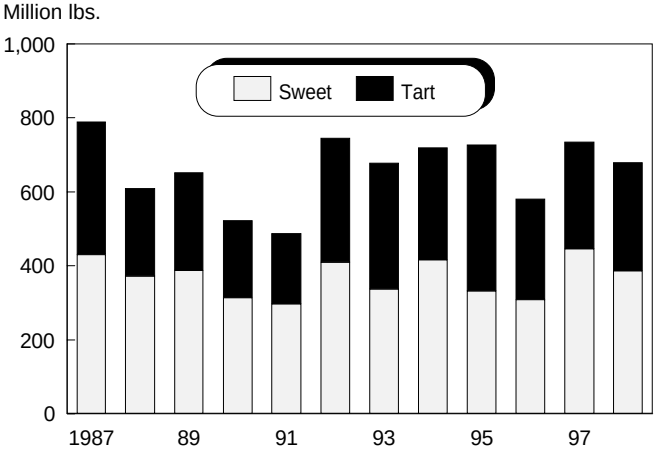
The 1998 U.S. apricot crop is forecast at 260 million pounds, 6 percent smaller than last year's large production. Production is expected to decline in California and Washington (table 10). In Utah, growers will be better off this year, with production of about 0.4 million pounds. During the previous season, Utah's entire crop was destroyed by frost. Heavy rains during the bloom period in California hampered pollination of the 1998 crop, but dry weather following bloom allowed for a good fruit set. Nevertheless, California—the source of over 90 percent of U.S. apricots—is forecast to harvest a 5-percent smaller crop. In Washington, freezing temperatures during the bloom period and later cool weather caused more problems with pollination than in California, and therefore, Washington's production is forecast to decline 17 percent.

Apricot prices in 1998 are likely to average higher than a year ago due to the smaller crop. During 1997, fresh-market grower prices averaged 53 percent lower than the previous year, while those for processing averaged 3 percent below, reflecting a 96-percent and a 55-percent increase in fresh and processed use, respectively.

Smaller Sweet Cherry Crop in California Could Hurt Exports in 1998

USDA forecasts this year's U.S. sweet cherry production to be 385.8 million pounds, down 13 percent from a year ago (table 11). Although smaller, this forecast, if realized, will be 5 percent larger than average production during the past 5 years. California (which normally produces about 20 percent of the U.S. total) is responsible for most of the decline this year. Production there is expected to be down about 70 percent from a year ago as rains during the bloom and fruit production periods resulted in lower yields and poor-quality fruit. Production in Washington, the largest producer, is forecast to be down 1 percent, at 182 million pounds. However, because weather conditions were relatively more favorable for much of the Pacific Northwest, Washington's production is expected to be above average and the third largest crop on record. Production in Oregon, meanwhile, is forecast to be unchanged, at 100 million pounds.

Figure 11
U.S. Cherry Production



Source: National Agricultural Statistics Service, USDA.

Large production increases are expected in other parts of the country, but these increases are not likely to offset the declines in the major sweet cherry producing States. Michigan, another important producer, is forecast to harvest 60 million pounds, up 11 percent from a year ago. In Utah, production is forecast to be nearly four times larger than last year, and in Idaho and Montana, production is expected to be up 54 percent and 15 percent, respectively. Despite frost damage and poor weather conditions during the spring, the crop in Pennsylvania is forecast unchanged from last year, but production in New York will likely be down 23 percent.

The expected decline in production this year, together with continued strong domestic and export demand will likely drive average grower prices for fresh cherries higher than a

Table 10--Apricots and nectarines: Total production and season-average price received by growers, 1995-97, and indicated 1998 production

	Production				Price		
Item and State	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
Apricots--							
California	108	152	264	250	19.4	20.2	15.4
Utah	1/	1	1/	0.4		43.0	
Washington	13	6	12	10	51.0	71.0	41.3
United States	121	159	276	260	22.8	22.2	16.6
Nectarines--							
California	352	494	528	na	26.7	23.7	18.8

na = Not available.
1/ No significant production due to frost damage.

Source: National Agricultural Statistics Service, USDA.

Table 11--Sweet cherries: Total production and season-average price received by growers, 1995-97, and indicated 1998 production

State	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
California	39.6	49.2	98.4	30.0	105.0	92.5	64.5
Idaho	1.4	4.4	2.6	4.0	80.5	62.5	62.0
Michigan	54.0	44.0	54.0	60.0	29.1	35.5	37.0
Montana	1.8	1.4	2.6	3.0	60.5	71.0	48.3
New York	2.2	1.4	1.3	1.0	48.0	71.0	86.0
Oregon	76.0	64.0	100.0	100.0	38.3	54.5	56.5
Pennsylvania	2.0	1.6	1.4	1.4	65.0	112.0	119.0
Utah	4.0	4.6	1.2	4.4	43.3	56.5	44.2
Washington	150.0	138.0	184.0	182.0	76.0	89.0	71.5
United States	331.0	308.6	445.5	385.8	63.0	73.5	62.5

Source: National Agricultural Statistics Service, USDA.

year ago. Although the late start and poor cherry quality of the California crop was there to push prices lower, the sharply smaller crop and the good quality fruit from the slightly reduced Washington crop may have countered these forces. Last year, the record crop increased fresh use and processing use 43 percent and 48 percent, respectively, above the previous year. Correspondingly, last year's season-average grower prices for fresh-market sweet cherries fell 21 percent, but those for processing use increased 6 percent.

The much-reduced crop in California has already put a strain on U.S. fresh sweet cherry exports in 1998. Normally, the largest (over 90 percent of total) export volume occurs during May through July. Exports in May thus far, usually coming mostly from California supplies, were down 68 percent from the same period last year, with exports to all major markets—Japan, Canada, Taiwan, the United Kingdom, and Hong Kong—down sharply. Exports will likely move up in June and July, reflecting the availability of supplies from the large Washington crop. The financial crisis in Asia may also limit exports to this region in 1998. The currency crisis had no significant impact on last year's exports, partly because it started in November 1997, when the major portion of the cherry export season was over. U.S. fresh sweet cherry exports totaled 71.8 million pounds in 1997, up 23 percent from the previous year. Exports to Japan, the largest market, totaled 28.8 million pounds, down only fractionally from the previous year. Exports to Taiwan and Hong Kong rose 36 percent and 78 percent, respectively. Exports to small markets in Southeast Asia all rose, except to the Philippines. Beyond Asia, exports were mostly strong, especially to Canada (up 53 percent) and the United Kingdom (up 37 percent).

U.S. consumption of fresh sweet cherries has been growing during the 1990's. With the exception of a few years, the annual growth in U.S. per capita consumption has trended upward, increasing by nearly 4 percent in 1991 to about 48 percent in 1997. Exports have captured a growing share of domestic production, while imports have remained at an average of 3 percent of U.S. consumption. Last year's bumper crop allowed domestic consumption to reach an estimated 0.6 pound per person, the second highest in the last 8 years. With the smaller expected crop this year, consumption will likely decline in 1998.

Tart Cherry Production Expected To Increase in 1998

U.S. tart cherry production in 1998 is forecast at 292.5 million pounds, up 1 percent from a year ago and the largest crop since 1995 (table 12). Over three-fourths of the U.S. crop is produced in Michigan where production is forecast to be unchanged from last year's large crop. An unusually warm spring in Michigan and much of the Northeast region caused trees to bud early, increasing their vulnerability to frost. The crop in Michigan developed about 2 to 3 weeks ahead but was not seriously damaged by frost. The crop in Wisconsin is expected down slightly. Many tart cherry trees in New York suffered damage, not only from frost, but from strong high winds and hail, and so production is forecast to be down 38 percent. Similar spring conditions applied to tart cherry growing areas in Pennsylvania, but the crop there, although still slightly below average, is expected up 8 percent. In the western part of the country, production is expected to increase.

As of May 30, 1998, stocks of frozen tart cherries were running 18 percent higher than a year ago. During the same period in 1997, stocks were up 2 percent. This year's large stocks, along with increased production, will put some downward pressure on 1998 grower prices, especially those for processing, since nearly all (99 percent) of the U.S. tart cherries are for processing. Last year, when production increased 8 percent, processing use, at 277.2 million pounds, was up 8 percent, increasing in all processing categories (canned, frozen, and other). Correspondingly, the season-average grower price for processing tart cherries fell 3 percent, to 15.6 cents per pound, with declines in all the processing categories. For tart cherries for freezing, which account for over 60 percent of total processing use, processors paid 15.2 cents a pound, down 2 percent.

Table 12--Tart cherries: Total production and season-average price received by growers, 1995-97, and indicated 1998 production

State	Production				Price		
	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
Colorado	1.2	1.0	0.7	1.0	41.4	47.3	56.0
Michigan	310.0	195.0	225.0	225.0	5.4	16.0	15.6
New York	32.0	19.0	14.5	9.0	5.6	14.4	17.3
Oregon	1.6	2.5	3.2	4.5	11.3	20.6	19.3
Pennsylvania	9.5	7.5	6.5	7.0	10.7	22.7	13.3
Utah	22.0	26.5	17.5	24.0	4.8	12.7	16.0
Washington	11.6	14.2	11.0	12.0	11.9	16.3	10.0
Wisconsin	7.7	6.1	10.5	10.0	6.3	17.8	17.0
United States	395.6	271.8	288.9	292.5	5.9	16.1	15.6

Source: National Agricultural Statistics Service and Economic Research Service, USDA.

The base pricing for 1998 pack frozen tart cherry products was announced on July 6, 1998, by CherrCo, Inc., the largest marketer of tart cherry products in the United States. In an effort to help raise grower returns, the base price was set at 51 cents per pound for 5+1, 30-lb. pack and 53 cents per pound for IQF pack, both slightly higher than last year.

Strawberry Production Expected Smaller in 1998

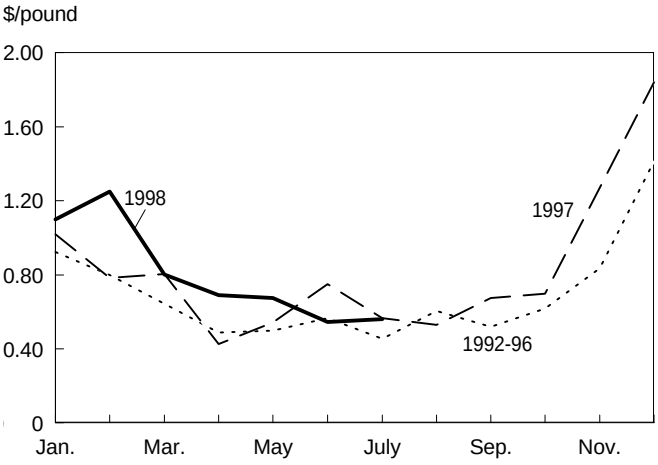
Commercial strawberry production in the six major producing States—California, Florida, Oregon, Washington, Michigan, and New Jersey— is forecast at 1.47 billion pounds in 1998, down 7 percent from a year ago (table 13). Over 80 percent of U.S. strawberries are produced in California. Production there is forecast to be down 6 percent, at 1.2 billion pounds, due primarily to the winter rains that had adversely affected production through most of the first half of the year. Florida, which produces most of the winter supplies, is a distant second, with about 10 percent of the U.S. total. Florida's 1998 winter crop is expected to decline 16 percent, to 148.8 million pounds. Harvested acreage increased for both California and Florida in 1998, but average yields were down 13 percent and 17 percent, respectively. In Oregon, higher yields are expected to bring production up 1 percent, despite a 12-percent decline in area harvested. Meanwhile, increased area harvested and higher yields are expected in Washington, where production is forecast to increase 22 percent. New Jersey's crop is forecast 11 percent larger, as yields are higher and harvested area is unchanged from a year ago. Michigan's production is expected down 16 percent due to a decline in harvested acreage and lower yields.

