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Fruit and Tree Nuts Outlook

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More Cherries and Peaches Expected This Summer

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The index of prices received by fruit and tree nut growers increased in May and June as it has each month since January. Reduced supplies of many fruit and reported good quality this spring contributed to higher prices. Retail prices were higher this May and June from a year ago for fresh grapefruit, Red Delicious apples, and strawberries. Prices were lower than a year ago for navel oranges, lemons, and Thompson seedless grapes.

The 2003 cherry crop rebounded after a disastrous crop in 2002. Both the sweet and tart cherry crops increased over the previous year. Neither, however, reached 2001 levels, when there was a record sweet cherry crop and near-record tart cherry crop.

California's almond production is forecast to reach 1 billion pounds of nuts (shelled) in 2003, second in size only to last year's record production. Grower prices can be expected to increase in 2003, as supplies may be insufficient to meet increasing domestic and international demand.

The U.S. peach crop this year is estimated to produce 2.6 billion pounds, 2 percent above last year. California's peach crop is estimated to remain unchanged from the record-large crop in 2002. Georgia's crop is forecast to be 25 percent larger than last year, but North Carolina's and South Carolina's crops are projected down.

The 2003 U.S. apricot crop is estimated at 180.8 million pounds, up only fractionally from last year but is 10 percent larger than in 2001. California's grape crop is forecast to be 6 percent smaller than a year ago but larger than any crop in previous years except in 1997 and 2000.

Large crops this season of fresh-market oranges, grapes, and almonds increased the quantity of these commodities available for export. Fresh grapes and tropical fruit constitute the bulk of fresh fruit imports into the United States during May. Imports of mangos increased this May, but bananas were down.

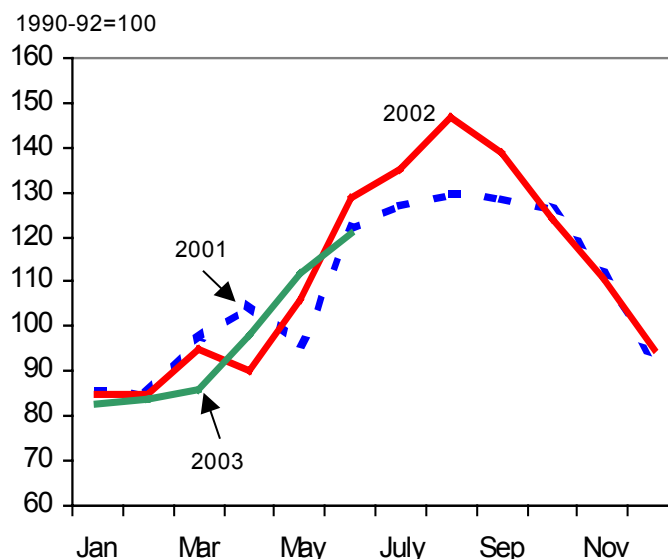
Price Outlook

Fruit and Tree Nut Prices Continue Rising, But Below the Previous 2 Years

The index of prices received by fruit and tree nut growers increased in May and June as it has each month since January (fig. 1). The index jumped 14 percent in May and another 8 percent in June. Reduced supplies and reported good quality of many fruit this spring contributed to higher prices. Despite the continual rise in prices, the June index price for 2003 is below both the prices in 2001 and 2002.

Grapefruit prices skyrocketed in May and June as harvesting moved away from Florida to the California/Arizona region (table 1). The 7-percent smaller crop out of the West in 2002/03 has helped push up prices. During May and June, mostly the Star Ruby and the Marsh Ruby grapefruit varieties were harvested. Fruit quality was reported to be excellent, another factor in the higher prices these 2 months. While the prices in May and June have helped drive up seasonal-average prices for fresh grapefruit, prior to the onset of West Coast grapefruit, prices had been very weak, below the previous few seasons. Florida growers, the major grapefruit producers in the United States, were unable to reap any of the benefits of higher prices being experienced by California and Arizona growers.

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



Source: National Agricultural Statistics Service, USDA.

While California and Arizona's grapefruit growers were experiencing higher prices, lemon producers were experiencing lower prices. The 24-percent bigger lemon crop this season had driven down prices from a season ago. While prices increased in May and June from the previous month, they are about a third lower than the same time last season. Lemon

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

Commodity	2002		2003		2002-03 Change	
	May	June	May	June	May	June
	---- Dollars per box ----				Percent	
Citrus fruit: 1/						
Grapefruit, all	1.50	5.81	5.59	11.52	272.7	98.3
Grapefruit, fresh	4.62	7.58	8.76	13.66	89.6	80.2
Lemons, all	10.69	15.68	7.11	9.86	-33.5	-37.1
Lemons, fresh	17.23	22.13	15.35	19.25	-10.9	-13.0
Oranges, all	4.47	4.00	4.57	4.49	2.2	12.3
Oranges, fresh	7.96	5.50	7.81	7.14	-1.9	29.8
Noncitrus fruit:	---- Dollars per pound ----					
Apples, fresh 2/	0.215	0.220	0.218	0.224	1.4	1.8
Grapes, fresh 2/	0.500	0.453	0.515	0.515	3.0	13.8
Peaches, fresh 2/	0.475	0.275	0.495	0.271	4.2	-1.5
Pears, fresh 2/	0.134	0.169	0.199	0.227	48.7	34.4
Strawberries, fresh	0.634	0.579	0.642	0.595	1.3	2.8

1/ Equivalent on-tree price.

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

Source: National Agricultural Statistics Service, USDA.

demand is the highest during the summer months, and monthly prices can be expected to continue to increase. However, with harvesting still very active and storage reported to be high, prices this summer will not likely reach those that growers received last season.

Table grape prices were higher this May and June than they were last year at the same time. Although California's production is forecast to be slightly larger than last season, very good quality of the fruit has boosted prices.

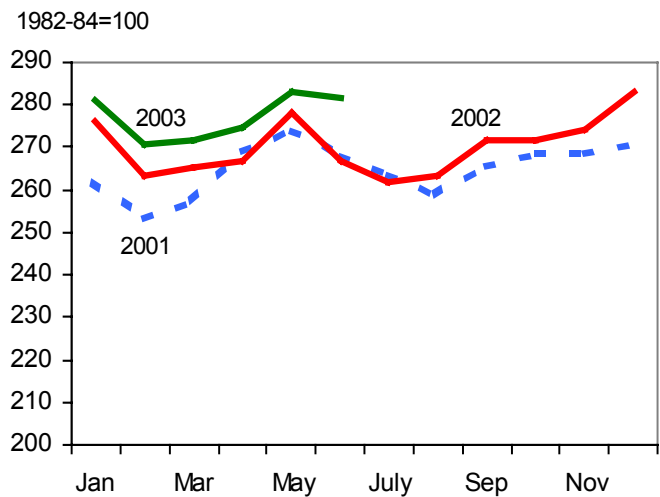
Consumer Price Index Continues High Throughout the Spring

The 2003 Consumer Price Index (CPI) for fresh fruit has been above the previous 2 years through June (fig. 2). The June CPI declined fractionally from May, however, it was 7 percent higher than last June and the highest June price in recent years. The June CPI was higher this year than last year for fresh apples, oranges, and tangerines, but slightly lower for bananas.

