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# Fruit and Tree Nuts Outlook

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## Increased U.S. Apple Production To Coincide With A Smaller Pear Crop This Fall



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Approved by the World Agricultural Outlook Board.

In August, USDA's National Agricultural Statistics Service (NASS) released the initial forecast for the 2016 U.S. apple crop at 10.4 billion pounds, up 4 percent from the previous year and the fourth largest since 2000, if realized. This increase signals above-average supplies will be moving to markets during the 2016/17 marketing season, likely putting downward pressure on U.S. apple prices. However, lack of competing storage supplies from the previous harvest and strong end-of-season prices should aid early prices in 2016/17.

NASS reported forecast declines in the top 3 States will push U.S. pear production in 2016 down 5 percent from a year ago to 1.56 billion pounds, potentially the lowest in over two decades. Overall production declines of 2-4 percent are expected in Washington State, Oregon, and California, mostly due to fewer bearing acres. The smaller U.S. crop will likely reduce fresh-market pear output in 2016/17. This lower output, along with generally good fruit quality, should help strengthen fresh-pear grower prices for the season. However, the anticipated larger U.S. apple crop may provide some offsetting price impacts.

U.S. grape production is forecast at 15.6 billion pounds in 2016, up 2 percent from a year ago. Despite persistent drought conditions, production in California is forecast fairly flat as increases to the wine-type and table-type grape crops are offset by the smaller raisin-type crop. Combined production elsewhere is forecast up 11 percent due to increases in other key States. Harvest in California's San Joaquin Valley is in full progress. Despite the larger table grape crop, lower shipments thus far have resulted in higher fresh grape grower prices.

The NASS August forecast for U.S. cranberry production in 2016 is at 859 million pounds, up less than 1 percent from a year ago but 3 percent above the previous 5-year average. While production is expected to remain high, continued positive demand during the 2015/16 marketing year should again prevent a significant buildup in inventories, likely mitigating any downward push on grower prices during the 2016/17 marketing year.

California's almond and walnut crops are forecast to reach record highs for the 2016/17 season. Unlike other recent years, grower prices for these nuts fell sharply in 2015/16 amid near-to-record-high production.

# Price Outlook

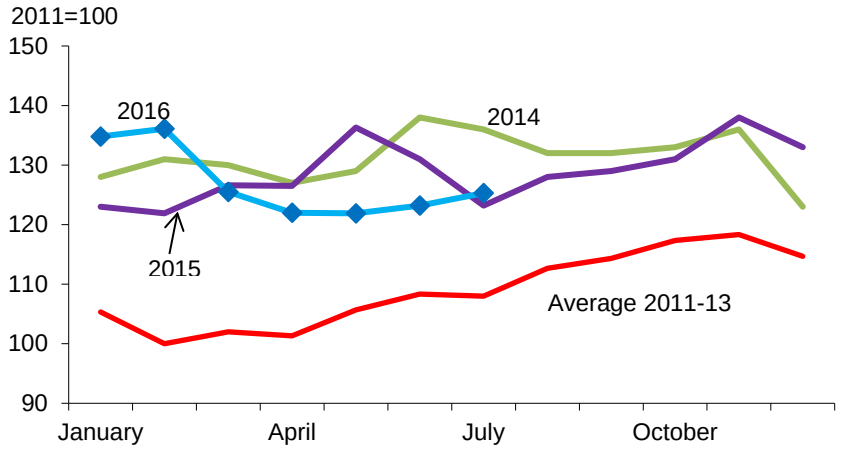
## *Fruit and Nut Grower Price Index Strengthens*

After falling below year-ago levels from March through June, the July 2016 grower price index for fruit and nuts rose above last year. At 125 (2011=100), the July index is up slightly from the July 2015 index of 122. While mostly below the exceptionally strong levels in 2014 to date, the 2016 index remains at higher than average levels (fig. 1). Higher grower prices for fresh apples, grapes, peaches, and pears, more than offset declines for strawberries and citrus fruit (except grapefruit) to boost the July index (table 1).