Lower yields, poor-quality berries, and disruptions in production and harvesting schedules as a result of heavy winter rains led to much lower shipments of fresh strawberries from California during February through May, compared with the same period last year. California shipments are usually the heaviest during April through June, but shipments this year in those 2 months were 2 percent and 29 percent lower, respectively (table 14). Also affected by heavy winter rains, fresh strawberry shipments from Florida during the winter were behind a year earlier.

Reduced fresh-market supplies through most of the first half of the year have already resulted in higher grower prices in 1998. Monthly grower prices for fresh-market strawberries from January through June averaged 84.3 cents per pound, compared with 72.2 cents the same period last year. At the same time, grower prices declined seasonally from $1.10 per pound in January to 54.6 cents per pound in June. As growing conditions improved in California, fresh shipments in June and July moved up in volume, and were up sharply compared with shipment volumes during the same period last year. June and July prices fell below a year earlier. Large California shipments are likely to continue during the summer, putting some downward pressure on grower prices.

Retail prices for fresh strawberries from January through June followed the seasonal movement in grower prices. Prices in June, however, averaged $1.41 per 12-oz. dry pint, up 20 cents from the same period last year, reflecting the

Figure 12
U.S. Grower Prices for Fresh Strawberries



Source: National Agricultural Statistics Service, USDA.

Table 13--Strawberries: Harvested area, yield per acre, and total production, United States, 1993-98

State	1993	1994	1995	1996	1997	1998
			-- Acres --			
Harvested area:						
Arkansas	230	180	180	170	190	na
California	25,100	23,300	23,600	25,200	22,600	24,300
Florida	5,800	5,800	6,000	6,000	6,100	6,200
Louisiana	1,100	1,100	1,000	850	650	na
Michigan	1,900	1,800	1,700	1,500	1,500	1,300
New Jersey	500	450	450	450	400	400
New York	2,700	2,600	2,400	2,100	2,100	na
North Carolina	2,400	2,400	2,400	1,800	1,500	na
Ohio	1,200	1,200	1,100	1,000	950	na
Oregon	6,200	6,100	5,700	5,200	5,000	4,400
Pennsylvania	1,500	1,500	1,400	1,300	1,200	na
Washington	1,600	1,400	1,300	1,300	1,400	1,500
Wisconsin	1,100	1,200	1,100	1,100	1,000	na
U.S. total	51,330	49,030	42,330	41,970	44,690	na
			-- Pounds per acre --			
Yield per acre:						
Arkansas	3,000	3,000	6,700	2,100	7,100	na
California	45,500	57,000	55,000	54,000	59,000	51,500
Florida	28,000	29,000	28,000	26,000	29,000	24,000
Louisiana	10,000	14,000	9,500	7,500	11,000	na
Michigan	6,000	5,500	6,000	4,000	6,500	6,300
New Jersey	3,500	3,100	3,400	3,500	4,500	5,000
New York	6,000	4,000	3,500	3,900	4,500	na
North Carolina	4,500	6,500	8,000	9,000	12,000	na
Ohio	5,300	5,100	4,500	3,600	3,600	na
Oregon	10,000	11,500	10,500	9,200	10,000	11,500
Pennsylvania	3,600	4,200	4,600	4,300	4,600	na
Washington	7,000	8,000	8,000	8,100	7,000	8,000
Wisconsin	5,200	5,100	5,000	4,000	5,100	na
U.S. total	28,200	33,600	33,200	33,900	36,500	na
			-- Million pounds --			
Total Production:						
Arkansas	0.7	0.5	1.2	0.4	1.3	na
California	1,142.1	1,328.1	1,298.0	1,360.8	1,333.4	1,251.5
Florida	162.4	168.2	168.0	156.0	176.9	148.8
Louisiana	11.0	15.4	9.5	6.4	7.2	na
Michigan	11.4	9.9	10.2	6.0	9.8	8.2
New Jersey	1.8	1.4	1.5	1.6	1.8	2.0
New York	16.2	10.4	8.4	8.2	9.5	na
North Carolina	10.8	15.6	19.2	16.2	18.0	na
Ohio	6.4	6.1	5.0	3.6	3.4	na
Oregon	62.0	70.2	59.9	47.8	50.0	50.6
Pennsylvania	5.4	6.3	6.4	5.6	5.5	na
Washington	11.2	11.2	10.4	10.5	9.8	12.0
Wisconsin	5.7	6.1	5.5	4.4	5.6	na
U.S. total	1,447.1	1,649.4	1,603.2	1,627.5	1,632.2	na

na = Not available.

Source: National Agricultural Statistics Service, USDA.

Table 14--Fresh strawberry shipments in the United States, monthly, by source, 1993-98

Source/year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
						Million pounds							
California													
1993	3.5	11.6	61.4	149.3	158.6	123.2	93.0	69.0	64.9	31.9	46.2	1.2	813.8
1994	13.7	20.1	68.7	172.8	177.3	138.7	108.3	90.4	69.8	40.6	8.2	0.8	909.4
1995	0.6	17.2	46.8	149.7	159.5	145.0	114.1	77.8	70.3	46.7	11.3	1.4	840.4
1996	19.2	26.9	71.4	209.7	175.3	115.3	112.3	79.2	54.2	51.2	8.5	1.6	924.8
1997	7.2	24.8	101.4	184.8	195.5	104.1	94.0	76.9	48.1	36.7	14.3	1.9	889.9
1998	15.4	6.6	51.8	181.2	138.5	144.8	140.1						
Florida													
1993	10.5	8.5	24.7	7.4	2.5	--	--	--	--	--	0.3	4.0	57.9
1994	7.5	13.2	33.0	2.8	--	--	--	--	--	--	0.4	3.0	59.9
1995	4.7	5.4	23.0	4.1	--	--	--	--	--	--	0.1	5.1	42.4
1996	7.4	9.2	35.6	8.1	0.1	--	--	--	--	--	0.5	10.5	71.4
1997	21.2	46.8	33.1	0.2	--	--	--	--	--	--	0.3	10.5	112.1
1998	19.9	25.8	32.2	12.4	--	7.4	2.9						
Mexico													
1993	2.3	2.3	9.0	5.6	4.7	2.2	--	--	--	--	0.3	1.6	28.0
1994	3.2	3.4	11.6	12.8	5.5	4.5	0.2	--	--	0.1	0.8	1.9	44.0
1995	3.2	5.3	12.3	11.6	11.5	8.4	0.7	--	--	0.1	0.8	1.5	55.4
1996	5.2	7.7	13.4	21.4	11.4	1.7	--	--	--	--	0.9	2.2	63.9
1997	4.6	6.0	14.1	3.3	0.3	--	--	--	--	--	0.5	1.6	30.3
1998	4.9	6.3	10.3	13.8	7.4	--							
Total													
1993	16.3	22.4	95.1	162.3	165.8	125.4	93.0	69.0	64.9	31.9	46.8	6.8	899.7
1994	24.4	36.7	113.3	188.4	182.8	143.2	108.5	90.4	69.8	40.7	9.4	5.7	1,013.3
1995	8.5	27.9	82.1	165.4	171.0	153.4	114.8	77.8	70.3	46.8	12.2	8.0	938.2
1996	31.8	43.8	120.4	239.2	186.8	117.0	112.3	79.2	54.2	51.2	9.9	14.3	1,060.1
1997 1/	33.0	77.6	148.6	188.5	196.2	104.1	94.2	76.9	48.1	36.7	15.5	14.9	1,034.5
1998	40.2	38.7	94.3	207.5	146.6	144.8	152.1						

-- = No shipments reported.

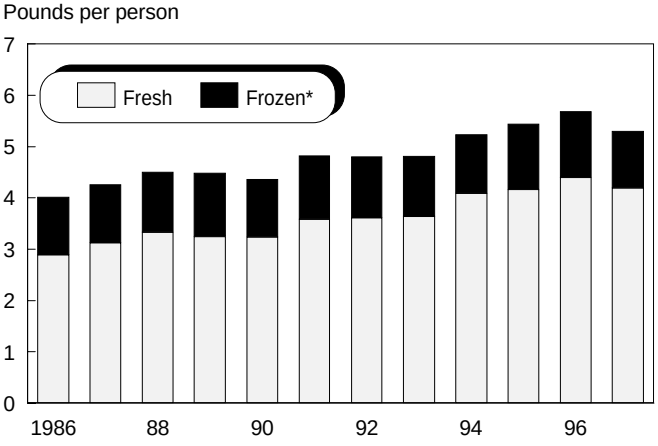
1/ Total includes small volume shipments from North Carolina during April and May and import shipments from New Zealand during November and December.

Source: Agricultural Marketing Service, USDA.

lateness of California's summer stone fruit crops. Prices fell lower than a year ago in July due to increased supplies of both strawberries and summer stone fruit. Similar to last year, reduced overall U.S. supplies and the higher retail prices during the first half of the year may lead to a decline in fresh strawberry domestic consumption in 1998. Consumption was estimated at 4.19 pounds per person in 1997, down from 4.39 in 1996.

Grower prices for processing strawberries are likely to average unchanged to slightly lower in 1998. As of December 31, 1997, stocks of frozen strawberries were up 4 percent from the previous year. For much of the winter, berry quality was poor due to the heavy rains, and many fresh-market strawberries in California were diverted to processing, mostly for juice. With the California season underway, stocks of frozen strawberries on June 30, 1998, as reported by USDA's National Agricultural Statistics Service, were up 3 percent from a year ago. As of August 1, 1998, season-to-date deliveries of grade-1 freezer berries to processors (including also deliveries from other small producing States)

Figure 13
U.S. Strawberry Consumption



*Fresh-weight equivalent.
Source: Economic Research Service, USDA.

were 13 percent higher, according to the Processing Strawberry Advisory Board of California. At the same time, juice berries totaled 92.4 million pounds, more than double the quantity during the same time last year.

Because production is expected down in the United States this year, U.S. imports of fresh strawberries will likely be up in 1998. Mexico is the source of over 95 percent of U.S. strawberry imports (in both fresh and frozen categories). USDA's Foreign Agricultural Service forecasts Mexico's 1997/98 fresh strawberry production to be down 38 percent from the previous year due to frost damage. Mexican supplies of frozen strawberries are also expected smaller, reflecting an overall smaller crop and higher fresh-market prices. Their strawberry exports in 1997/98, mostly to the U.S. market, are forecast unchanged from last year for fresh and down 35 percent for frozen. U.S. imports of fresh strawberries during the first 5 months of 1998 were up 59 percent from the same period last year, while imports of frozen strawberries were down 27 percent.

U.S. fresh strawberry exports were down 22 percent during the first 5 months of 1998 compared with a year ago, while exports of frozen strawberries were up 18 percent. January through May shipments of U.S. fresh strawberries to major export markets—Canada, Japan, Mexico, and the United Kingdom—were down 22 percent, 23 percent, 62 percent, and 57 percent, respectively. Most exports of frozen strawberries also go to Japan, Canada, Mexico, and Australia. Frozen exports to these major markets so far this year are up compared with a year ago. Last year, U.S. exports of fresh and frozen strawberries totaled 163.1 million pounds in 1997, up only fractionally in both categories.

Blueberry Production Expected Down in 1998, But Fresh Use Likely To Increase

Preliminary estimates from the North American Blueberry Council (NABC) put the 1998 U.S. cultivated blueberry crop at 158.4 million pounds, down 8 percent from last year (table 15). Most of the decline is expected from Michigan and Georgia, where the crops are forecast to be down 28 percent and 40 percent, respectively. Michigan produces over one-third of U.S. blueberries, the largest in the country. Its blueberry crop, which is usually harvested in late June through September, was affected by an early freeze in June and a 2-month drought period starting in May, according to the Michigan Blueberry Growers Association. Low moisture conditions helped prevent mold and rot problems, leading to good berry quality. However, the dry weather also put a lot of stress on the blueberry bushes, resulting in lower yields. Harvesting in Michigan started earlier than normal as mild temperatures during the spring allowed for the bushes to bloom about 10 days early.