Retail prices were higher this May and June from a year ago for fresh grapefruit, Red Delicious apples, and strawberries (table 2). Prices were lower than a year ago for navel oranges as a result of a large crop

Figure 2

Consumer Price Index for fresh fruit



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

with many small-sized fruit this season. They were also lower for lemons and Thompson seedless grapes. In May and June there was an overlap of grape supplies between imported grapes from Mexico and Chile with those entering the market from southern California. As a result supplies were plentiful at the retail level, driving down prices from the same months a year ago. Frozen orange juice retail prices continue to decline along with consumer demand.

Table 2--U.S. monthly retail prices, selected fruit, 2002-2003

Commodity	Unit	2002		2003		2002/2003 Change	
		May	June	May	June	May	June
Fresh:							
Valencia oranges	Lb	--	0.547	--	--	--	--
Navel oranges	Lb	0.849	--	0.800	0.875	-5.8	--
Grapefruit	Lb	0.614	0.671	0.656	0.743	6.8	10.7
Lemons	Lb	1.303	1.385	1.246	1.382	-4.4	-0.2
Red Delicious apples	Lb	0.921	0.938	0.992	0.992	7.7	5.8
Bananas	Lb	0.515	0.512	0.505	0.521	-1.9	1.8
Peaches	Lb	--	1.848	--	1.726	--	--
Anjou pears	Lb	1.040	0.960	--	--	--	--
Strawberries 1/	12-oz pint	1.527	1.552	1.678	1.568	9.9	1.0
Thompson seedless grapes	Lb	2.403	1.852	2.232	1.797	-7.1	-3.0
Processed:							
Orange juice, concentrate 2/	16-fl. oz	1.824	1.890	1.727	1.822	-5.3	-3.6
Wine	liter	6.334	6.128	6.597	6.060	4.2	-1.1

-- Insufficient marketing to establish price.

1/ Dry pint.

2/ Data converted from 12 fluid ounce containers.

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

Fruit and Tree Nut Outlook

Cherry Crop Rebounds in 2003

The 2003 cherry crop rebounded after the disastrous crop in 2002. Both the sweet and tart cherry crops increased over the previous year. Neither, however, reached 2001 levels, when there was a record sweet cherry crop and near-record tart cherry crop.

The sweet cherry crop is estimated to total 422.7 million pounds (211,340 tons) this year, 17 percent larger than last year's weather-affected crop (table 3). The forecast for the 2003 crop, however, is 8 percent smaller than the one produced in 2001. While production is up, it did not reach expected output due to unfavorable weather conditions. In Washington, the biggest producer of sweet cherries, a cold spring resulted in poor pollination. Frost kept the crop size at 95,000 tons, up 10 percent from a year ago but down 10 percent from the record-large crop in 2001. The increase in production this year was mostly due to new acreage coming into production. California's crop was also affected by a cool, wet spring. The poor weather conditions delayed the beginning of the harvest by one week and brought a wide range of damage to the early crops in the State's southern growing areas, especially in Fresno County. The Fresno County Agricultural Commissioner's office reported \$7.2 million in losses to their early cherry crop as a result of the heavy rains, approximately

over one-third the value of their annual average production. An increase in bearing acreage, however, increased the State's crop size to 120 million pounds, the second largest. Adverse weather conditions also played a role in the size of the sweet cherry crops in Michigan, Utah, Montana, New York, and Pennsylvania.

Michigan's crop is slowly rebounding from devastating weather conditions in 2002 that dramatically reduced production. While the trees are still recovering, production this year is forecast to be 3 times bigger than last year. The estimated crop of 18 million pounds, however, is still far smaller than what is usually produced in Michigan. On average, crops since the mid-1990s have produced about 52 million pounds annually.

Oregon and Idaho, however, had favorable growing conditions. As a result, Oregon's crop is expected to be the same as the 2001 crop at 80 million pounds. Idaho's crop could be the largest since 2000, if the forecast holds.

Tart Cherry Crop Makes a Comeback

The 2003 tart cherry crop is forecast to be 249 percent bigger than last year. While this year's crop estimate of 218 million pounds is a marked

Table 3--Sweet cherries: Total production and season-average price received by growers, 2000-2002, and indicated 2003 production

State	Production				Price		
	2000	2001	2002	2003	2000	2001	2002
	-- Million pounds --				-- Cents per pound --		
California	94.0	110.6	111.0	120.0	78.5	78.0	87.0
Idaho	6.0	2.8	3.4	5.0	79.5	65.0	74.5
Mchigan	42.0	46.0	5.4	18.0	24.5	24.1	42.8
Montana	2.2	4.6	4.4	3.6	74.5	56.5	91.0
New York	1.8	2.2	0.7	1.2	68.5	76.5	86.5
Oregon	74.0	80.0	62.0	80.0	38.0	42.1	46.6
Pennsylvania	1.0	1.2	0.7	0.7	109.0	113.0	124.0
Utah	4.8	1.4	0.8	4.2	53.0	39.6	77.0
Washington	190.0	212.0	172.0	190.0	81.5	68.0	82.5
United States	415.8	460.8	360.5	422.7	67.0	61.5	77.5

Source: National Agricultural Statistics Service, USDA.

improvement over last year's weather-devastated crop, it is still smaller than any year since 1991 (table 4). Michigan's crop, which was mostly responsible for last year's sharply smaller crop, is expected to be 10 times the size of last year's crop, but 49 percent smaller than 2001. In a typical-production year, Michigan's crop accounts for about 75 percent of the total tart cherry crop produced in the United States. This season's crop also experienced unfavorable weather conditions, and the crop, estimated to be 150 million pounds, is smaller than all other crops since 1991 (excluding 2002). As a result of last year's very small crop, this season's beginning stocks of frozen tart cherries were extremely low. Together, the impact of the forecast for the smaller than average crop along with the depleted stocks should drive up grower prices.