Tight supplies of apples, pears, and peaches contributed to higher grower prices in July 2016 compared to the same time a year ago. Storage apple supplies were low at the end of the 2015/16 marketing season (August-July), indicating a cleaning up of supplies from last year's harvest. While a rebound in U.S. apple production is forecast for the 2016/17 season, lack of competition from last season's supplies will likely keep early 2016/17 prices high. However, as the harvest gets in full swing this fall, the fairly large crop will likely put overall downward pressure on apple prices. Grape production is also anticipated to increase this year, but lower shipment volumes to date, based on USDA Agricultural Marketing Service (AMS) data, have elevated prices thus far. Pear prices will likely continue to be strengthened by the forecast lower production 2 years in a row.

Despite reduced strawberry acreage in 2016, California strawberry shipments have been running ahead of year-ago levels since May (except in June, when volumes were down 5 percent from a year ago), dampening grower prices. Continued increased supplies in August through mid-September indicate persistent downward pressure on strawberry prices during the summer. At the same time, fresh orange and lemon prices were driven down by bigger crops harvested in California last year. Harvest for the 2016/17 California navel crop is expected to begin in October. The crop is forecast to be 8 percent smaller, pointing to potential upward gains in prices relative to last season.

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




Source: USDA, National Agricultural Statistics Service, *Agricultural Prices.*

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

| Commodity | June 2015 | June 2016 | July 2015 | July 2016 | Year-to-year change* June | Year-to-year change* July |
|---|---|---|---|---|---|---|
| | *Dollars per box* | | | | *Percent* | |
| Citrus fruit: [1] | | | | | | |
| Grapefruit, all | 8.96 | 13.82 | 5.77 | 15.26 | 54.2 | 164.5 |
| Grapefruit, fresh | -- | -- | -- | -- | -- | -- |
| Lemons, all | 37.43 | 29.95 | 37.67 | 26.47 | -20.0 | -29.7 |
| Lemons, fresh | 45.01 | 40.00 | 47.21 | 37.90 | -11.1 | -19.7 |
| Oranges, all | 10.46 | 8.21 | 10.92 | 8.19 | -21.5 | -25.0 |
| Oranges, fresh | 15.42 | 13.61 | 14.06 | 12.70 | -11.7 | -9.7 |
| | *Dollars per pound* | | | | | |
| Noncitrus fruit: | | | | | | |
| Apples, fresh [2] | 0.207 | 0.382 | 0.190 | 0.401 | 84.5 | 111.1 |
| Grapes, fresh [2] | 0.845 | 0.940 | 0.670 | 0.770 | 11.2 | 14.9 |
| Peaches, fresh [2] | 0.555 | 0.393 | 0.469 | 0.515 | -29.2 | 9.8 |
| Pears, fresh [2] | 0.317 | 0.525 | 0.318 | 0.433 | 65.6 | 36.2 |
| Strawberries, fresh | 0.615 | 0.605 | 0.602 | 0.594 | -1.6 | -1.3 |

* Previous 3-year average price for noncitrus fruit calculated for the years 2010-12 because no monthly prices were reported for these commodities after the first quarter of 2013 and through the first quarter of 2014.
-- Insufficient number of reports to establish an estimate.
[1] Equivalent on-tree price.
[2] Equivalent packinghouse-door returns for CA, MI, NY, and PA (apples only), OR (pears only), and WA (apples, peaches, and pears). Prices as sold for other States.
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices.*

## *Consumer Price Index for Fresh Fruit Gains Ground in August*

The Consumer Price Index (CPI) for fresh fruit was reported at 354.6 (1982-84=100) in August 2016, up from 348.7 in August 2015 and strong relative to recent years (fig. 2). Based on data from the U.S. Department of Labor, Bureau of Labor Statistics (BLS), year-to-year retail price gains for grapefruit, lemons, Red Delicious apples, Thompson seedless grapes, and peaches in August more than offset price declines for navel oranges and strawberries (table 2), boosting the August fresh fruit CPI.