New Jersey is the Nation's second largest producer of blueberries, with about 23 percent of total U.S. production. Production there is forecast up 9 percent from a year ago. Harvesting of early varieties started around the second week of June, also about 10 days ahead of schedule.

Table 15--North American blueberry production, 1994-98

State or Province	1994	1995	1996	1997	1998F
			Million pounds		
Cultivated:					
Michigan	47.0	67.0	42.0	76.0	55.0
New Jersey	32.5	36.0	35.0	33.0	36.0
British Columbia	28.2	30.9	37.1	22.3	28.0
Oregon	17.5	14.0	17.0	21.0	23.0
North Carolina	15.0	14.4	12.0	8.6	16.5
Washington	9.0	6.6	8.7	8.7	10.0
Georgia	9.0	14.0	6.0	15.0	9.0
Other	11.7	12.3	9.9	11.9	10.1
Total	169.9	195.1	167.7	196.5	187.6
U.S.	140.6	163.2	129.3	173.0	158.4
Wild:					
Maine	59.5	65.9	59.2	73.8	70.0
Quebec	15.9	16.3	23.1	31.3	na
Nova Scotia	27.5	30.2	29.6	22.9	na
New Brunswick	10.5	9.0	11.5	8.8	na
Newfoundland and	1.4	1.5	2.5	1.2	na
Prince Edward Island	2.6	1.6	2.2	2.8	na
Total	117.3	124.5	128.2	140.7	na
Total U.S.	200.1	229.1	188.5	246.8	na

F = Forecast for cultivated varieties from the North American Blueberry Council and for wild varieties from the New England Agricultrural Statistics Service.
na = Not available.

Sources: National Agricultural Statistics Service, USDA and the North American Blueberry Council (Maine and Canada).

Shipments from New Jersey in June were 116 percent above the same period a year ago and in July were 10 percent larger (table 16). Meanwhile, a 3-day freeze during the middle of March threatened the blueberry crops in the Southeast region. The North Carolina crop was also affected by some hail and wind damage in early May, but production is still forecast up 90 percent from a year ago. While a large proportion of Georgia's crop was already destroyed by the early spring freezes, drought conditions since June are also hurting the crop.

During the last 3 years, fresh-market blueberries averaged 46 percent of utilized production. Despite the decline in U.S. blueberry production this year, more blueberries are expected for fresh use, and the increase could put some downward pressure on fresh-market grower prices. According to NABC estimates, fresh use will likely be up 5 percent from a year ago in 1998, while processing use, mostly for freezing, is expected to be down 12 percent. The large production increase expected in North Carolina is mainly responsible for the increase in fresh use. Fresh-market supplies there, accounting for over 10 percent of total fresh-market production, is forecast up 82 percent from last year. Fresh-market supplies from New Jersey, the largest producer for the fresh market, is forecast unchanged from last year, while in Michigan, fresh use will likely be down 6 percent.

Despite the anticipated decline in processing use, prices growers receive for processing-use blueberries will likely

Table 16--U.S. blueberry shipments, monthly, 1993-98

Source/year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
						Million pounds							
All 1/													
1993	0.3	0.1	--	--	1.5	12.2	22.9	25.6	3.2	--	--	0.2	66.0
1994	0.3	0.3	0.1	0.8	6.7	12.5	24.7	23.6	1.7	0.1	--	0.2	71.1
1995	0.7	0.2	0.2	0.2	6.5	12.2	32.7	23.1	2.6	0.1	--	0.3	78.8
1996	0.8	0.6	0.4	0.1	3.2	13.5	23.0	20.1	4.4	0.6	0.2	0.5	67.4
1997	1.0	0.6	0.3	0.7	5.8	8.1	24.3	19.3	6.0	1.4	0.1	0.7	68.5
1998	2.5	0.9	0.6	0.7	4.9	14.5	29.8						
Florida													
1993	--	--	--	--	0.1	--	--	--	--	--	--	--	0.1
1994	--	--	--	0.8	1.0	--	--	--	--	--	--	--	1.8
1995	--	--	--	0.2	1.2	0.1	--	--	--	--	--	--	1.5
1996	--	--	--	0.1	0.7	0.5	--	--	--	--	--	--	1.3
1997	--	--	--	0.6	1.0	0.1	--	--	--	--	--	--	1.7
1998	--	--	--	0.7	0.9	--	--						
North Carolina													
1993	--	--	--	--	1.4	8.8	0.8	--	--	--	--	--	11.0
1994	--	--	--	--	6.8	7.6	0.5	--	--	--	--	--	13.9
1995	--	--	--	--	5.3	7.0	0.4	--	--	--	--	--	12.7
1996	--	--	--	--	2.5	8.1	0.3	--	--	--	--	--	10.9
1997	--	--	--	--	4.8	3.7	--	--	--	--	--	--	8.6
1998	--	--	--	--	4.0	5.0	--						
New Jersey													
1993	--	--	--	--	--	3.4	15.2	2.1	--	--	--	--	20.7
1994	--	--	--	--	--	4.9	15.1	1.1	--	--	--	--	21.1
1995	--	--	--	--	--	4.9	21.0	2.4	--	--	--	--	28.3
1996	--	--	--	--	--	4.9	16.8	0.4	--	--	--	--	22.1
1997	--	--	--	--	--	4.3	17.3	0.5	--	--	--	--	22.1
1998	--	--	--	--	--	9.3	19.1						
Michigan													
1993	--	--	--	--	--	--	6.0	10.9	1.7	--	--	--	18.6
1994	--	--	--	--	--	--	6.6	7.2	1.4	--	--	--	15.2
1995	--	--	--	--	--	--	6.4	9.1	1.4	--	--	--	16.9
1996	--	--	--	--	--	--	4.4	7.8	2.6	0.3	--	--	15.1
1997	--	--	--	--	--	--	4.4	9.8	3.6	1.2	--	--	19.0
1998	--	--	--	--	--	0.2	10.8						

-- = No shipments reported.

1/ Includes imports from Canada, Chile, and New Zealand.

Source: Agricultural Marketing Service, USDA.

not improve from last year's lower prices (table 17) due to large carryover stocks of frozen blueberries. USDA reported that U.S. stocks of frozen blueberries on January 1, 1998, were 45 percent above a year ago, and 24 percent above the 1995-97 average. Frozen supplies come from cultivated and wild varieties. Michigan is expected to provide 44 percent of the cultivated varieties for freezing this year, the quantity of which is forecast to decline 24 percent from a year ago. U.S. wild blueberry production, used almost entirely for processing, are all produced in Maine and account for over 40 percent of domestic-grown frozen supplies. USDA forecast wild blueberry production to be 70 million pounds in 1998, down 5 percent from a year ago, but 8 percent above the average during the last 5 years. Most of the wild blueberry areas were not injured by a January ice storm. The crop had a good bloom, but pollination was somewhat hampered by fog and cold damp weather. Above-normal rainfall also caused some problems with fungus and the mummy berry disease. Because of excessive rain, though, most of the blueberries are sizing larger than average.

Due to the large beginning stocks of frozen blueberries in 1998, cumulative imports of frozen blueberries from January through May totaled 10.4 million pounds, down 11 percent from the same period in 1997. Lower processing supplies from this year's U.S. crop could lead to increased imports during the second half of the year, especially with an expected large crop in Canada, the source of nearly all U.S. fresh and frozen blueberry imports. Meanwhile, U.S. fresh imports during the first 5 months of 1998 totaled 2.6 million pounds, up 20 percent from the same period last year. With the expected increase in domestic fresh-market production, fresh imports could decline during the second half of the year.

Table 17--Blueberry prices received by growers, 1995-97

Use and State	1995	1996	1997
	Cents per pound		
All Uses:			
Michigan	49.9	86.5	70.0
New Jersey	75.7	97.1	99.8
North Carolina	90.9	101.0	117.0
Oregon	49.3	75.0	73.0
Washington	49.1	68.9	89.2
U.S. average	63.7	90.7	83.3
Fresh:			
Michigan	75.0	100.0	98.8
New Jersey	88.0	100.0	102.0
North Carolina	105.0	109.0	135.0
Oregon	71.0	92.5	87.5
Washington	77.0	89.0	167.0
U.S. average	90.4	106.0	111.0
Processed:			
Michigan	40.0	79.0	59.0
New Jersey	45.0	91.0	95.0
North Carolina	39.0	67.0	59.0
Oregon	33.0	65.5	67.0
Washington	38.0	64.0	66.0
U.S. average	40.0	75.6	63.9

Source: National Agricultural Statistics Service, USDA.

Cumulative U.S. exports of frozen blueberries from January through May 1998 totaled 8.6 million pounds, up 33 percent from the same period last year, while exports of fresh blueberries totaled 1.4 million pounds, up 29 percent. Canada, Japan, and the Federal Republic of Germany are the top export markets for U.S. frozen blueberries. Last year, frozen exports totaled 35.9 million pounds, up 23 percent from the previous year. Exports to the three leading markets were up sharply, except to Germany where exports fell 60 percent. In terms of U.S. fresh blueberry exports, over three-fourths of the total volume last year went to Canada, where shipments were up 11 percent. Other important export markets for U.S. fresh blueberries are the United Kingdom, the Netherlands, and Switzerland. Exports declined almost 2 percent to the United Kingdom in 1997, but rose 15 percent and 48 percent, respectively, to the other two countries.

Average-Size Kiwifruit Crop Expected In California in 1998

California's kiwifruit crop looks like its going to match last year's production, which was about average, according to the California Kiwifruit Commission (CKC). USDA's production estimate for last year was 70 million pounds, up 11 percent from the small crop in 1996 (table 18). While fruit set was not adversely affected by weather problems in the State so far this year, the development of the crop is about 2 weeks behind due to a late bloom and slow sizing of the fruit. Normally, fruit has achieved 60 percent of its growth by the first week of July.

Harvesting of kiwifruit in California begins in October, and the marketing season usually runs from November through April of the following year. Reflecting in part increased domestic production in 1997, cumulative U.S. imports of fresh kiwifruit from January through May 1998 were down 12 percent from the same period a year ago. Imports declined sharply from Italy, also due to a large drop in its

Table 18--California kiwifruit: Acreage, production, and value, 1992-97

Year	Bearing acreage	Total production	Price 1/	Value 2/
	Acres	Million pounds	Cents per pound	1,000 dollars
1992	7,300	104.6	14.5	13,833
1993	7,200	98.4	18.5	16,502
1994	6,900	78.8	24.6	18,413
1995	6,600	75.6	23.0	15,434
1996	6,500	63.0	23.5	13,157
1997	6,100	70.0	25.9	16,483

1/ Season-average grower price. 2/ Value is based on utilized production.

Source: National Agricultural Statistics Service, USDA.

Table 19--U.S. imports of fresh kiwifruit, by country, 1992-97

Sources	1992	1993	1994	1995	1996	1997
			1,000 pounds			
Chile	27,141	42,867	54,777	74,000	69,730	61,017
Italy	1,036	1,863	1,550	2,202	7,913	10,421
New Zealand	16,435	10,545	6,361	7,342	9,823	3,153
Other countries	1	3	90	2	528	1,286
World	44,613	55,278	62,778	83,546	87,994	75,877

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

production, and from New Zealand, whose crop was late. These are two major suppliers to the U.S. market. Meanwhile, imports from Chile, the source of 80 percent of total imports last year, were up almost 3 percent, given its record production in 1997/98. Chile has been the largest supplier of kiwifruit to the United States since 1992, when the U.S. Commerce Department determined that imports from New Zealand, previously the largest, were hurting the U.S. kiwifruit industry. Following this determination, a 98.6-percent anti-dumping duty was imposed on New Zealand kiwifruit entering the U.S. market. Since then, the margin has been reduced several times and this year it is set to zero. Being both from the Southern Hemisphere, Chilean kiwifruit exporters will likely face increased competition from New Zealand in 1998 for the U.S. market. Last year's imports totaled 75.9 million pounds, down 14 percent from 1996, with declines from Chile and New Zealand (table 19).