Almond Crop for 2003 Expected To Be Second Largest on Record

California's almond trees are expected to produce 1 billion pounds of nuts (shelled) in 2003. With an 80-percent confidence interval, the final crop size is likely to fall in the range between 934 and 1,066 million pounds of meat. This crop ranks as the second largest on record after last year's record production of 1.09 billion pounds. The number of bearing acreage remains the same as last year at 530,000 acres. Tree density, however, increased slightly in 2003, to 102 trees per acre, up from 100 trees in 2001 and 2002. As newer, more densely-

planted acreage comes into commercial production, older, more sparsely planted acreage is being removed. For example, in comparison to the 102 trees per acre last season, in 1986, the average was 84.5 trees per acre. With changes in production practices, growers are able to plant more trees more closely and increase yields without having to increase the number of acres planted.

During this "off year" in the alternate-bearing cycle of the almond trees, there was an average of 7,002 nuts per tree, 14 percent less than in 2002. There were, however, 5 percent more nuts per tree this year than in 2001, the previous off year.

Despite the record-large crop in 2002, grower prices rose 21 percent over the previous year. Strong demand for almonds worldwide, especially for shelled almonds, helped boost grower prices during a year when they would have been expected to decline. Domestic shipments increased 26 percent over last year, and export shipments increased 17 percent. Through June of this season, exports accounted for 70 percent of all almonds marketed, which is about average. The more rapid growth in demand in the domestic market is good news for the industry as it continues its work to expand demand to meet its continual growing supply of almonds.

Grower prices can be expected to increase again in 2003. While the forecast is for a larger inventory for the 2003/04 marketing season (the 2003 crop), the

Table 4--Tart cherries: Total production and season-average price received by growers, 2000-2002, and indicated 2003 production

State	Production				Price		
	2000	2001	2002	2003	2000	2001	2002
	-- Million pounds --				-- Cents per pound --		
Colorado	0.9	0.6	0.3	0.5	26.5	33.3	40.0
Michigan	200.0	297.0	15.0	150.0	18.2	18.4	47.9
New York	16.6	14.7	12.7	7.0	21.3	19.6	50.6
Oregon	4.4	2.4	3.2	1.9	21.0	25.7	37.0
Pennsylvania	6.1	3.9	3.8	3.6	14.9	12.7	55.8
Utah	33.0	12.0	3.0	24.0	22.0	21.8	24.0
Washington	17.5	26.5	20.5	20.0	14.3	17.2	39.8
Wisconsin	10.0	13.0	4.0	11.0	22.8	20.4	51.2
United States	288.5	370.1	62.5	218.0	18.7	18.6	44.8

Source: National Agricultural Statistics Service and Economic Research Service,

increase would not bring supplies up to 2002 levels. If demand continues strong, supplies may be tight by the end of the new season and buyers will be willing to pay more.

As a result of the strong prices received over the past several years for almonds, plantings in the United States are likely to continue to increase. According to United Nation's data, the United States accounted for 42 percent of the world's almond production, its biggest share yet.

As growers in other nations look for profitable agricultural commodities to grow, they see the financial strength of the U.S. almond crop, with prices steady and climbing despite continually big crops. As a result, production has been growing around the world. Production is growing in the Middle East, especially in Syria, Morocco, and Iran. More importantly to the U.S. industry is the strong growth in production in some of the major export markets, such as Spain and Italy. U.S. growers also will likely see competition in the export market in the coming years from countries such as Chile and Australia.

Chilled Orange Juice Demand Picks Up in 2002/03

Demand for chilled orange juice, most of which is not-from-concentrate (NFC) juice, increased this season after having declined the previous season. According to data from the industry, domestic juice movement was running 6 percent ahead of last season through the end of June and 1 percent above two seasons ago. Export demand has also been strong. So far this marketing season, (from October through May), exports have increased 12 percent over the same time last season. Despite the strong increase in international demand over last season, shipments so far in 2002/03 have been below the two previous seasons (1998/99 and 1999/2000). Much of the weakening in international demand can be attributed to a decline in exports to Belgium, previously a very important shipping point. Shipments to Belgium have fallen dramatically over the past 4 years. While shipments have risen to the Netherlands, they were not nearly enough to compensate for the losses in the Belgian market.

Canadian demand for not-from-concentrate orange juice continues to grow annually, and through May

2003, shipments had increased 13 percent over the previous season. Canada is the major international market for NFC, accounting for over 80 percent of all export shipments both this and last season.

Florida grower prices for processing oranges began the 2002/03 season lower than average due to big beginning juice stocks and slow movement last season. As the season progressed, reports of low juice yields reduced estimates of orange juice production and fruit prices firmed. They remained strong throughout the remainder of the season until June. Juice yield estimates increased with the switch to late-season Valencia oranges, and put downward pressure on prices. June grower prices for Florida processing oranges, at \$3.70 per 80-lb box, were down 11 percent from May and 5 percent from last June.

While NFC sales have been strong this season, the demand for frozen concentrated orange juice (FCOJ) continues to decline. While FCOJ still uses the larger share of oranges, the share of the processed orange crop is becoming more evenly distributed between FCOJ and NFC. This season 52 percent of the oranges were used to make FCOJ compared with 61 percent last season. Most of FCOJ is bulk packed for use by others to reconstitute, sell in foodservice or institutions, or at retail stores. This season both pack and movement of FCOJ were down from a season ago. Ending stocks, however, are likely to be slightly higher.

Grapefruit Juice Demand Continues To Decline

Grapefruit juice demand declined again this season, with movement down for the third straight year. Demand has declined for both not-from-concentrate and frozen concentrated grapefruit juice. Grower prices remain weak, often not covering the price of producing the fruit. As a result, production has been declining as growers remove grapefruit plantings. This season's Florida grapefruit crop was the smallest since 1989/90, when the crop was damaged by a freeze. With continued low prices, growers will likely continue to remove trees and plant to more profitable commodities.

Both Production and Revenue Higher for 2002 Noncitrus Fruit and Tree Nut Crops

The final 2002 crop data for noncitrus fruit and tree nuts were released by USDA's National Agricultural Statistics Service (NASS) on July 8. According to the data, both the quantity of fruit and tree nuts products and returns to growers were up from 2001. Noncitrus fruit production increased 3 percent in 2002 from the previous year, however, it was 9 percent smaller than the 2000 crop. A 12-percent increase in grape production and a 6-percent increase in peach production contributed substantially to the increase. In 2002, grapes and peaches accounted for 50 percent of all noncitrus fruit production. Production also increased for apricots, Oregon blackberries, California raspberries, cranberries, dates, figs, nectarines, peaches, California prunes, and strawberries. Production of apples, the second largest noncitrus crop, declined 9 percent from the previous year.