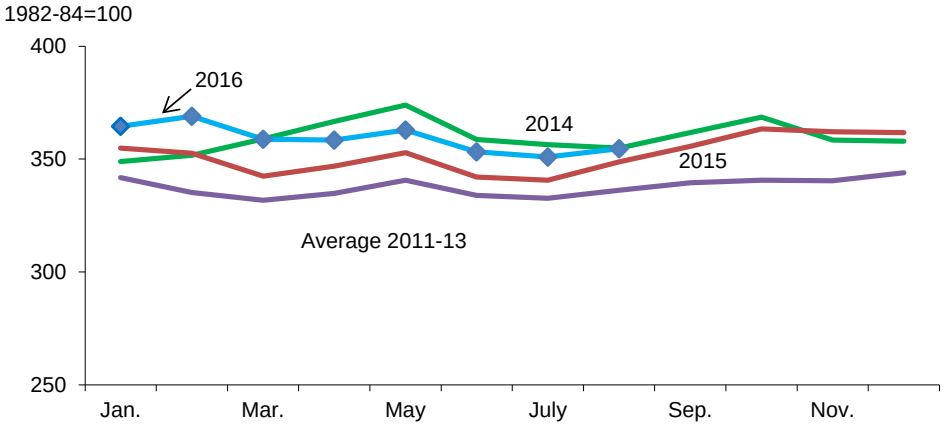
As with grower prices, apple retail prices have generally stayed above year-ago levels through most of the 2015/16 season (August-July) on lower domestic production. This was indicated by the CPI for apples that was consistently up from previous-year levels during the period from November 2015 to July 2016. Tight supplies continue to boost prices early into the 2016/17 season. Already, Red Delicious apple prices are up 5 percent from last year at the same time and the CPI for apples is 373.9 (1982-84=100), up from 338.9 in August 2015. Increased harvest activity this fall should lead to seasonal declines in apple prices for the rest of this year, and the expected bigger crop suggests more favorable prices for consumers in 2016/17. Domestic grape shipments lagged the previous year in July, contributing to higher prices that month. However, while shipments picked up in August, lower imports from Mexico helped strengthen grape prices for the month. The harvest in California's San Joaquin Valley is well under way, and the anticipated ample table grape harvest in the State will likely soften grape prices for the remainder of the summer and into the early fall.

Likewise, ample strawberry supplies, particularly from California, drove retail prices down 1 percent from a year ago in August. Strawberry prices likely continued to endure downward pressure during the rest of the summer given big year-over-year supply gains through mid-September, based on USDA/AMS shipment data. Meanwhile, banana import shipments were down significantly in

August, and banana retail prices for the month as reported by BLS averaged 3 percent lower than a year ago. As in the case of the first 7 months of 2016, when banana import volumes were fairly flat compared to last year, lack of demand was partly behind the lower retail prices for bananas in the United States.

Navel orange retail prices witnessed a drop in August due to higher domestic shipments and low summer demand. Fresh orange import volumes are up so far this season through July, also putting downward pressure on retail orange prices. Reduced processing orange volume and juice yield in Florida has lowered U.S. orange juice production in 2015/16, driving up retail concentrate orange juice prices through most of the season thus far. As the 2015/16 grapefruit and lemon seasons transition to the new crop, light supplies, along with reduced imports, have driven up August prices.

Figure 2
**Consumer Price Index for fresh fruit**




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

Table 2--U.S. monthly retail prices for selected fruit, 2015-16

| Commodity | Unit | 2015 July | 2015 August | 2016 July | 2016 August | 2015-16 change July | 2015-16 change August |
|---|---|---|---|---|---|---|---|
| | | --- *Dollars* --- | | --- *Dollars* --- | | --- *Percent* --- | |
| Fresh: | | | | | | | |
| Navel oranges | Pound | 1.380 | 1.493 | 1.268 | 1.365 | -8.1 | -8.6 |
| Grapefruit | Pound | 1.117 | 1.143 | 1.280 | 1.319 | 14.6 | 15.4 |
| Lemons | Pound | 2.254 | 2.088 | 2.170 | 2.161 | -3.7 | 3.5 |
| Red Delicious apples | Pound | 1.408 | 1.435 | 1.463 | 1.508 | 3.9 | 5.1 |
| Bananas | Pound | 0.581 | 0.580 | 0.567 | 0.562 | -2.4 | -3.1 |
| Peaches | Pound | 1.701 | 1.701 | 1.711 | 1.712 | 0.6 | 0.6 |
| Strawberries [1] | 12-oz. pint | 1.798 | 2.283 | 1.942 | 2.169 | 8.0 | -5.0 |
| Thompson seedless grapes | Pound | 2.328 | 2.100 | 2.359 | 2.155 | 1.3 | 2.6 |
| Processed: | | | | | | | |
| Orange juice, concentrate [2] | 16-fl. oz | 2.658 | 2.739 | 2.768 | 2.774 | 4.1 | 1.3 |
| Wine | liter | 12.016 | 12.009 | 12.393 | 12.400 | 3.1 | 3.3 |