U.S. fresh kiwifruit exports, which average 12 percent of domestic fresh supplies, were down 6 percent during the first 5 months in 1998, compared with the same period last year. Exports so far in 1998 were up in the leading export markets (Canada, South Korea, Mexico, and Japan) of last year, excluding South Korea. These four markets accounted for 94 percent of total exports in 1997. Taiwan was also among the leading markets prior to 1997, accounting for as high as 23 percent of total imports during 1990-96. There were no exports to this market in 1997, but exports so far this year totaled 1.1 million pounds. The expected average-size crop in 1998 will help maintain U.S. kiwifruit exports in 1999.

Cranberry Prices Likely Lower in 1998

USDA's August forecast of U.S. cranberry production was 562 million pounds, surpassing 1997's record crop by 2 percent (table 20). A relatively mild winter resulted in an early bloom in Wisconsin, Massachusetts, and New Jersey. The cranberry crops in these three large producing States are developing earlier than normal. Cranberries, which are usually harvested beginning in mid-September, could be harvested as early as the end of August or the first week of September this year, according to the Cranberry Marketing Committee (CMC). While the crop in Wisconsin experienced some hail and freeze damage in June, production is forecast to be a record, up 3 percent from a year ago. This is mostly due to additional acreage coming into production. Because of sporadic rains and hail, production in Massachusetts and New Jersey is forecast unchanged and down 2 percent, respectively, from a year ago. While the crop in Massachusetts is about average, quality is somewhat a problem due to insect infestations arising from having only a short dormant period given this year's relatively mild winter. Insect control applications were even made less effective because of rainy weather. Growers are then concerned about berry breakdown, especially for those that are going to the fresh market. In the West Coast, pollination was affected by rains, but fruit set was generally good and production is up slightly.

Cranberry inventories entering the 1998/99 season will likely remain large given the bumper U.S. crop in 1997 and the large inventories that were carried over into the 1997/98 marketing season. This, along with increased production, could put downward pressure on cranberry grower prices

Table 20--Cranberries: Total production and season-average prices received by growers, 1995-97, and indicated 1998 production

	Production				Price		
State	1995	1996	1997	1998	1995	1996	1997
	-- Million pounds --				-- Cents per pound --		
Massachusetts	159	172	210	210	54.3	70.9	69.6
New Jersey	45	47	58	57	50.0	61.8	62.2
Oregon	17	31	35	38	49.6	60.5	61.5
Washington	18	18	17	18	49.6	61.0	61.5
Wisconsin	180	199	234	240	54.2	63.8	69.2
United States	419	467	553	562	53.4	65.9	67.9

Source: National Agricultural Statistics Service, USDA.

during 1998/99, particularly those for processing use. Over 90 percent of total utilized production is for processing use. According to the CMC, what looks to be an overall good 1998 crop in Canada, the source of virtually all U.S. cranberry imports, will put additional downward pressure on grower prices this year.

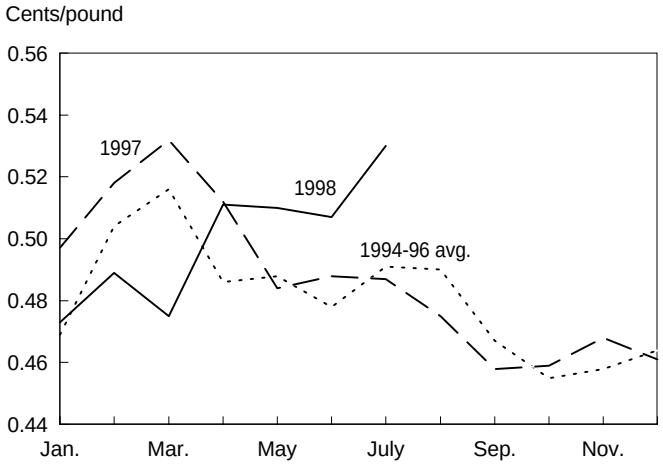
Banana Consumption Down in 1997

U.S. banana consumption fell slightly over 1 percent in 1997 to 27.7 pounds per person. While bananas continue to be the most popular fresh fruit consumed in the United States, lower imports affected the amount available in the U.S. market in 1997. Imports declined 2 percent from Costa Rica, the major supplier to the U.S. market, and 12 percent from Honduras, the third largest supplier (table 21). At the same time, imports rose from both Ecuador and Colombia, rounding out the top four sources of bananas for U.S. consumption. Banana imports reached a total value of $1.1 billion in 1997, up 2 percent from a year ago.

Hawaii's banana production rose by 5 percent in 1997 to 13.7 million pounds. Most of the growth was in the Cavendish variety, the major variety produced in Hawaii. Increased plantings and improved yields of Cavendish bananas outweighed the overall decline in banana harvested acres. Hawaiian banana growers received an average of 38 cents a pound, 2 cents below 1996. The larger crop in 1997, however offset lower prices, and the total value of the banana crop was $5.2 million, the same as 1996.

Retail prices for bananas have averaged about 49 cents a pound from January through June 1998, about 2 percent lower than the same period as the last 2 years. Besides increased imports during the first half of 1998 over the same period in 1997, the availability of many types of imported fresh fruit, as well as large supplies of citrus in the winter of 1998, have kept banana retail prices below a year ago. Traditionally, bananas are consumed mostly in the winter and spring months when fruit selection in the market is more limited.

Figure 14
Bananas: Retail Prices



Source: Bureau of Labor and Statistics.

Mango Consumption Continues To Grow

Americans continued to increase their consumption of fresh mangoes in 1997 as they have done throughout the nineties. Consumption increased to 1.46 pounds per person in 1997, up 8 percent from a year ago. The increase in 1997, however, was below the average increase of 18 percent annually since 1990.

Like bananas, most mangoes consumed in the United States are imported. As its popularity grows, per capita consumption of fresh mangoes is exceeding that of other minor domestically-produced fresh fruit such as apricots, cherries, and kiwifruit.

Mexico is the major supplier of mangoes to the U.S. market, and is the world's third largest mango producer. In 1997, Mexico supplied 84 percent of the imported fresh mangoes for the U.S. market (table 22). Haiti, Guatemala, and Brazil together provided another 12 percent. In 1997, the value of mango imports totaled $119 million, up 15 percent from the year before. The volume of mangoes imported into the

Table 21--U.S. imports of bananas, excluding plantains, by country, 1989-97

Year	Costa Rica	Ecuador	Honduras	Colombia	Guatemala	Panama	Mexico	Other	World
					Million pounds				
1989	1,404.6	1,873.1	1,216.3	939.7	535.2	256.7	208.5	3.5	6,437.6
1990	1,260.1	2,518.0	1,070.6	787.7	733.5	101.7	334.7	15.2	6,821.4
1991	1,513.1	2,458.1	917.8	1,000.8	649.8	80.4	475.0	23.8	7,118.8
1992	2,104.3	1,975.9	905.4	917.2	842.8	81.7	873.1	84.7	7,785.0
1993	2,033.8	1,678.5	940.6	1,314.7	832.9	169.3	679.8	95.6	7,745.2
1994	2,154.1	1,732.6	1,096.2	1,387.8	969.9	342.2	422.6	38.4	8,143.8
1995	2,112.3	2,053.7	1,284.7	969.1	1,021.5	279.9	343.2	13.0	8,077.3
1996	2,138.5	1,871.2	1,410.1	841.2	1,113.6	580.4	312.3	59.5	8,326.8
1997	2,103.3	1,925.1	1,243.3	1,027.7	1,020.0	473.5	446.1	78.3	8,317.4

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

Table 22--U.S. imports of fresh mangoes, by country, 1989-97

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
					1,000 pounds				
Mexico	96,833	112,289	168,618	151,082	211,134	241,037	256,303	311,682	354,416
Haiti	18,387	17,217	29,922	611	18,445	8,418	22,078	18,181	22,872
Guatemala	7	0	32	0	1,395	5,260	12,830	15,217	15,976
Brazil	0	370	2,281	3,769	6,972	4,860	6,516	10,773	11,950
Peru	0	0	482	6,696	6,060	7,864	8,506	9,897	7,378
Ecuador	0	0	290	825	731	1,933	3,285	8,647	1,936
Nicaragua	0	0	0	0	0	395	1,650	2,081	1,708
Costa Rica	0	0	41	49	85	184	145	968	1,647
Venezuela	0	0	1,638	5,830	6,260	7,407	4,616	5,138	1,054
Dominican Republic	0	199	335	185	302	381	288	307	562
Other countries	16	264	393	187	322	237	371	329	285
World	115,242	130,340	204,031	169,236	251,705	277,976	316,588	383,218	419,784

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

United States is highest from April through August, peaking in June, when the domestic market is in transition between its winter and summer fruit seasons. Mango imports in 1998 are running 7 percent lower than 1997 levels so far this year (from January through May). Drought conditions in Mexico have affected both volume and fruit size so far this year. While shipments may pickup in June and July, lower shipments earlier in the year may result in a decline in overall mango consumption for 1998.

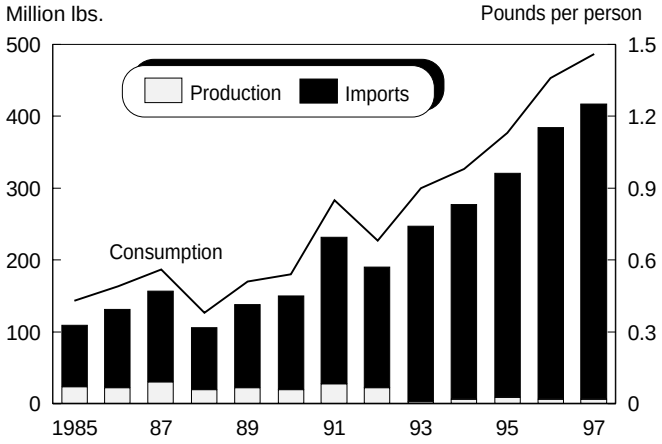
Florida is the major commercial mango producer in the United States, but the volume it produces is dwarfed by imports. Since Hurricane Andrew disrupted mango production in southern Florida in 1992, domestic production accounts for 1 to 2 percent of consumption. Prior to Hurricane Andrew, domestic consumption contributed about 12 percent.

The Florida Agricultural Statistics Service reported Florida's mango acreage in 1997 to be 1,700 acres, down 6 percent from a year earlier, of which 1,400 are bearing fruit. Production was affected by bloom and disease problems at fruit set. Total production, however, remained at 100,000 bushels. With grower prices falling 3 percent to $14.50 per bushel, the total value of the 1997 crop was $1.45 million, 3 percent lower than 1996.

Papaya Consumption Declines As Imports Fall

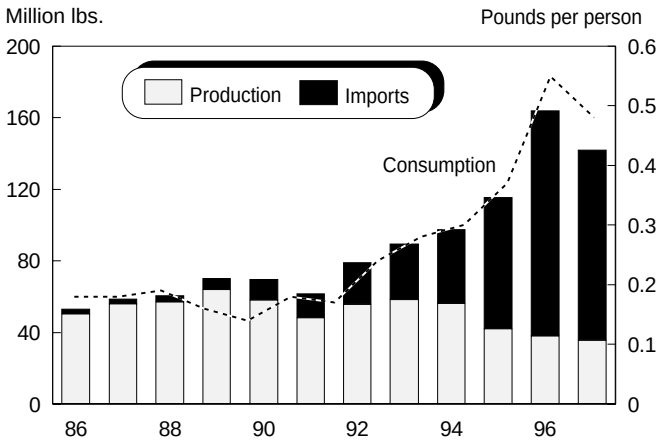
In 1997, fresh papaya imports fell 16 percent from 1996. Shipments from Mexico, the largest supplier, totaled 88 million pounds, falling 20 percent from the previous year (table 23). Because Mexico provides over 80 percent of all papaya imports, increased shipments from other countries were not enough to make up the difference. Imports from Belize, the second largest supplier, rose 49 percent in 1997. Because

Figure 15
U.S. Fresh Mango Supply and Consumption



Sources: National Agricultural Statistics Service and Economic Research Service, USDA.