Tree nut production increased 11 percent over the 2001 crop, and 33 percent over the 2000 crop. In keeping with the cyclical nature of most tree nut crops, 2002 was an off year for hazelnuts, macadamias, pecans, and walnuts. Pistachio nut trees

are on a reverse cycle from most other nut crops and this was a big-crop year for pistachios. In fact, the 2002 crop set a record for pistachio production in the United States, topping the 2000 record by 25 percent. The value of the 2002 noncitrus crop reached \$8.2 billion, 3 percent higher than in 2001. The value increased despite the strong decline in the value of the 2002 grape crop. The average grower price for grapes in 2002 fell 13 percent to \$388 per ton from \$447 in 2001. Declining prices for wine grapes in California and Washington contributed to the overall downturn in grape grower revenues.

The smaller apple crop in 2002 and a concern by the industry that there would not be sufficient fruit in storage to last the 2002/03 season, helped push up apple prices for the year. The price of a pound of apples in 2002 averaged 18.7 cents, the highest on record. The value of the 2002 crop is higher than any other apple crops in the last 4 years.

A Bigger Peach Crop Forecast for 2003

NASS recently released its estimates for the 2003 peach crop (table 5). According to the data, there will be ample supplies of peaches this summer. The crop this year is estimated to produce 2.6 billion

Table 5--Peaches: Total production and season-average price received by growers, 2000-2002, and indicated 2003 production

State	Production				Price		
	2000	2001	2002	2003	2000	2001	2002
	-- Million pounds --				-- Cents per pound --		
Alabama	14	23	21	11	40.5	41.8	44.0
Arkansas	18	12	10	18	37.0	40.7	42.8
California	1,855	1,727	1,920	1,920	13.9	14.7	14.5
Clingstone	1,064	952	1,124	1,150	12.5	12.2	12.4
Freestone	791	775	796	770	15.7	17.6	17.4
Colorado	19	18	19	20	47.0	54.0	56.7
Connecticut	2	2	1	2	65.0	65.0	70.0
Georgia	115	140	100	125	37.9	28.0	38.4
Idaho	13	13	13	13	38.7	49.4	42.7
Illinois	23	18	17	19	41.2	42.0	47.0
Indiana	3	3	3	3	41.4	58.3	73.3
Kentucky	1	2	1	2	34.6	48.7	54.5
Louisiana	1	1	2	3	77.1	87.1	75.1
Maryland	9	9	7	11	39.8	36.7	39.2
Massachusetts	2	2	2	2	70.0	70.0	80.0
Michigan	48	42	14	42	24.9	29.8	31.8
Missouri	10	9	13	10	35.0	36.5	42.0
New Jersey	65	75	62	80	42.7	40.5	44.2
New York	12	13	10	13	40.0	31.1	23.8
North Carolina	12	4	10	9	37.0	40.0	35.0
Ohio	10	11	9	10	46.8	49.0	49.6
Oklahoma	14	12	7	9	50.9	45.9	57.7
Oregon	8	7	8	8	42.3	42.7	40.9
Pennsylvania	60	75	60	70	28.7	33.5	33.5
South Carolina	150	100	160	120	20.4	42.5	32.9
Tennessee	3	4	4	4	54.5	48.4	47.0
Texas	21	30	12	10	58.0	57.0	60.0
Utah	11	9	7	10	30.0	21.8	31.2
Virginia	10	8	7	8	30.0	31.7	41.0
Washington	65	55	66	60	32.5	33.8	33.7
West Virginia	7	11	10	13	25.6	30.0	31.0
United States	2,580	2,433	2,575	2,623	19.4	21.1	20.4

Source: National Agricultural Statistics Service, USDA.

pounds, 2 percent above last year. Despite the lack of chill hours this winter, California's peach crop is estimated to remain unchanged from the record-large crop in 2002, at 1.9 billion pounds and 11 percent larger than the crop 2 years ago. California's clingstone crop is expected up 2 percent but the freestone crop, utilized mostly for the fresh market, is estimated down 3 percent. California's peaches are reported to be of good quality, which should help keep prices strong despite the overall increase in production.

After enduring a few years of drought conditions, peaches from the southern States have had to weather heavy rains throughout much of this year's production season, as well as hailstorms. The North Carolina crop is reported to be of good quality, but South Carolina's peaches are suffering from problems with rot and hail damage. Production in these two States is estimated to be 10 percent and 25 percent smaller. Georgia's peach crop also experienced excess moisture conditions due to heavier than normal rainfall. Despite the heavy rains, harvesting has so far been on target, with about half the crop picked by the end of June. Production in Georgia is estimated to be 25 percent larger.

Despite the cool, wet weather during this spring and early summer, most peach crops in the northeastern States exhibited a heavy fruit set and are sizing well. Some weather-related problems have occurred but much of the region is expecting increased production. In New Jersey, Pennsylvania, and New York, the region's major producers, the crop is estimated up 29 percent, 17 percent, and 25 percent, respectively.

Most of the peach-producing States in the Midwest also have increased production, with the Michigan crop, the largest in the region, estimated three times larger than last year. Michigan's crop has recovered well from last year's sharply reduced production caused by a series of spring frosts. Because of the

heavy blooms and good pollination this spring, the trees required extensive thinning to allow the fruit to size well at harvest.

Apricot Production Up Slightly in 2003; California Production Remained the Same

NASS forecasts the 2003 U.S. apricot crop at 180.8 million pounds, up only fractionally from last year but 10 percent larger than in 2001 (table 6). This increase reflects the 8 percent larger crop in Washington, the second largest producer. California's crop, accounting for over 90 percent of total production, was unchanged from last year, at 170.0 million pounds. Meanwhile, a spring frost in Utah caused some crop damage, particularly in the central and northern areas of the State, reducing their production by 29 percent. Washington's crop would have been much larger than the current estimate had it not been for poor weather during pollination as well as freeze and hailstorm damage in some districts early in the spring. Cool temperatures in California slowed fruit maturity but rains helped fruit to size larger than last year, particularly for the late varieties. This, along with nearly unchanged production overall, should help boost prices for the season.

More California Grapes Available for Fresh Use, but Wine and Raisin Use Down in 2003

More than 90 percent of all grapes grown in the United States come from California, where vineyards cover over 800,000 bearing acres and generate farm revenues worth an average of \$2.7 billion a year. This year, the California grape crop is forecast at 12.6 billion pounds, 6 percent smaller than a year ago but larger than any crop in previous years except in 1997 and 2000. Because California dominates the Nation's grape production, their smaller crop should help boost grape prices for the 2003/04 marketing season.