[1] Dry pint.
[2] Data converted from 12-fluid-ounce containers.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

### *Larger Apple Crop Likely To Soften Prices*

In August, USDA's National Agricultural Statistics Service (NASS) released the initial forecast for the 2016 U.S. apple crop at 10.4 billion pounds, up 4 percent from the downwardly revised 2015 estimate of 10.0 billion pounds and 4 percent above the 2010-14 average. If realized, this year's crop will be the fourth largest since 2000. This increase signals above-average supplies will be moving to markets during the 2016/17 marketing season (August-July), likely putting downward pressure on U.S. apple prices. However, lack of competing storage supplies from the previous harvest and strong 2015/16 end-of-season prices should aid early prices in 2016/17.

**Production to increase in top State:** While production is expected to decline in several apple-producing States, not to mention nine States were dropped from the NASS estimation program in 2016, increased output from western U.S. states is driving the forecast for a larger National apple crop this year (table 3). Due to generally favorable weather during the growing season and the alternate-bearing nature of fruit trees to some extent, Washington's 2016 apple crop is forecast at 6.4 billion pounds, 8 percent above the previous year and the second-largest reported for the State since 1990. Although production levels in other western States are much smaller in scale, bigger gains in output are expected from these States (up between 30-45 percent from a year ago) and join Washington in boosting the region's production up by 9 percent. Overall production gains of 10 percent in the central United States mostly reflect higher yield potential in Michigan where the crop is forecast up 20 percent. In contrast, due to frost problems this spring and summer drought conditions, overall production in the eastern United States is expected to decline 10 percent from last year, with smaller crops forecast in several States, including New York (down 12 percent), Pennsylvania (down 6 percent), and Virginia (down 5 percent)—major producers in the region.

**More fresh-use supplies to move to market:** With dominance in U.S. apple production, the bigger Washington crop indicates increased fresh-market supplies in 2016/17 compared with last season. USDA's Economic Research Service (ERS) projects about 7.1 billion pounds of production will go toward fresh use, nearly 70 percent of total utilized production (about 1-2 percent of the crop is unutilized due to economic or natural reasons). If realized, fresh-market production will be up 3 percent from the 2015/16 level and the second-highest from the record 7.9 billion pounds 2014/15 (fig. 3). Hence, ample supplies will be available to help boost domestic and international fresh-market demand for U.S. apples.

Over the past 5 years, fresh apple per capita use in the United States averaged about 17 pounds, with domestic production maintaining a major supplier role. Imports, mostly from the Southern Hemisphere, remain at less than 10 percent of total apple supplies available for domestic fresh use (fig.4).

**U.S. fresh apple exports fall in 2015/16:** Export markets take nearly one-third of the fresh-market crop. During the 2015/16 season, reduced domestic production, higher prices, and the strong U.S. dollar all likely contributed to the 25-percent decline in export volume. U.S. fresh apple exports fell to several global destinations, including the top 10 markets, except Indonesia. Exports to top market

Table 3--Apples: Total production and season-average price received by growers, 2013-15, and indicated 2016 production[1]