Figure 16
U.S. Fresh Papaya Supply and Consumption



Sources: National Agricultural Statistics Service and Economic Research Service, USDA.

Table 23--U.S. imports of fresh papayas, by country, 1989-97

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
					1,000 pounds				
Mexico	4,565	6,522	8,927	18,615	21,533	32,996	67,156	110,661	88,233
Belize	182	873	82	1,347	4,297	3,962	1,438	5,347	7,971
Jamaica	90	96	720	2,324	4,509	2,588	3,462	5,244	4,582
Costa Rica	7	0	9	4	11	796	19	2,134	3,164
Dominican Republic	452	82	521	768	683	783	1,251	2,517	2,122
Panama	0	0	0	0	0	0	0	106	143
Other countries	747	3,911	3,119	36	267	52	62	86	50
World	6,042	11,483	13,378	23,094	31,301	41,176	73,388	126,095	106,264

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

their shipments are less than a tenth of Mexico's, even this increase was insufficient to have much impact on the total supply in the U.S. market. The value of papaya imports totaled $10.6 million, a 57-percent decline from 1996.

Since the United States depends on fresh papaya imports for about 75 percent of its supply, the decline in imports adversely affected domestic consumption. Fresh papaya consumption in the United States fell to 0.48 pound per person in 1997, 13 percent less than in 1996. Despite this decline, 1997 consumption was still the second highest on record.

Hawaiian production fell for the fourth consecutive year, totaling 38.8 million pounds in 1997. While the total acreage devoted to papayas was up in 1997, papaya ringspot virus continued to affect production, reducing yields and shortening the life of infected trees. Fresh production fell 6 percent to 35.7 million pounds. The quantity of papayas used for processing fell 23 percent as growers sent a larger proportion of their limited crop to the higher-valued fresh market. Grower prices for fresh-market papayas rose 8 cents per pound between 1996 and 1997 to 52.9 cents. Papayas grown for processing received 30 cents a pound, the same as the year before. The higher price for fresh use, along with the larger share of fruit going to fresh use, boosted the value of the 1997 crop up 11 percent to $19 million.

Hawaii's papaya production continued its trend of declining output during the first half of 1998. Despite an increase in April and May, putting production above the past several months and last year for the same period, output fell again in June below a year ago. Prospects in the future for the papaya industry, however, appear good. A new, ringspot-virus resistant variety of papaya was introduced this May in Hawaii, and growers will now be able to increase plantings not only in new areas, but also in areas plagued by the virus.

Fresh Pineapple Consumption Up, Processed Down in 1997

Per capita consumption of fresh pineapples reached 2.38 pounds in 1997, higher than at any time over the past two decades. Increasing 24 percent over last year's consumption, 1997 turned around fresh pineapple demand after 3 years of steady decline. Imports increased by 49 percent, more than offsetting a 10-percent decline in Hawaii's production. Imports from Costa Rica exceeded 344 million pounds, increasing its share of U.S. fresh pineapple imports to 76 percent (table 24). Honduras remains the second largest source. Its supplies, however, declined to the lowest level since 1991. Imports from Mexico almost doubled as its share of the market continues to increase.

Both pineapple juice and canned pineapple consumption fell in 1997 due to falling domestic production and weak imports. Pineapple juice imports fell 9 percent to 76 million single-strength gallons in 1997. Even though imports from the Philippines, the largest supplier, rose slightly, the Philippines does not dominate the pineapple juice market the same way Costa Rica dominates the fresh market. Therefore, the decline in juice from Thailand, the second largest source with a 30-percent share of the U.S. market, reduced overall imports for 1997 (table 25). Canned pineapple imports increased fractionally, to 661 million pounds in 1997 (table 26). The Philippines, Thailand, and Indonesia remained as the top three suppliers. Pineapple juice imports totaled 28 million single-strength gallons and canned pineapple imports totaled 24 million pounds from January through May 1998. Imports will probably be down as well for the remainder of 1998 because drought in the Philippines, Thailand, and other major-producing countries has reduced the amount of pineapples available for processing.

Hawaiian pineapple production declined 7 percent to 648 million pounds in 1997. About 32 percent of the production went to the fresh market, fractionally less than last year. The remaining two-thirds was processed. Lower production helped increase the season-average grower price for both fresh and processing pineapples. The 3-percent increase in fresh-market pineapples and 9-percent increase in processing pineapples was not great enough, however, to offset the production decline, and 1997's crop value declined to $91.7 million.

Table 24--U.S. imports of fresh and frozen pineapples, by country, 1989-97

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
					1,000 pounds				
Costa Rica	119,672	122,135	112,682	129,102	161,716	185,352	172,995	192,305	344,342
Honduras	30,112	32,964	56,290	69,346	58,861	63,977	73,375	60,126	54,460
Mexico	7,062	8,673	12,236	14,861	17,145	13,148	13,599	17,849	35,423
Ecuador	0	0	0	0	0	289	3,241	8,939	9,281
Thailand	6,113	3,586	2,851	4,270	5,977	6,782	4,000	6,179	5,299
El Salvador	0	0	0	0	0	158	1,448	3,624	4,598
Dominican Republic	56,549	85,108	71,332	55,566	38,606	23,396	7,488	9,106	1,106
Panama	0	0	0	0	57	298	92	5,627	564
Guatemala	11	0	20	850	680	748	1,202	877	333
Philippines	1,123	2	0	101	50	8	84	101	267
Other countries	1,675	2,104	546	461	1,646	454	1,252	365	175
World	222,318	254,570	255,957	274,557	284,740	294,609	278,775	305,098	455,849

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

Table 25-- U.S. imports of pineapple juice, 1989-97

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
					Thousand single-strength gallons				
Philippines	37,582	31,491	42,784	41,461	37,689	36,795	43,716	36,805	37,672
Thailand	29,147	35,636	31,537	35,363	41,768	27,121	30,439	31,130	23,045
Indonesia	440	710	708	288	871	3,423	3,951	6,771	8,888
Costa Rica	221	2,068	3,141	1,973	2,859	1,874	1,780	1,704	2,916
Dominican Republic	152	722	3,910	1,230	1,437	729	141	2,358	1,105
Mexico	372	3,203	2,753	1,230	220	94	523	640	732
Honduras	961	890	1,066	1,142	984	112	48	970	472
Japan	1,245	7,249	3,691	3,417	2,536	2,500	3,529	2,299	380
South Africa	0	0	0	209	327	372	315	475	310
Kenya	1,050	79	0	0	110	0	0	0	279
Other countries	2,827	7,327	3,338	1,580	200	193	573	691	284
World	73,997	89,374	92,929	87,895	89,001	73,213	85,016	83,843	76,080

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

Table 26--U.S. imports of canned pineapple, 1989-97

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
					1,000 pounds				
Philippines	255,736	203,464	258,597	282,596	283,216	284,619	274,709	276,574	277,709
Thailand	305,840	286,494	270,076	384,948	379,245	339,949	219,508	172,067	167,347
Indonesia	33,717	26,896	30,063	36,299	42,093	53,819	61,580	120,862	145,840
Malaysia	16,183	11,315	8,043	5,047	5,533	11,741	18,340	18,044	20,915
South Africa	0	0	0	10	1,347	4,016	12,509	14,228	18,642
Vietnam	0	0	0	0	0	0	354	5,479	7,859
Mexico	13,829	12,406	12,339	13,065	8,244	4,965	3,942	5,769	7,406
Singapore	12,229	8,132	4,316	5,466	6,777	5,200	2,050	3,777	6,247
China	1,846	243	1,265	2,027	974	666	1,051	3,907	5,011
Kenya	0	0	0	0	0	0	362	2,383	2,534
Other countries	27,354	70,679	59,231	32,080	34,536	35,164	60,574	36,751	1,695
World	666,734	619,629	643,930	761,538	761,965	740,139	654,977	659,840	661,204

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

U.S. Citrus Crop Up Again in 1997/98

The 1997/98 citrus crop increased 5 percent over the previous year, mostly because of a record orange crop (table 27). Most of the increase can be attributed to the increase in orange production in Florida and California.

California citrus production increased 13 percent in 1997/98 despite poor weather conditions and an estimated $7 million loss in the State's citrus crop. The larger lemon crop lowered retail prices from August to July, down less than 1 percent from last year, to an average of $1.18 a pound. The lemons were reported to be of good quality this year. Exports declined 8 percent from August through May to about 106 million short tons. Shipments decreased to the two major markets—Japan and Canada.

Florida's citrus production increased 3 percent. This year's record orange crop was solely responsible for the higher overall production. Grapefruit and tangerine production both declined from the year before. This past wet winter in Florida reduced the quality of the early tangerines, and made them unmarketable. Based on estimates from the Florida Agricultural Statistics Service, utilized production of the early varieties, Robinson, Fallglo, Sunburst, and Dancy, declined 29 percent, while production of Honey tangerines, a later variety, rose 14 percent. Lime production continues to grow in Florida. In 1997/98, lime production increased 38 percent, to 19,000 short tons.

Arizona's citrus production declined less than 1 percent in 1997/98 from a year ago. The size of the lemon and orange crops remained unchanged. Texas' overall citrus production fell because of a smaller grapefruit crop than the previous year. The orange crop, however, increased again in 1997/98. Drought conditions throughout Texas for most of 1998 has strained irrigation supplies, which could have an adverse effect on the State's 1998/99 crop.

Table 27--U.S. citrus fruit: Utilized production by crop and State, 1994/95-1997/98 1/

Crop and State	1994/95	1995/96	1996/97	1997/98	1994/95	1995/96	1996/97	1997/98
	-- 1,000 boxes 2/ --				-- 1,000 short tons --			
All oranges	263,605	263,890	292,620	320,530	11,432	11,427	12,677	13,858
Arizona	1,050	1,650	1,000	1,000	39	63	38	38
California	56,000	58,000	64,000	74,000	2,101	2,176	2,400	2,775
Florida	205,500	203,300	226,200	244,000	9,248	9,149	10,179	10,980
Texas	1,055	940	1,420	1,530	44	39	60	65
All grapefruit	71,050	66,200	70,200	64,100	2,912	2,718	2,888	2,626
Arizona	1,400	1,200	900	800	47	40	30	27
California	9,300	8,100	8,200	9,000	312	271	275	302
Florida	55,700	52,350	55,800	49,500	2,367	2,225	2,371	2,105
Texas	4,650	4,550	5,300	4,800	186	182	212	192
All lemons	23,600	26,100	22,600	24,600	897	992	859	935
Arizona	3,600	5,100	2,600	2,600	137	194	99	99
California	20,000	21,000	20,000	22,000	760	798	760	836
Limes:								
Florida	230	300	320	440	10	13	14	19
Tangelos:								
Florida	3,150	2,450	3,950	2,850	142	110	178	128
All tangerines	6,700	8,100	9,450	8,200	287	349	418	360
Arizona	650	1,000	550	500	25	38	21	23
California	2,500	2,600	2,600	2,400	94	98	98	90
Florida	3,550	4,500	6,300	5,200	168	213	299	247
Temples:								
Florida	2,550	2,150	2,400	2,250	114	97	108	101
K-early citrus:								
Florida	120	160	150	40	5	7	7	2
U.S. total citrus	--	--	--	--	15,799	15,713	17,149	18,029

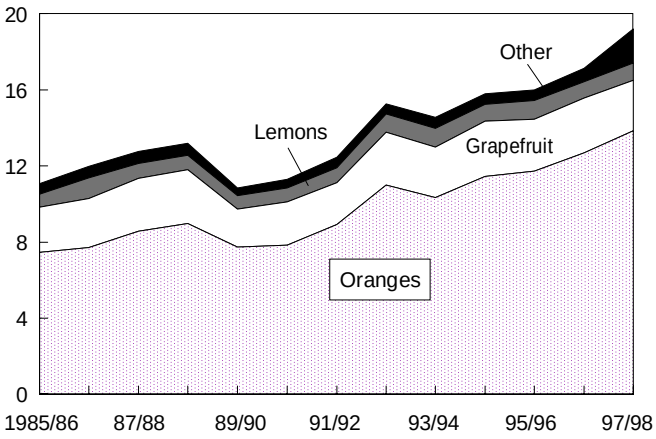
-- = Not applicable.