Table 6--Apricots: Total production and season-average price received by growers, 2000-2002, and indicated 2003 production

Item and State	Production				Price		
	2000	2001	2002	2003	2000	2001	2002
	-- Million pounds --				-- Cents per pound --		
Apricots--							
California	180	154	170	170	16.5	16.0	15.3
Utah	1	1	0.3	0.2	30.6	42.6	35.4
Washington	13	10	10	11	42.4	39.2	56.0
United States	194	165	180	181	18.5	17.7	17.9

Source: National Agricultural Statistics Service, USDA.

Through most of the period prior to the mid-1990s, raisin-type grapes accounted for a large share of the State's grape production. This has changed in the last 7 years as production shifted towards more wine-type grapes, particularly premium wine varieties, reflecting the rapid expansion in California's wine industry over the past decade. This year, nearly half of the grapes produced in the State will consist of wine varieties whose production, estimated at 6.1 billion pounds, will be down 3 percent from 2002. Production of raisin grapes, accounting for 40 percent of total production, is estimated at 5.0 billion pounds, down 12 percent. The remainder of the State's crop, consisting of table-type varieties, is estimated at 1.5 billion pounds, up less than 1 percent from a year ago. The harvesting of table grapes in the Coachella Valley was fully underway in July and quality was reported to be excellent.

This year's production of wine- and raisin-type grapes has been reduced by lower bunch counts,

despite generally favorable weather during the growing period. In addition, a reduction in grape acreage in response to financial difficulties currently experienced in the wine and raisin industries has also limited production potential this year. Diminishing demand by wineries for raisin grape varieties, particularly the Thompson seedless variety, during the 1990s has created a glut situation in the raisin industry, resulting in depressed grower prices for raisin grapes in recent years. This has led to crop abandonment as well as thousands of acres removed from production through the California Raisin Industry Diversion Program. At the same time, there has not been any recent new plantings of wine grapes as indicated by the smaller nonbearing acreage reported for 2002, relative to the previous year. Although average grower prices for wine grapes last year remained well above those received during the 1980s and early 1990s, the larger production pushed prices to its lowest level since 1995.

Fruit and Tree Nut Trade Outlook

Large Supplies and Weaker U.S. Dollar Help Boost Exports of Some Fruit and Nut Crops

Large crops this season of fresh-market oranges, grapes, and almonds increased the quantity of these commodities available for export (table 7). At the same time, the weaker dollar in recent months has translated into lower prices of U.S. products in foreign markets. As a result, exports increased over last year for these products.

The combination of the two factors helped orange exports to increase to all of its major markets. This year's international shipments were valued at \$278 million so far, from November through May. While the value of the exports were above last year for the same time period, the unit value of the oranges was lower as a result of the abundance of small-sized fruit and the weaker dollar during part of the season.

Fresh grape exports for May 2003 are ahead of last May by 3 percent. Malaysia surpassed Canada as the major market for U.S. grapes this spring. Shipments were down to Canada and the United Kingdom, the second and fourth major markets, but were higher to Hong Kong, Singapore, and Mexico.

The record-large 2002/03 almond crop helped push almond exports up 13 percent from the previous season. The U.S. almond industry is heavily reliant on exports for sales. Through June, exports accounted for 70 percent of all almond shipments, according to the Almond Board of California. Shipments to Spain, the largest export market for U.S. almonds, rose despite the large 2002/30 Spanish crop. The steady increase in nut consumption in Spain helps keep demand for U.S. almonds strong.

Table 7--U.S. exports of selected fruit and tree nut products

Commodity	Marketing season	Season-to-date (through May)		Year-to-date change
		2002	2003	
		--- 1,000 pounds ---		Percent
Fresh-market:				
Oranges	November-October	896,267	1,126,264	25.7
Grapefruit	September-August	836,815	754,639	-9.8
Lemons	August-July	184,563	187,134	1.4
Apples	August-July	1,195,739	1,009,176	-15.6
Grapes	May-April	11,679	12,063	3.3
Pears	July-June	365,565	338,642	-7.4
Peaches (including nectarines)	January-December	23,822	20,752	-12.9
Strawberries	January-December	70,352	94,385	34.2
Sweet cherries	January-December	17,460	13,034	-25.3
		--- 1,000 gallons ---		
Processed:				
Orange juice, frozen concentrate	October-September	99,665	28,824	-71.1
Orange juice, not from concentrate	October-September	34,218	38,206	11.7
Grapefruit juice	December-November	20,952	23,002	9.8
Apple juice and cider	August-July	6,240	4,913	-21.3
Wine	January-December	29,602	38,471	30.0
		--- 1,000 pounds ---		
Raisins	August-July	207,692	212,850	2.5
Canned pears	August-July	13,260	10,431	-21.3
Canned peaches	July-June	28,710	17,011	-40.8
Frozen strawberries	January-December	86,354	102,187	18.3
		--- 1,000 pounds ---		
Tree nuts:				
Almonds (shelled basis)	August-June	568,753	640,266	12.6
Walnuts (shelled basis)	September-August	148,394	147,512	-0.6
Pecans (shelled basis)	September-August	21,221	34,602	63.1
Pistachios (shelled basis)	September-August	70,992	67,806	-4.5

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

U.S. exports of frozen-concentrated orange juice declined sharply this season (October through May) partially due to the lower volume of orange juice produced domestically, but mostly due to the increase in Brazil's FCOJ production, almost all of which is exported. U.S. shipments of not-from-concentrate (NFC) orange juice were up to the Canadian market, which receives over 80 percent of all exports. Shipments to Canada have generally shown an upward trend since the early nineties, when NFC exporting began to be reported separately from other orange juice products. The 2002/03 season shipments through May to Canada were the largest on record.

Grape Imports Up in May

Fresh grapes and tropical fruit constitute the bulk of fresh fruit imports into the United States during May. Most of the winter fruit imports slack off during March and April, as early varieties of domestically produced summer fruit begin entering the U.S. market.

Fresh grape imports were up this May compared with the past two Mays (table 8). This year there was an overlap between the beginning of the U.S. crop coming out of the Coachella Valley in southern California, the northern Mexico crop, and the end of the Chilean crop. While Chilean shipments were falling off, Mexican shipments came on strong. Mexico's grape shipments to the United States this May were 38 percent above those in 2002. As was mentioned in the *Price Outlook*, the increase in domestic supply due to the early availability of U.S. grapes at the same time imports were still arriving from Chile and began arriving from Mexico, contributed to reduced retail prices for consumers for the month.

Mango imports also were up this May from the same time last year. Banana imports, however, were down. Shipments throughout the year for mangoes were off slightly from a year ago, however they are the third largest since 1990. Mexico is the primary supplier of mangoes to the U.S. market.