| States | Production | | | | Price | | |
|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 |
| | -- *Million pounds* -- | | | | -- *Cents per pound* -- | | |
| Eastern States: | | | | | | | |
| Connecticut | 27 | 20 | 25 | 23 | 74.1 | 63.2 | 58.5 |
| Maine | 27 | 38 | 36 | 42 | 51.6 | 42.1 | 50.4 |
| Maryland | 33 | 45 | 41 | 39 | 18.7 | 24.5 | 20.2 |
| Massachusetts | 44 | 43 | 43 | 39 | 52.0 | 49.2 | 53.0 |
| New Hampshire | 26 | 17 | 20 | na | 42.9 | 61.6 | 63.8 |
| New Jersey | 29 | 37 | 37 | 20 | 45.1 | 84.7 | 90.5 |
| New York | 1,410 | 1,260 | 1,360 | 1,200 | 17.1 | 20.0 | 20.3 |
| North Carolina | 155 | 125 | 105 | 110 | 22.2 | 24.6 | 20.7 |
| Pennsylvania | 469 | 534 | 519 | 490 | 18.6 | 16.7 | 18.8 |
| Rhode Island | 3 | 2 | 2 | na | 86.3 | 74.0 | 83.1 |
| Vermont | 34 | 29 | 36 | 31 | 45.1 | 40.7 | 43.2 |
| Virginia | 195 | 205 | 195 | 185 | 17.6 | 17.3 | 17.7 |
| West Virginia | 95 | 94 | 90 | 80 | 13.7 | 15.0 | 15.0 |
| Total | 2,546 | 2,450 | 2,510 | 2,259 | | | |
| Central States: | | | | | | | |
| Illinois | 16 | 21 | 21 | 23 | 52.8 | 76.4 | 55.8 |
| Indiana | 30 | 17 | 23 | na | 38.7 | 43.0 | 38.2 |
| Iowa | 8 | 5 | 5 | na | 69.9 | 77.9 | 86.3 |
| Michigan | 1,260 | 1,025 | 995 | 1,200 | 20.4 | 21.6 | 22.4 |
| Minnesota | 26 | 25 | 26 | 18 | 83.3 | 84.2 | 81.0 |
| Missouri | 17 | 21 | 28 | na | 36.8 | 28.3 | 44.0 |
| Ohio | 54 | 44 | 51 | 42 | 41.8 | 45.3 | 42.1 |
| Tennessee | 7 | 6 | 5 | na | 44.4 | 43.8 | 29.5 |
| Wisconsin | 48 | 54 | 52 | 40 | 50.8 | 61.2 | 57.8 |
| Total | 1,466 | 1,217 | 1,204 | 1,323 | | | |
| Western States: | | | | | | | |
| Arizona | 17 | 7 | [2] | na | 27.4 | 42.1 | [2] |
| California | 270 | 240 | 146 | 210 | 23.3 | 23.8 | 27.8 |
| Colorado | 6 | 9 | [2] | na | 36.3 | 89.2 | [2] |
| Idaho | 71 | 63 | 46 | 60 | 33.1 | 14.6 | 32.6 |
| Oregon | 141 | 155 | 125 | 165 | 36.4 | 27.9 | 35.5 |
| Utah | 17 | 23 | 15 | na | 48.1 | 21.9 | 32.9 |
| Washington | 5,900 | 7,650 | 5,950 | 6,400 | 36.2 | 26.8 | 40.5 |
| Total | 6,420 | 8,147 | 6,283 | 6,835 | | | |
| United States | 10,432 | 11,814 | 10,004 | 10,417 | 30.3 | 25.7 | 34.2 |

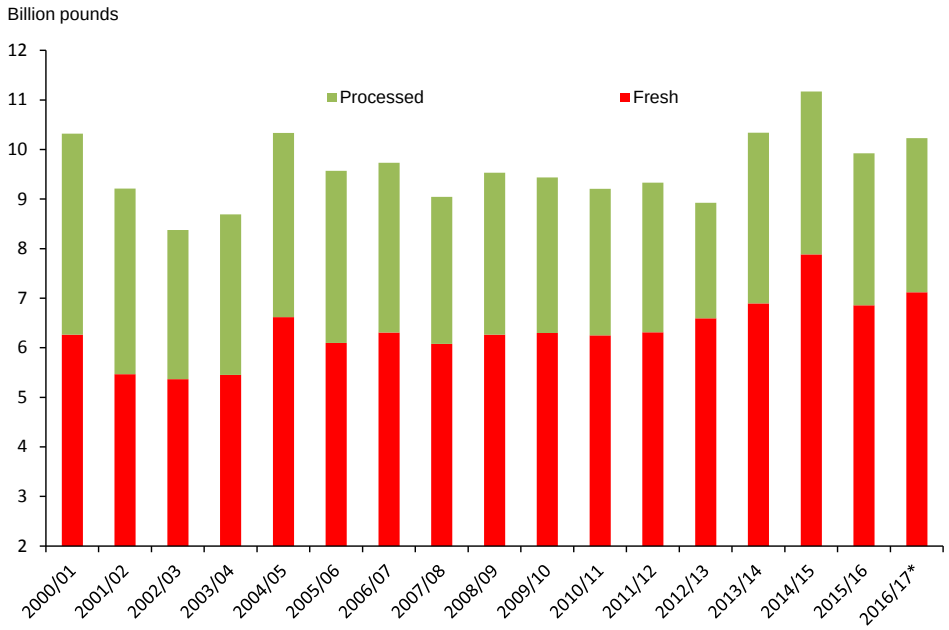
na = not available.