1/ The crop year begins with bloom of the first year shown and ends with harvest.

2/ Net pounds per box: oranges-California and Arizona-75; Florida-90; Texas-85; grapefruit-California and Arizona-67; Florida-85; Texas-80; lemons-76; limes-88; tangerines-California and Arizona-75; Florida-95; tangelos, Temples, and K-early-90.

Source: National Agricultural Statistics Service, USDA.

Figure 17
U.S. Citrus Utilized Production



Source: National Agricultural Statistics Service, USDA.

Orange Crop Forecast To Set Record for Second Consecutive Year

The U.S. orange crop is estimated at 13.9 million tons in 1997/98, surpassing last year's record production by 9 percent (table 28). Production increased in all the major producing States. Florida's crop, which accounts for 79 percent of all orange production in 1997/98, is up 8 percent. California's crop, the second largest in the United States, is up 16 percent. While navel production still accounts for almost 60 percent of California's orange production, the Valencia orange crop is growing rapidly. Arizona's production remained unchanged this year at 38,000 tons. Fresh-market orange grower prices in California averaged $8.49 per 75-lb. box from November 1997 through June 1998, down 1 percent from the previous year and almost level with 2 years ago.

The fruit of this year's navel crop was reported to be large and of good quality. Harvest was mostly complete by May. Valencia oranges were said to be of good to excellent quality; the high quality was reflected in increased grower prices over last year. About a third of California's Valencia orange crop was harvested by June, compared with half the crop harvested at this time last year. Industry sources in California are expecting a smaller orange crop in 1998/99. This year's weather is producing smaller navel oranges that are about 2 weeks to a month behind schedule.

Retail prices for navel oranges from November through May fell 6 percent from the same time last year. The continued large production of navels appears to be contributing to its price decline over the last couple of years. Valencia orange retail prices this June, however, were the highest in 6 years. Despite the large crop size, the high quality of the fruit and the somewhat smaller crop of other summer fruit contributed to the higher price.

The international market for fresh oranges is up 4 percent from November through May 1997/98, with big jumps in shipments to Hong Kong and Taiwan. Shipments, however, fell to Japan and Canada, primarily due to stiffening competition from Argentine and South African oranges in these markets.

Table 28-- U.S. oranges: Supply and utilization, 1985/86-1997/98

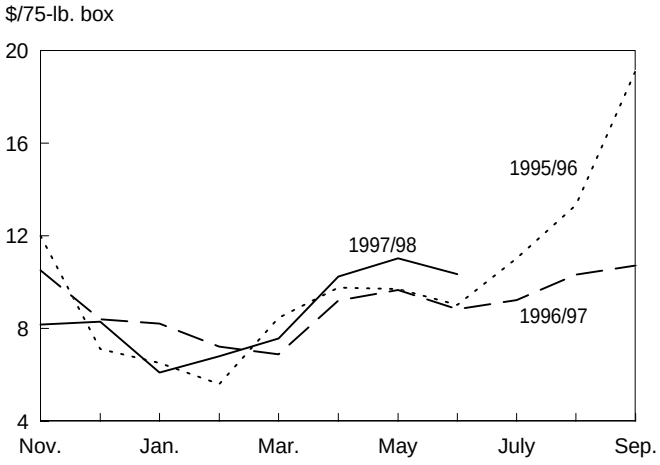
Season 1/	Supply		Utilization		
	Production	Fresh imports	Processed	Fresh exports	Fresh consumption
	-- 1,000 short tons --				
1985/86	7,618	31	5,456	568	1,625
1986/87	7,889	22	5,731	584	1,596
1987/88	8,712	25	6,569	465	1,703
1988/89	9,117	9	7,062	559	1,505
1989/90	7,873	13	5,763	576	1,547
1990/91	7,961	69	6,704	257	1,068
1991/92	9,015	17	6,837	546	1,649
1992/93	11,105	11	8,664	613	1,839
1993/94	10,329	18	8,075	604	1,668
1994/95	11,432	20	9,241	635	1,576
1995/96	11,427	25	9,228	560	1,664
1996/97	12,677	33	9,888	662	2,160
1997/98f	13,858	33	11,086	661	2,143

f=forecast.

1/ Marketing season begins in November of the first year shown. Includes Temples before 1993/94.

Source: Economic Research Service and Foreign Agricultural Service, USDA.

Figure 18
Fresh-Market Orange Prices in California



Equivalent on-tree prices received by growers.
Source: National Agricultural Statistics Service, USDA.

Orange Juice Supplies and Stocks Continue To Grow

Despite extreme weather conditions, Florida produced another record orange crop in 1997/98. This past winter was generally colder, wetter, and windier than usual, and the summer set records for heat and dryness. Production, however, is estimated at 11 million tons, 8 percent above a year ago. Florida's early-midseason varieties totaled 6.3 million tons, 4 percent over last year. Harvesting of these varieties was complete by the end of March. Valencia production increased 13 percent over the previous year for a total of 4.7 million tons.

Along with record fruit production, juice yield was estimated to be 1.58 gallons per box, up slightly from last year. The increased production and yields raised orange juice production estimates to 1.543 billion single-strength gallons, 6 percent above last year and the fourth year of production increases (table 29). While orange juice consumption is projected to increase 3 percent this year to 1.525 billion single-strength gallons, it is not growing at a fast enough rate to keep up with production. As a result, ending stocks are expected to reach a record 485 million gallons, 24 percent over last year's already high quantity.

The large juice stocks at the beginning of the season, along with the large crop in 1997/98, lowered prices growers received early in the season (table 30). Prices began to turn around, however, once the Valencia crop began to be harvested. Several factors are said to contribute to the improved prices received for Valencias. Demand for Valencia oranges was high because they were needed for blending with the early-midseason oranges to improve the color of this year's juice production. Also, in March, information about a reduced orange crop in Brazil for the coming year was reported, increasing the value of this year's juice production which can be stored to meet declining production next year should these lower estimates hold. The value of the Valencia oranges may also have been boosted because it is important

Table 29--United States: Orange juice supply and utilization, 1986/87-1997/98

Season 1/	Beginning stocks	Production	Imports	Exports	Domestic consumption	Ending stocks 2/
			Million SSE gallons 3/			
1986/87	204	781	557	73	1,267	201
1987/88	201	907	416	90	1,223	212
1988/89	212	970	383	73	1,258	233
1989/90	233	652	492	90	1,062	225
1990/91	225	876	327	96	1,174	158
1991/92	158	930	286	108	1,097	170
1992/93	170	1,207	326	114	1,339	249
1993/94	249	1,133	403	106	1,319	360
1994/95	360	1,257	198	117	1,415	283
1995/96	283	1,245	261	129	1,362	298
1996/97	298	1,458	257	147	1,476	390
1997/98 f	390	1,543	239	162	1,525	485

f=forecast.

1/ Season begins in December of the first year shown.

2/ Data may not add due to rounding. Beginning with 1994/95 ending stocks, stock data includes chilled as well as canned and frozen concentrate juice.

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

Source: Economic Research Service and Foreign Agricultural Service, USDA.

Table 30--Monthly prices for processed oranges and frozen concentrated orange juice, 1995/96-1997/98

Month	Processed orange 1/			Near-term futures contract 2/			Retail frozen concentrate 3/		
	1995/96	1996/97	1997/98	1995/96	1996/97	1997/98	1995/96	1996/97	1997/98
	-- $ per 90-lb box --			-- $ per pound solids --			-- $ per 16 fl. oz. of product --		
Dec.	3.73	3.56	1.95	1.24	0.89	0.84	1.57	1.74	1.67
Jan.	4.00	3.63	2.45	1.18	0.82	0.91	1.58	1.74	1.60
Feb.	4.19	3.58	3.34	1.24	0.80	0.98	1.63	1.77	1.57
Mar.	5.43	3.75	4.65	1.33	0.84	1.06	1.61	1.75	1.59
Apr.	5.72	4.45	5.65	1.32	0.75	0.97	1.66	1.73	1.63
May	6.02	4.45	5.40	1.23	0.79	1.10	1.70	1.74	1.59
June	6.32	4.45	5.90	1.22	0.75	1.04	1.74	1.75	1.63
July	--	--	--	1.16	0.75	1.03	1.77	1.77	1.66
Aug.	--	--		1.17	0.72		1.77	1.76	
Sep.	--	--		1.10	0.70		1.73	1.70	
Oct.	--	0.45		1.12	0.66		1.76	1.71	
Nov.	3.04	1.50		1.02	0.78		1.75	1.67	
Simple Average	4.27	3.31	4.19	1.19	0.77	0.99	1.69	1.73	1.62

-- = Not applicable.

1/ Equivalent on-tree price received by growers, Florida. One box contained 6.52 pounds of orange juice solids in 1993/94, 6.22 in 1994/95, and 6.33 in 1995/96.

2/ Average of Friday closing prices. 3/ 16 fluid ounces of 42 degrees Brix product contain 0.52 pounds of orange juice solids.

Sources: National Agricultural Statistics Service, USDA; New York Cotton Exchange; Bureau of Labor Statistics, U.S. Department of Labor.

in the making of not-from-concentrate (NFC) orange juice. Since frozen concentrated orange juice (FCOJ) cannot be used in blending NFC, Valencia oranges are needed to get the desired color.

Near-term futures prices improved this year over last year's very low prices. Once again, the announcement of lower Brazilian production in 1998/99 pushed up futures prices as processors expect next year's world orange juice supplies to be lower than the past 2 years. Unlike growers' prices and futures prices, retail prices have been down this year, ranging from $1.568 to $1.670 for a 16-ounce can of frozen concentrated orange juice (FCOJ). Monthly retail prices were declining at the beginning of the marketing year, reflecting the lower prices received by growers during this period. Retail prices for FCOJ, however, do not measure the price consumers pay for NFC orange juice, which has been growing in popularity. According to the industry, as of July processors packed about 13 percent more NFC this year compared with last year. Increased demand for NFC is said to be a result of aggressive marketing by the major producers, and increased consumer demand for ready-to-consume products.

Orange juice exports from December 1997 to May 1998 have been down 21 percent from the previous year, but up 11 percent from 2 years ago. While sales were up to Canada, the largest market for U.S. orange juice, they were down to Europe.

USDA forecasts Brazil's FCOJ production in 1998 to be down 33 percent from 1997 and exports to fall 16 percent (table 31). Because of the large stocks coming into this year, exports are not expected to fall as much as production. Almost all of Brazil's orange juice is produced for export. Unfavorable weather during the bloom and fruit set of early variety oranges, poor grove management due to low orange juice prices, tree eradication, the alternate-bearing nature of the trees, and disease problems all contributed to the lower estimate for this year's crop. If these estimates hold, Brazil's orange juice production will fall below Florida's for the first time in many years. Tighter world supplies should push up the world orange juice price during the coming marketing year.

Table 31--Brazilian FCOJ production and utilization, 1990-1998

Season 1/	Beginning stocks	Production	Domestic consumption	Exports	Ending stocks
	Million SSE gallons 2/				
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	242	1,620	24	1,660	177
1997	177	1,950	22	1,753	351
1998f	351	1,300	22	1,469	160

f=forecast

1/ Season begins in July of year shown.

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

Source: Foreign Agricultural Service, USDA.