Table 8--U.S. imports of selected fruit and tree nut products

Commodity	Marketing season	Season-to-date (through May)		Year-to-date change
		2002	2003	
		--- 1,000 pounds ---		Percent
Fresh-market:				
Oranges	November-October	48,940	24,254	-50.4
Tangerines (including clementines)	October-September	123,605	162,299	31.3
Lemons	August-July	62,052	38,892	-37.3
Limes	September-August	259,194	461,686	78.1
Apples	August-July	256,914	262,701	2.3
Grapes	May-April	105,723	136,744	29.3
Pears	July-June	171,157	180,989	5.7
Peaches (including nectarines)	January-December	101,837	122,905	20.7
Bananas	January-December	7,045,301	7,115,026	1.0
Mangoes	January-December	260,248	258,248	-0.8
		--- 1,000 gallons ---		
Processed:				
Orange juice, frozen concentrate	October-September	119,079	195,006	63.8
Apple juice and cider	August-July	298,861	328,701	10.0
Wine	January-December	57,160	65,357	14.34
		--- 1,000 pounds ---		
Canned pears	August-July	22,102	28,148	27.4
Canned peaches	July-June	130,928	97,226	-25.7
Canned pineapple	January-December	265,780	301,954	13.6
Frozen strawberries	January-December	72,751	84,867	16.7
		--- 1,000 pounds ---		
Tree nuts:				
Brazil nuts (shelled basis)	January-December	10,481	4,184	-60.1
Cashews (shelled basis)	January-December	80,982	86,678	7.0
Pine nuts (shelled basis)	January-December	3,119	2,817	-9.7
Pecans (shelled basis)	September-August	30,507	31,963	4.8

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

Commodity Highlight

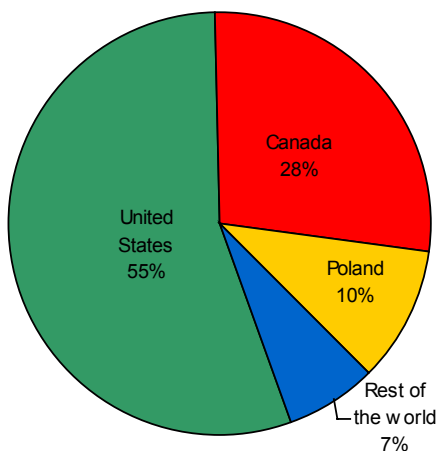
Trends in the U.S. Blueberry Industry

Blueberries are one of a few fruit crops that are indigenous to North America. It has been around for thousands of years but its cultivation is regarded as one of the most recent of the major fruit crops. As early as 1908, cross breeding programs were initiated using wild native plants from New Hampshire and New Jersey. The first fruit harvested from hybrid seedlings were shipped from a New Jersey farm in 1916. Before then, all blueberries were harvested from wild plants. It was, however, during the 1930s when several improved varieties were developed and released and subsequently introduced in North Carolina and Washington. Today, about 70 percent of the country's commercial blueberries are from cultivated varieties. Production from these varieties has nearly tripled in the last 33 years.

Production Concentrated in North America

Although blueberry production has been reported from more countries since the early 1990s than in previous years, much of the world is still quite unfamiliar with this berry. Production remains highly concentrated in North America, primarily in the United States and Canada. Presently, the United States continues to be the largest producer, supplying more than half of the world's production (fig. 3).

Figure 3
Top three world producers of blueberries*



*Average share of 2000-2002 world production.

Source: Food and Agriculture Organization of the United Nations.

Prior to the 1970s, Canada was the largest producer. Now, Canada produces 28 percent of world supplies, followed by Poland with 10 percent. Based on data from the Food and Agriculture Organization of the United Nations, per-hectare yields in the United States have averaged more than double those in Canada over the last 22 years, more than making up for the much smaller area harvested. Harvested acreage in the United States, however, is understated because annual acreage data for the wild blueberry crop are not reported.

Maine and Michigan Lead in Production

Maine and Michigan lead the country in blueberry production. Combined, they produce more than half of all U.S. blueberries. Maine is the Nation's largest producer of wild blueberries. Annual production data for the State reported by the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) include only the wild crop, which over the last 3 years, averaged 83 million pounds, 30 percent of U.S. blueberry production (cultivated and wild combined). However, a very small fraction of the U.S. cultivated blueberry crop is produced in Maine. Based on the *1997 Census of Agriculture*, 68 farms in Maine harvested cultivated blueberries from a total of 319 acres, producing 605,675 pounds. A total of 569 farms in the State, meanwhile, harvested 23,693 acres of wild blueberries, totaling over 70 million pounds.

The *1997 Census of Agriculture* also reported 623 farms in Michigan that harvested 16,541 acres of cultivated blueberries. Michigan's production, entirely comprised of cultivated varieties, is slightly less than in Maine, averaging over 20 percent of the U.S. annual blueberry crop (cultivated and wild). It is the largest producing State for the cultivated crop. With the expansion in harvested acreage, Michigan's crop size has more than doubled since the 1970s. Production in the State, ranging from 55 million to 87 million pounds over the last 13 years, covered over 40 percent of the Nation's cultivated blueberry harvested acreage. In the most recent 3 years, harvested area in the State averaged 16,800 acres annually. New Jersey, Oregon, Georgia, North Carolina, and Washington are also major producing States with combined production averaging over 40 percent of the U.S. total.

Historically, annual cultivated blueberry production was reported for Michigan, New Jersey, North Carolina, Oregon, and Washington only. NASS began expanding their national survey to include blueberry production in Georgia, Indiana, New York, Alabama, Arkansas, and Florida beginning in 1992. Except for Georgia, these other smaller producing States each represent only a fraction of total production.

Production Classified Into Three Species

The blueberry is a perennial crop that can produce for more than 20 years. Because the berries do not mature uniformly, harvesting of the crop is done two to five times during the season. It takes some years, however, before returns on investments are generated from newly established fields. A planting takes about 2 to 3 years to establish, with harvesting starting around the third or fourth growing season.

Several species of blueberries are native to North America. The three most prominent species harvested and sold commercially in the United States are as follows:

- highbush -- thrives in the cooler climates of the northern temperate zone and is the major type grown in North America.
- rabbiteye -- more tolerant of the relatively warmer temperatures in the southern United States.
- lowbush -- harvested from managed wild stands in the northeastern U.S. (primarily in Maine) and eastern provinces of Canada.

Both the highbush and rabbiteye blueberries are cultivated commercially in the United States. About 95 percent of cultivated blueberries consist of the Northern highbush varieties. Unlike the highbush varieties that may grow to exceed 10 feet, the wild lowbush blueberries seldom grow to be more than 1.5 feet in height and produce smaller and darker berries. Rabbiteye varieties are not as winter-hardy as the Northern highbush varieties, but they are generally drought tolerant. They produce fruit that are relatively comparable to highbush varieties.