[1]Commercial production from orchards of at least 100 bearing-age trees.

[2] Production withheld to avoid disclosing data for individual operations.

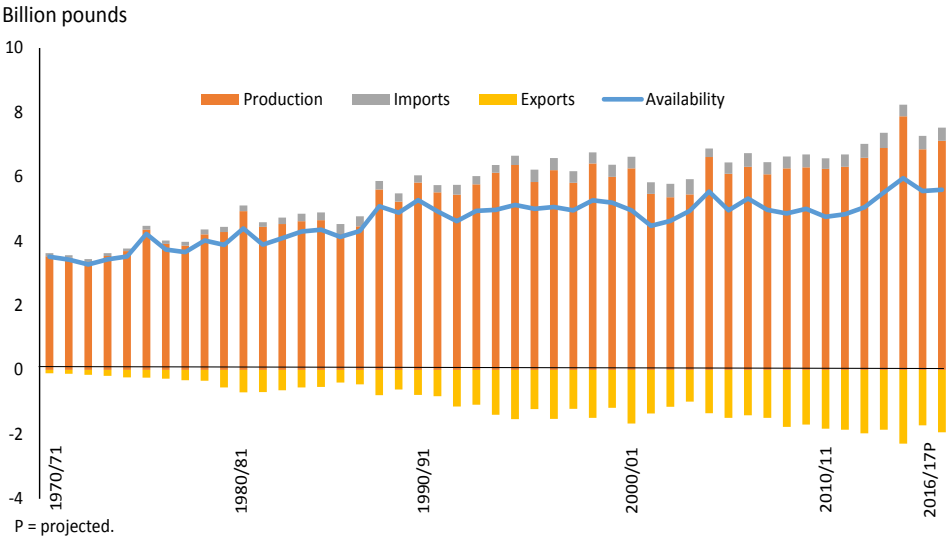
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2015 Summary* and *Crop Production* (August 2016 issue).

Figure 3
**U.S. apple production increases**




* USDA, Economic Research Service projection.
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts Summary*, various issues.

Figure 4
**U.S. fresh-market apples mostly serve the domestic market**




P = projected.
Source: USDA, Economic Research Service calculations based on total production estimates from the USDA National Agricultural Statistics Service, Noncitrus Fruit and Nuts Summary (various issues) and Crop Production (August 2016 issue) and U.S. trade data compiled from U.S. Department of Commerce, U.S. Census Bureau.

Mexico declined 31 percent even with that country's smaller crop. Preliminary antidumping duties that took effect in January 2016 against U.S. apple imports in Mexico may have dampened the country's demand for U.S. apples. Exports declined significantly to Mexico each month from November 2015 to July 2016 relative to the same months in the previous year. A final determination of the

antidumping investigation in June 2016 concluded with revoking the provisional duties against U.S. apple imports, boding favorably for U.S. apple export prospects to Mexico in 2016/17. Despite being the first full marketing year that U.S. apples have expanded access to the Chinese market, increased production in China slowed U.S. exports to the country in 2015/16.

**Fewer 2015 storage apples likely to aid early 2016/17 prices:** Harvest has begun for the 2016/17 apple season. Season-to-date shipment volumes out of Washington, California, and Oregon through early September 2016 are running ahead of the same time last season and account for 92 percent of total volume thus far, based on data from USDA's Agricultural Marketing Service (AMS). Shipments from Michigan and New York, on the other hand, are down significantly to date. As the 2015/16 season wound down, fewer storage apple supplies helped boost end-of-season fresh-market apple grower prices, indicating favorable early-pricing prospects in 2016/17.

As of June 1, 2016, apples supplies in cold storage were down 19 percent from the same time a year ago and 4 percent below the previous 5-year average, according to the U.S. Apple Association. Storage supplies were down in part due to reduced domestic production in 2015/16. U.S. grower prices for fresh-market apples remained fairly strong through most of last season, with NASS reporting end-of-season prices averaging $0.40 per pound in July 2016, up from $0.38 in June 2016 and up from $0.19 in July 2015. In contrast, the July 2015 average price fell 8 percent from the previous month and was down sharply from the same time the previous year due to above-average storage supplies late in 2014/15. Overall, the 13-percent reduction in fresh-use production in 2015/16 relative to the previous season resulted in a 37-percent increase in the season-average grower price for fresh-use apples at $0.45 per pound. At the retail end, apple prices also kept strong last season.