Grapefruit Crop Down in 1997/98

Grapefruit production fell 9 percent in 1997/98 to 2.6 million short tons, the lowest since 1991/92 (table 32). Production is up in California but down in Florida, Texas, and Arizona. California's grapefruit crop was up 10 percent from a year ago, but Florida's crop, which accounts for 80 percent of domestic production, was down 11 percent. Poor growing and harvesting conditions, reduced grove management, and a lack of demand contributed to Florida's shorter crop.

Grower prices for fresh grapefruit continued to decline in 1997/98 as they have over the last several years (table 33). Growers received an average of $3.78 per 85-lb. box, ranging from $5.15 at the beginning of the season to $3.10 at the end of the season. Lower prices were a result of continued declining domestic and export demand for grapefruit and reduced fruit quality this year.

Fresh grapefruit consumption in 1997/98 is expected to decline about 2 percent from a year ago, but will be the second highest of the decade. Lower exports in 1997/98 increased the amount of grapefruit available for the domestic market. Retail prices in 1997/98 were about 4 percent below the previous year, even though the crop was smaller. With the ample supply of grapefruit available for fresh consumption and lackluster demand, retailers may have had

Table 32--U.S. grapefruit: Supply and utilization, 1985/86-1997/98

Season 1/	Supply		Utilization		
	Production	Fresh imports	Processed	Fresh exports	Fresh consumption
	-- 1,000 short tons --				
1985/86	2,352	3	1,264	353	738
1986/87	2,586	2	1,386	436	766
1987/88	2,801	6	1,469	523	815
1988/89	2,844	4	1,449	587	812
1989/90	1,978	5	1,096	337	550
1990/91	2,256	8	1,015	513	736
1991/92	2,224	12	975	506	755
1992/93	2,791	14	1,518	486	801
1993/94	2,661	16	1,377	506	794
1994/95	2,912	14	1,597	536	793
1995/96	2,718	17	1,413	551	766
1996/97	2,888	14	1,539	529	834
1997/98f	2,626	17	1,339	485	819

F=forecast

1/ Marketing season begins in September of the first year shown.

Source: Economic Research Service and Foreign Agricultural Service, USDA.

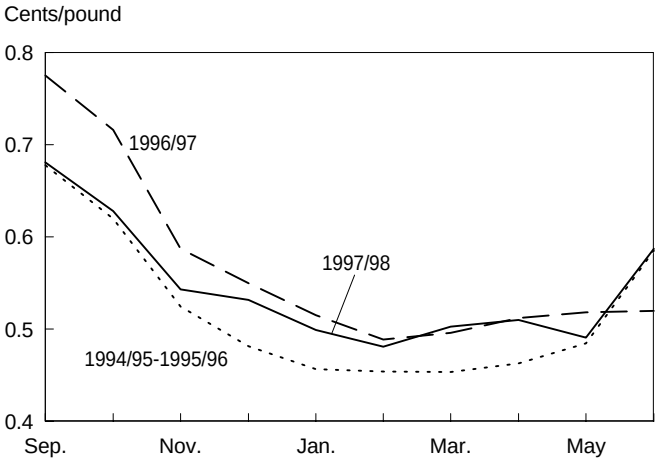
Table 33--Grapefruit: Average monthly equivalent on-tree prices received by growers, Florida, 1994/95-1997/98

Month	Fresh grapefruit				Processing grapefruit				All grapefruit			
	1994/95	1995/96	1996/97	1997/98	1994/95	1995/96	1996/97	1997/98	1994/95	1995/96	1996/97	1997/98
	-- Dollars per 85-lb box --											
Sep.	8.25	--	--	--	-1.15	--	--	--	7.00	--	--	--
Oct.	6.36	6.54	7.06	5.15	-0.54	-0.20	-2.15	-2.34	4.39	5.04	5.13	4.39
Nov.	3.20	3.70	4.57	3.58	0.12	-0.32	-1.81	-1.83	2.07	2.41	2.58	2.16
Dec.	2.91	2.72	3.72	4.33	0.47	0.44	-1.63	-1.86	1.77	1.71	1.55	2.26
Jan.	3.85	3.35	4.13	3.77	0.85	0.62	-1.09	-1.77	2.12	1.91	1.72	1.39
Feb.	4.10	3.72	3.69	3.76	1.12	0.82	-0.74	-1.13	2.02	1.89	1.24	0.82
Mar.	3.67	3.75	4.30	3.16	1.08	0.88	-0.37	-0.90	1.77	1.76	0.83	0.34
Apr.	2.90	4.98	3.61	3.42	0.53	0.78	-0.73	-1.03	1.32	2.27	0.49	0.37
May	2.35	4.48	2.25	3.10	0.03	0.39	-1.18	-1.05	1.05	2.43	-0.17	0.28
June	--	--	2.46	--	--	--	-1.75	--	--	--	0.60	--

-- = Insufficient marketing to establish price.

Source: National Agricultural Statistics Service, USDA.

Figure 19
U.S. Average Retail Prices for Grapefruit



Source: Bureau of Labor and Statistics.

incentive to bring prices more in line with previous years, after keeping them high despite the large crop last year.

The poor quality of the grapefruit this year reduced demand overseas. Grapefruit exports are off about 18 percent this year from September through May. Shipments are down to Japan and Canada, but are up to France. Shipments to smaller markets, however, such as Taiwan, the United Kingdom, and Germany grew.

An estimated 1.3 million tons of grapefruit went into processing this year, 13 percent below last year. Grapefruit juice yields were down 2 percent this year, at 1.18 gallons per box (40-degree Brix). The smaller quantity of juice that went into processing and the lower yields should help draw-down inventories. Florida processors packed 24 million 40-degree Brix gallons of concentrated grapefruit juice in 1997/98, down 19 percent from last year. Stocks as of the end of July were 11 percent lower than last year, mostly because less fruit went to processing. White concentrated grapefruit juice accounted for 58 percent of stocks at the end of July compared with 70 percent last year. Red grapefruit juice stocks accounted for the remaining 42 percent. Packs of not-from-concentrate (NFC) grapefruit juice declined 2 percent in 1997/98 because of high stocks coming into this marketing year. Sales of NFC grapefruit juice, however, were said to be doing well this year.

High juice stocks at the beginning of the season and continued low demand for grapefruit juice continued to put downward pressure on grower prices in Florida for processing grapefruit. The on-tree equivalent price received by growers for processing grapefruit fell 17 percent in 1997/98, after an even larger decline the previous year. Growers received an average of minus $1.49 per box. The negative value reflects the final amount the growers fell short of in their expenses to produce, pick, and haul the grapefruit to the processor. Faced with low prices, growers continued to harvest and sell their crop as a way of minimizing their losses until prices went low enough that they abandon the crop. Industry sources estimate that up to 9 million boxes (about 382,500 short tons) of grapefruit were abandoned for economic reasons during 1997/98.

Florida's weather in late 1997 and throughout 1998 may affect the State's grapefruit crop more than its orange crop. Excessive dampness during the winter followed by drought conditions and unusually high temperatures in the summer could potentially stress many of the grapefruit trees. Grapefruit growers have been cutting back on grove maintenance these past few years due to the low prices they have been receiving for their crop. While orange trees are expected to recover quickly from any weather-related stress conditions because they have continued to be well maintained, the grapefruit crop in 1998/99 can be expected to be lower than this year as these trees will probably recover much more slowly.

U.S. Tree Nut Production Expected Lower in 1998

Cool rainy weather this spring in California and Oregon delayed development and disrupted bloom of tree nut crops. Crop development in California is generally at least 1 to 2 weeks behind normal, but rapidly advancing with hot weather. Rapid increases in temperatures during the spring-summer development period can be detrimental to the yield and quality of tree nuts.

Production of almond, walnut, and pistachio crops in California, hazelnuts in the Pacific Northwest, and U.S. pecans will be significantly lower this season due to "off-year production" of nut trees and weather-related problems. Production of tree nut crops last year was at record or near-record levels and this season will be the "off-year" in the production cycle. Although bearing acreage of tree nuts continues to rise, less-than-ideal bloom conditions this spring have accentuated reductions in yields. Pecan production last year was also very high, but this year southwestern and southeastern pecan orchards have experienced variable conditions, and crop sets appear to be much lighter than normal.

Almond Supply Falls

California expects 540 million pounds of almonds, shelled basis, to be harvested this year, 29 percent lower than last season's record crop of 757 million pounds. Although the July forecast was 2 percent lower than the May forecast, production is expected to be 6 percent higher than the 1996 crop of 510 million pounds. The crop has a bearing acreage of 425,000 acres, compared with 410,000 acres last year, and 405,000 acres in 1996. The crop is 1 to 2 weeks later than normal because cool spring temperatures and intermittent rains delayed development. Yields are highly variable by region, with light nut sets on some trees and heavy nut sets on other trees. There has been some concern about rapid development of temperatures and some high heat conditions which could affect nut droppage and nut meat development.

Production of Nonpareil, the major almond variety, represents 48 percent of total production. The average nut set for all varieties is 5,314 almonds per tree, down 30 percent from 1997. The Nonpareil nut set is 5,129, a 34-percent decrease from last year. The average kernel weight for all varieties, at 1.76 grams, is up 11 percent from last year. The percent of sound nuts is 95.8, indicating good overall quality. However, there has been concern about shrivels, blanks, and other kernel malformations associated with uneven set. The most common nonstandard grade observed in the field has been doubles.

Stocks at the end of the 1997/98 marketing year (June 30) totaled 111 million pounds, higher than the two previous seasons, but near average levels (table 34). Domestic almond demand increased last season to 160 million pounds or .60 pound per capita. The season-average grower price fell to $1.55 per pound, but grower cash receipts totaled a record $1.13 billion. Grower cash receipts for the 1998/99 season could again surpass $1.0 billion.

The strong domestic demand situation and record exports during the 1997/98 season resulted in normal carry-over stocks for the current season. Total supply (beginning stocks plus the 1998 production) should provide an adequate almond availability to meet domestic and export markets during the 1998/99 marketing year.

Walnut Production Off

California walnut production is forecast at 255,000 tons, in-shell basis, 5 percent lower than the 1997 record crop of 269,000 tons, but well above 1996. Bearing acreage in 1998 is estimated at 177,200 acres, unchanged from 1997 and 1,200 acres larger than in 1996. The production decrease is mainly due to average yields expected for the mid-season, and late varieties, which also have moderate blight conditions. Of the late varieties, Hartley, which accounts for 27 percent of the acreage, appears to have an average set. Seven to 10 days of rains in early May hit the late varieties and disrupted the bloom. The Chandler variety was hit by rain at peak bloom and is expecting only average yields. For all varieties, the crops in the southern areas of the Central Valley appear best. An updated production forecast by the California Agricultural Statistics Service, based upon the objective measurement survey, will be available on September 4, 1998.

Total supply for the 1998/99 marketing year is expected to be slightly lower than last season. Although production this season is lower, beginning stocks are above a year ago. In-shell shipments August 1, 1997-June 30, 1998, totaled 115.6 million pounds, down 17 percent from a year earlier. Shelled shipments totaled 137.3 million pounds through June 30, 1998, compared with 121.9 million pounds the previous year. Total domestic shipments through June 30 exceeded 138,000 tons (in-shell equivalent), up 12 percent from last season, while export shipments totaled more than 86,000 tons, down 8 percent. In-shell shipments to the major European markets such as Germany, Italy, Spain, and the Netherlands were lower. However, in-shell shipments to the Middle East increased significantly. Shelled shipments to most markets were much higher and partially offset the smaller in-shell shipments. Domestic demand for U.S. wal-

nuts, including Canada, were also lower for in-shell product, but higher for shelled product.

The grower price averaged $1,310 per ton, in-shell basis, during the 1997/98 season, compared with $1,570 the previous year, and $1,400 per ton received by growers in 1995/96. Walnut prices for the 1998/99 crop marketing year should improve as both walnut and pecan supplies will be lower.