More recently, Southern highbush varieties have been developed to boost production potential in the southern United States. Besides being adaptable to growing conditions in the region, these new varieties

also inherit some characteristics of the Northern highbush, specifically having a late bloom date and a shorter ripening period. Both of these inherited characteristics help increase its overall appeal to southern growers. With the late bloom date, these varieties tend to face a lower risk of suffering from frost damage during the flowering stage, a critical period in fruit development. With the shorter ripening period, blueberries from Southern highbush varieties can be harvested around mid-April through late May, earlier than most rabbiteye varieties. Not only does this extend the marketing window for blueberries in the region but it also allows its growers to take advantage of premium prices typically available early in the season.

Blueberries Are the Second Most Important Berry

Next to strawberries, blueberries are the second most important berry in the United States. Over the last 3 years (2000-02), cultivated and wild blueberry production combined generated over \$200.0 million in farm value, about 13 percent of all U.S. berry production. Although blueberry grower prices generally average higher than strawberry grower prices, the annual average farm value of the U.S. blueberry crop falls well short of the over \$1.0 billion in farm value generated by the U.S. strawberry crop. This is mainly because of the sharp difference in quantity produced for both crops (for example, strawberry production averaged 1.8 billion pounds during 2000-2002 while blueberry production averaged 273.0 million pounds).

Today, most of the U.S. blueberries are commercially cultivated. During 2000 to 2002, commercial cultivation of the crop generated an annual crop value of \$178.0 million, nearly 87 percent of the value of total blueberry production. Although data two decades ago was not as complete as today, the rapid expansion in the cultivated crop size drove the annual crop value (cultivated) up sharply from an average of \$48.3 million in the early 1980s to an average of \$138.5 million during 1992-94. Similarly, despite yearly fluctuations, the crop value generated from commercial harvesting of managed wild stands in Maine also increased from an annual average of \$12.0 million during 1980-82 to \$23.4 million during 1992-94 and to \$27.9 million during 2000-02.

More Blueberries Are Processed

Blueberries are enjoyed both in its fresh or processed form. Historically, however, a larger proportion of U.S. blueberry production has been processed than sold for fresh consumption. Presently, over 65 percent of utilized production (cultivated and wild) in the United States is processed into storable products, allowing for year-round availability. The fresh-market product, on the other hand, is in season in the spring and summertime, mostly from mid-May through mid-August.

Although more than half of the U.S. blueberries processed comes from the cultivated crop, Maine is still the largest supplier of blueberries for processing. Almost all of its wild blueberry production is processed. From among the other producing States, it is only in Michigan, Oregon, Georgia, and Washington where a larger proportion of production is for processing than for fresh use (fig. 4). Large producers such as New Jersey and North Carolina, meanwhile, join other minor producing States in specializing more in fresh-market production. Both New Jersey and North Carolina, however, produce relatively large volumes overall. Their production for the processing sector still average about 4 percent and 3 percent of total processed blueberries, respectively.

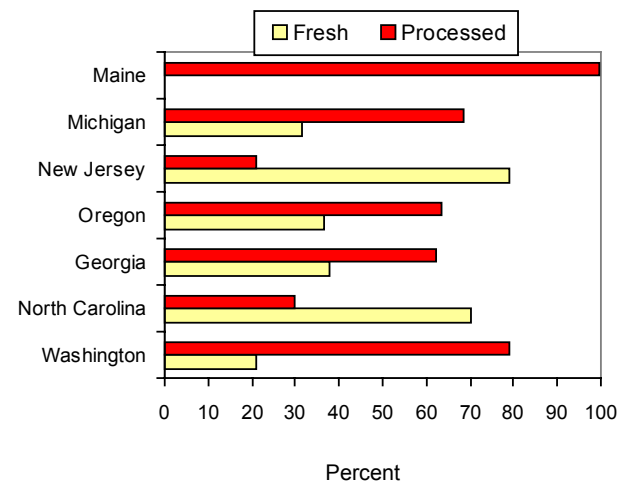
Processed blueberries are mostly frozen or dried and often used as an ingredient in the manufacture of many other processed products such as baked goods, yogurt, and ice cream. Frozen berries are bulk frozen or individually quick frozen (IQF), a process that ensures the berries' freshness while preserving many of its beneficial nutrients. Most of the wild blueberries, for example, are IQF for use in other processed food. Dried blueberries are ingredients in cereal and cereal products as well as many snack food products. Blueberries are also processed into jam/jellies, syrup, juice/concentrates, and baby food.

U.S. Blueberry Crop Expands Rapidly

U.S. blueberry production has grown rapidly over the last three decades. Production has increased sharply for both the cultivated and wild crop (fig. 5). Continued efforts to breed new and improved varieties to boost yields along with more intensive management practices (including irrigation, fertilization, and weed control) and the expansion in

Figure 4

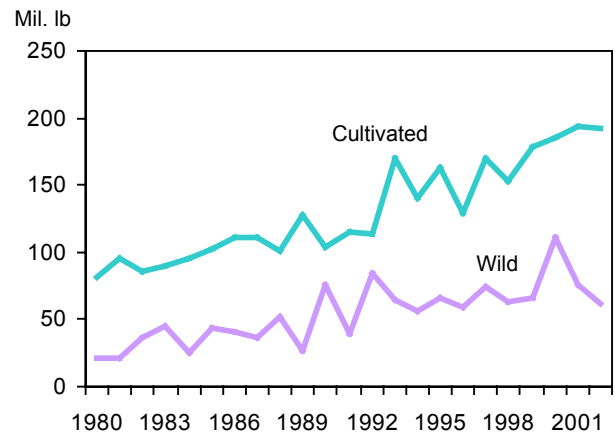
U.S. blueberries: Fresh and processed share of utilized production among major-producing States



Source: National Agricultural Statistics Service, USDA.

Figure 5

U.S. blueberry production, 1980-2002



Source: National Agricultural Statistics Service, USDA.

harvested area were behind the rapid growth in the U.S. cultivated blueberry crop. Domestic production of the cultivated crop increased from an average of 64 million pounds during the 1970s to around 144 million pounds during the 1990s. Record-high yields brought production to a peak 2 years ago, at around 193 million pounds, despite a decline in acreage that year, mostly due to a reduction in North Carolina.