Smaller Hazelnut Output Expected

The Oregon hazelnut crop this year is expected to be much smaller than in 1997. Last year's record crop yield was much higher than average due to excellent bloom and crop development conditions. Bearing acres continue to increase. Based upon the objective measurement survey released by the Oregon Agricultural Statistics Service on August 25, 1998, production in Oregon is forecast at 16,450 tons, in-shell basis, down 65 percent from 1997, due to the alternate-bearing nature of this tree nut (a light crop will typically follow if a heavy crop was produced the previous year) and weather-related problems this season. Minor problems with brown-stain have been reported.

The 1997 U.S. hazelnut crop was an "on-year" with a record harvest of 47,000 tons, in-shell basis, compared with the small crop of 18,500 tons in 1996 and a large crop of 39,000 tons produced in 1995. Nearly all of the hazelnut production occurs in Oregon (Washington has minor production). The grower price for the 1997/98 marketing year averaged $899 per ton. Although the 1997/98 crop supply was much higher, international supplies were lower and good prices prevailed because of strong domestic and export demand for U.S. hazelnuts. In contrast, a small crop supply was harvested during the 1996/97 season, but quality problems caused the grower price to average $859 per ton. Carryover stocks for the 1998/99 marketing year that began July 1 were higher than normal and will help to offset the small new crop supply. Prices are expected to continue very strong. Hazelnuts may face more competition in international markets as production in Turkey may rebound this year, but this may be offset by somewhat smaller expected crops in some Mediterranean countries.

Pecan Crop Prospects Lower

Most pecan producing States expect production to fall sharply this year. Early industry estimates place the crop at about 180 million pounds, in-shell basis. The first official forecast will be issued by USDA on September 11, 1998. Last year, production totaled 338 million pounds (in-shell basis), compared with a small crop of 222 million in 1996, and an average crop of 268 million pounds in 1995. The pecan crops this year are down substantially in most States. For example, industry estimates of crop yields are sharply lower this season in the major States of Georgia, New Mexico, Oklahoma, Texas, and Arizona. Continued drought conditions in many areas of the pecan belt is increasing nut drop and reducing nut size. Also, native trees that had excellent crops last year will have substantially lower yields this season. Cool weather persisted in the pecan belt until June and July when higher temperatures prevailed. The drier weather and low humidity helped to control pecan scab and insect problems, but the lack of rainfall will stress trees, especially the non-irrigated groves.

The U.S. grower price for all pecans last season averaged 77.1 cents per pound, in-shell basis, compared with 63.7 for the 1996 crop and $1.01 per pound in 1995. The price was below average in 1996 due to considerable quality problems, especially in Texas and Oklahoma where drought and heat caused nut kernels to shrivel and darken in color. Beginning stocks for the 1998/99 season (July 1), at about 99 million pounds, are well above a year ago, and will partially offset the small crop expected this year.

Pecan exports and imports are holding steady, but in the 1990s growth of imports outpaced exports, resulting in the United States being a net importer of pecans. Nearly all pecan imports are from Mexico, and the quantity imported varies from year to year depending on the U.S. supply situation. Typically, imports account for 10 to 20 percent of total pecan supply. Trade sources report that Mexico exported about 45 million pounds, in-shell basis, to the United States last season, and the estimate this season is for exports of about 36 million pounds. The industry reports that Mexico could add substantially to the supply in years to come. In 1997, estimates are that Mexico had 43,550 planted hectares (107,570 acres) of irrigated pecans in various stages of maturity. Mexico's production in 1996/97 is estimated at 44,600 metric tons, in-shell basis, compared with 41,569 tons in 1995/96 and 31,750 in 1994/95, according to figures provided by the International Tree Nut Council. Statistics are not available, but trade sources indicate that Mexico's production increased substantially in 1997/98 and the forecast for the 1998/99 crop is lower, at 60,000 metric tons. Mexico may eventually produce as many pecans as Georgia and Texas combined or approximately two-thirds of total U.S. production.

Pistachio Industry Expects Smaller Crop

This season will be an "off-year" for California pistachios, where a much smaller crop is expected than the record of 180 million pounds harvested in 1997. Indications are that a much lighter yield will be realized, but this will be slightly offset by more acreage. Also, there is a higher carry-over inventory of pistachios from last season which will help to boost the small crop supply. Trade sources indicate that the 1998 crop will be down significantly from last year, but output could be 140-150 million pounds. The official USDA production forecast for California pistachios this season and results of the objective measurement survey will be released on September 4, 1998, by the California Agricultural Statistics Service, showing nut set and other yield factors.

The first USDA production estimate will be available in January 1999.

Pistachios, like walnuts, bloom later than many other fruit and nut crops and appear to have done reasonably well during the spring bloom. Pistachios, however, are more alternate-bearing than walnuts, and more similar biologically to almonds, bearing heavy one year and then bearing lighter the next. In 1997, California pistachio yield per bearing acre increased sharply to a record 2,750 pounds, which resulted in the record harvest of 180 million pounds, in-shell basis. This compares with pistachio production of 105 million pounds in 1996 and 148 million pounds in 1995. Bearing acreage was 65,400 in 1997, compared with 64,300 in 1996, and 60,300 acres in 1995. Bearing acres should be higher in 1998 as acreage continues to trend upward.

The grower price last season averaged $1.13 per pound, in-shell basis. This compares with $1.16 cents per pound in 1996 and $1.09 in 1995. The in-shell pistachio inventory was 33.4 million pounds on June 30, 1998, compared with 22.8 million pounds on June 30, 1997. Shelling stock this June stood at 7.0 million pounds compared with 2.0 million a year ago. Domestic in-shell shipments totaled 64.4 million pounds (September 1-June 30) this year compared with 51.4 million a year earlier.

The export in-shell shipments for the same period during the 1997/98 season, at 58.1 million pounds, were also higher compared with 1996/97 at 27.2 million pounds. Major export markets include Eastern Europe, Australia, Hong Kong, Korea, Japan, Switzerland, and Canada. Shipments to domestic and international markets during the 1998/99 marketing season will decline significantly due to the smaller supply. Demand will be very strong, and prices are expected to rise. Iran experienced a freeze during the bloom period last year, and production was well below normal for 1997/98. This allowed the United States to export a higher volume than would have been normally realized. However, this season, Iran's production will likely increase substantially and their share in international markets will rise proportionally.

Record Macadamia Nut Crop

Although the 1997 acreage of Hawaii's macadamia nuts continued unchanged, production increased to a record 58 million pounds, in-shell basis. Output of macadamia nuts continues to trend upward primarily due to increasing numbers of bearing trees. However, in 1997, bearing acreage remained unchanged at 19,200, compared with 19,300 acres in 1995. Acreage and production are expected to trend gradually upward. Grower prices decreased last year, with 1997 prices averaging 75 cents per pound compared with 78 cents in 1996 and 74 cents in 1995.

Table 34--Tree nuts: Supply, utilization and grower prices, by commodity and marketing year, 1993/94-1997/98

Commodity	Marketing year 1/	Beginning stocks	Marketable production 2/	Imports	Total supply	Exports	Ending stocks	Domestic consumption		Grower price
								Total	Per capita	
		--Million pounds (shelled)--							Pounds	$/lb.
Almonds 3/	1993/94	131.1	470.1	0.3	601.5	336.8	102.6	162.0	0.6	1.94
	1994/95	102.6	713.1	0.4	816.1	448.5	204.8	162.8	0.6	1.34
	1995/96	204.8	350.3	0.7	555.8	335.8	92.8	127.2	0.5	2.48
	1996/97	92.8	489.3	0.7	582.8	396.6	48.3	137.9	0.5	2.08
	1997/98 P	48.3	722.5	0.5	771.3	500.3	111.0	160.0	0.6	1.55
Hazelnuts 4/	1993/94	3.0	31.0	7.8	41.8	14.4	1.7	25.7	0.1	0.80
	1994/95	1.7	15.8	12.3	29.8	10.4	0.4	18.9	0.1	1.04
	1995/96	0.4	29.6	11.3	41.3	13.5	4.2	23.6	0.1	1.14
	1996/97	4.2	13.9	8.5	26.6	14.2	0.3	12.1	0.0	1.07
	1997/98 P	0.3	33.0	9.5	42.8	15.0	4.0	23.8	0.1	1.24
Pecans	1993/94	48.2	156.9	23.9	229.0	15.2	76.7	137.1	0.5	1.36
	1994/95	76.7	86.2	32.6	195.6	13.5	55.0	127.1	0.5	2.40
	1995/96	55.0	122.4	27.2	204.6	16.0	85.9	102.7	0.4	2.35
	1996/97	85.9	99.0	28.4	213.3	15.9	59.7	137.7	0.5	1.43
	1997/98 P	59.7	149.1	28.4	237.2	15.9	98.5	122.8	0.5	1.75
Walnuts 5/	1993/94	37.2	216.1	0.8	254.1	83.3	73.0	97.7	0.4	1.67
	1994/95	73.0	199.9	0.8	273.7	99.6	56.9	117.2	0.4	1.16
	1995/96	56.9	196.9	0.9	254.7	98.3	55.3	101.1	0.4	1.61
	1996/97	55.3	174.8	0.8	230.9	100.2	40.4	90.3	0.3	1.84
	1997/98 P	40.4	221.4	1.0	262.8	94.7	48.2	119.9	0.4	1.59
Macadamias	1993/94	na	11.2	4.1	15.3	1.4	na	13.9	0.1	2.94
	1994/95	na	12.0	4.7	16.7	1.5	na	15.2	0.1	3.02
	1995/96	na	11.5	4.7	16.2	1.4	na	14.8	0.1	3.29
	1996/97	na	12.9	4.6	17.5	1.7	na	15.8	0.1	3.42
	1997/98 P	na	13.2	4.6	17.8	1.8	na	16.0	0.1	3.30
Pistachios 6/	1993/94	17.6	61.9	0.5	80.0	21.1	25.7	33.3	0.1	2.61
	1994/95	25.7	51.3	0.7	77.7	25.3	16.8	35.6	0.1	2.31
	1995/96	16.8	59.5	0.5	76.9	19.7	13.8	43.4	0.2	2.40
	1996/97	13.8	40.4	0.4	54.6	16.5	7.7	30.4	0.1	3.01
	1997/98 P	7.7	74.9	0.4	83.0	36.2	4.6	42.2	0.2	2.72
Other nuts 7/	1993/94	na	0.0	176.7	176.7	32.4	na	144.3	0.6	--
	1994/95	na	0.0	167.5	167.5	36.5	na	131.0	0.5	--
	1995/96	na	0.0	162.4	162.4	35.0	na	127.4	0.5	--
	1996/97	na	0.0	166.8	166.8	39.9	na	126.9	0.5	--
	1997/98 P	na	0.0	170.0	170.0	42.0	na	128.0	0.5	--
Total	1993/94	237.0	947.1	214.2	1,398.3	504.6	279.7	614.0	2.4	--
	1994/95	279.7	1,078.4	219.0	1,577.1	635.3	334.0	607.9	2.3	--
	1995/96	334.0	770.2	207.8	1,312.0	519.7	252.0	540.3	2.0	--
	1996/97	252.0	830.3	210.2	1,292.5	585.0	156.4	551.1	2.1	--
	1997/98 P	156.4	1,214.1	214.4	1,584.9	705.9	266.3	612.7	2.3	--

na = Not available. -- = Does not apply. P = Preliminary.

1/ Marketing season begins July 1 for almonds, hazelnuts, macadamias, pecans, and other nuts; August 1 for walnuts; and September 1 for pistachios.

2/ Utilized production minus inedibles and noncommercial use.

3/ Stock figures from the Almond Board of California. 4/ Stock figures from the Hazelnut Marketing Board.

4/ Stock figures from the Hazelnut Marketing Board.

5/ Stock figures from the Walnut Marketing Board.

6/ Stock figures from the California Pistachio Commission.

7/ Includes Brazil nuts, cashew nuts, pine nuts, chestnuts, and mixed nuts.

Sources: Economic Research Service and National Agricultural Statistics Service (utilized production and stock data, except where noted), USDA; and Bureau of the Census, U.S. Department of Commerce (trade data).

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