Cultivated production in Michigan increased significantly over the last several years, but stronger production growth has occurred in the other key producing States (OR, GA, WA, NC, and NJ). Larger

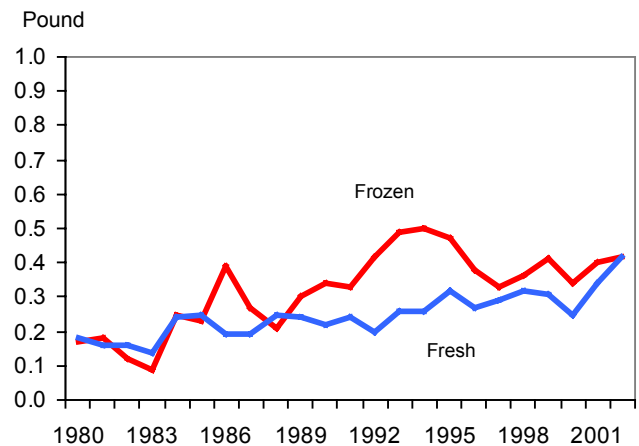
increases in either average yields per acre or harvested acreage or both have resulted in the strong growth in each of these five States. Presently, average yields in these key States range from 20 percent to 162 percent higher than in Michigan. Although Michigan accounted for the largest blueberry area under irrigation, it was the only major producing State whose irrigated share of harvested area diminished from 62 percent in 1992 to 57 percent in 1997, based on the Census of Agriculture. The highest average yields are in Oregon (averaging 10,173 pounds per acre) and Washington (averaging 7,100 pounds) where 96 percent and 78 percent of the harvested acres were irrigated.

Increased use of selective herbicides and irrigation to boost yields have aided in the rapid expansion of the U.S. wild blueberry crop over the last several years. Presently, Maine's wild blueberry crop averages 83 million pounds annually, nearly quadruple the quantity harvested during the 1970s. Although Maine is the only State that has annual data on wild blueberry production, small quantities are also produced in other States. According to the 1997 *Census of Agriculture*, Maine accounted for 99 percent of U.S. wild blueberry production, with the remaining share split mostly among Northeastern States, including New Hampshire, Massachusetts, New York, New Jersey, Pennsylvania, Vermont, and West Virginia. Data on annual average yields and acreage are not available for the wild blueberry crop in Maine because they are difficult to estimate.

Technological Innovations, Production Expansion, Health Attributes, and Convenience Help Shape Domestic Demand

Demand for blueberries in the United States has generally been on the rise since the 1980s, with domestic consumption of fresh and frozen blueberries both increasing over the years (fig. 6). Americans consumed more fresh blueberries back in the early- to mid-1980s but demand has shifted to the frozen product for the most part after 1985. This shift may be attributed to innovations in freezing technology such as the use of IQF and increased domestic supplies of frozen blueberries resulting from large production increases in Maine and in the Pacific Northwest where a majority of production is processed.

Figure 6
U.S. per capita consumption of fresh and frozen blueberries



Source: Economic Research Service, USDA.

Americans' growing appetite for fresh produce, influenced to a large part by their increased desire for a healthy and nutritious diet, has aided in boosting demand for fresh blueberries in the United States during the 1990s. Per capita fresh blueberry consumption averaged 0.20 pound annually during the early 1990s, increasing to 0.34 pound during 2000-2002. Blueberries are found to be low in calories and a rich source of vitamin C, potassium, and fiber. They also contain plant chemicals that may help prevent some forms of cancer, heart disease, urinary tract infections, and improve vision. More recently, there is growing evidence in the ability of blueberries to slow the aging process, including memory loss. Aside from the good taste and health benefits that it offers, today's busy consumer enjoys the convenience of fresh blueberries relative to other fresh fruit because it does not require any peeling or slicing. After washing, the berries are ready to be eaten, either by itself, with cereals, or in fruit salads.

Increasing fresh-market production through most of the 1990s has helped narrow the gap in per capita consumption between fresh and frozen blueberries since the mid-1990s. Part of this production increase may be attributed to more complete reporting as six other States (AL, AR, FL, GA, IN, and NY) have been included in the NASS production survey beginning in 1992. As mentioned earlier, these additional States, with the exception of Georgia, produce blueberries primarily for the fresh market.

Strong Domestic Demand Increased Importance Of Imports

While the domestic market is still largely dependent on its own production, imports have also increased their presence in the U.S. fresh blueberry market. Together with increasing volume, imports as a share of domestic consumption rose from 24 percent during the 1980s to around 48 percent over the last 3 years (2000-2002). Canada is the source of most fresh blueberries imported to the United States. Earlier in the 1990s, U.S. imports of Canadian blueberries accounted for over 90 percent of all fresh imports. Presently, however, this share has dropped to over 80 percent, reflecting large increases in imports from South American countries such as Chile and Argentina in the last few years. Imports from both countries have provided U.S. consumers access to fresh blueberries at retail grocery stores during the U.S. off-season, aiding in increasing fresh blueberry consumption in the United States.

While both the health and convenience factors boosted fresh blueberry consumption, they also were behind the increased demand for processed blueberries. Moreover, U.S. imports of frozen blueberries have increased over time and have played an increasing role in domestic frozen blueberry consumption. The average share of frozen blueberry imports to domestic consumption of frozen blueberries rose from 21 percent during the 1980s to 42 percent during the period 2000-2002. Almost all frozen imports to the United States come from Canada.

Estimates for domestic consumption of frozen blueberries increased from an average of 0.22 pound per person annually during the 1980s to 0.39 pound per person during the period 2000-2002. Despite a

decline in production, consumption was at a record-high in 1994, at 0.50 pound per person, aided by large beginning inventories and a 61-percent increase in imports.

Exports Also Expanding

Most of the blueberries produced in the United States are utilized for domestic consumption. Exports of blueberries, however, have expanded over time, increasing more rapidly for fresh blueberries. Presently, the United States exports more fresh blueberries than frozen. Over the last 3 years, U.S. fresh blueberry exports averaged 38 million pounds, increasing in share of domestic production from 28 percent during the 1980s to 44 percent. For the same time period, around one-fourth of the U.S. frozen pack remained destined for the export market, averaging 25 million pounds during 2000-2002.

Canada remains as the major export market for U.S. blueberries. The United States currently ships over 90 percent of its fresh blueberry exports and half of its frozen blueberry exports to this market. Promotional efforts, however, were successful in introducing this berry to Japan, currently a growing market for U.S. blueberries. U.S. frozen blueberry exports to Japan increased dramatically beginning in the mid-1990s, averaging now around 11 million pounds annually, 40 percent of U.S. frozen blueberry exports. Earlier in the 1990s (1993-95), their share of U.S. frozen blueberry exports was only 8 percent. U.S. fresh blueberry exports to Japan increased sharply in 1999 and averaged over 2.0 million pounds annually since then. Now, Japan accounts for 7 percent of total U.S. fresh blueberry exports, up from only a fraction early into the 1990s.

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