**Processing supplies likely up:** U.S. apple production for processing is also expected to be up in 2016/17 due to the larger crops in Washington and Michigan. Processing-use production is projected by ERS at slightly above the previous 5-year average, increasing to 3.1 billion pounds (up 1 percent from last year). While processors are likely to see an increase in raw material supplies this season given the bump in production, fewer processing-use apples from last year's crop to overlap with new-crop supplies should help mitigate the downward pressure on processing-use apple grower prices. The U.S. Apple Association reported that as of June 1, 2016, processing apple supplies in cold storage were down 19 percent from the same time last year and about unchanged from the previous 5-year average. As last year's smaller U.S. apple crop reduced production for the processing sector, the season-average grower price for processing-use apples rose from $178 per ton in 2014/15 to $201 per ton in 2015/16. Season-average grower prices rose across processed product categories in 2015/16, even for dried and fresh sliced apples where more 2015 apples were utilized compared with the previous year.

### *Smaller Crop To Boost Fresh Pear Prices*

In August, NASS reported that forecast declines in the top 3 States will push the U.S. pear production in 2016 down 5 percent from a year ago to 1.56 billion pounds (equivalent to 782,000 tons) (table 4). If realized, this year's production will be

down for a third straight year and the lowest in over two decades. Overall production declines of 2-4 percent are expected in Washington State, Oregon, and California, mostly due to fewer bearing acres. Furthermore, Michigan, New York, and Pennsylvania, which together normally make up 1-2 percent of the total crop, were dropped from the estimation program in 2016.

About two-thirds of the U.S. crop move through the fresh market. Similar to the 2015/16 marketing season (July-June), a smaller U.S. crop will likely reduce the fresh-market pear output during the 2016/17 season—projected by ERS to total 1.03 billion pounds, down 3 percent from last season and below the previous 5-year average. This lower fresh output, along with generally good fruit quality, should help strengthen fresh pear grower prices in 2016/17. However, the anticipated larger U.S. apple crop this year may provide some offsetting price impacts. Below-average production and higher prices will likely dampen demand for U.S. fresh pears in 2016/17, with domestic per capita use likely to decline again (fig. 5). As with domestic availability, U.S. export supplies will also likely be diminished by this year's short crop. Early-season exports are already showing a slowdown, with July 2016 export volume down 39 from the same time last year. Imports in July also show a significant decline.

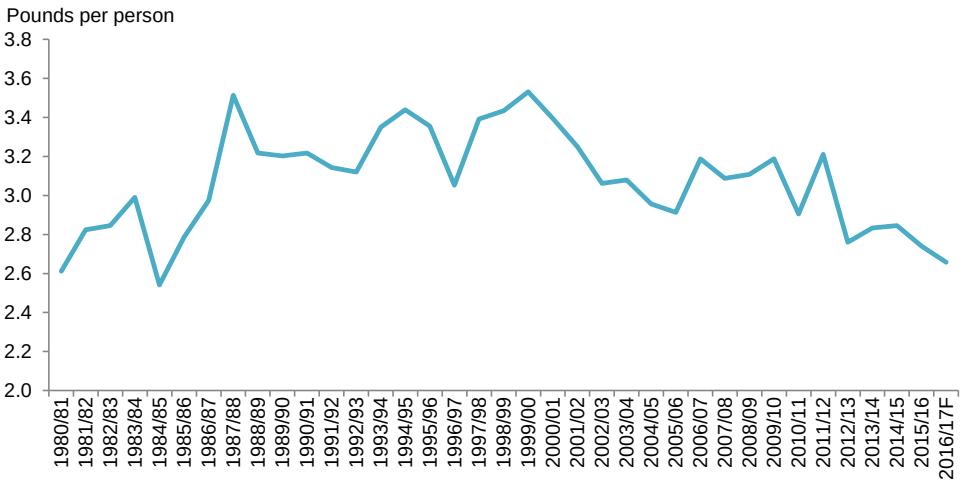
A strong finish to 2015/16 U.S. fresh pear grower prices, California's earlier harvest this year, tight supplies, and the good quality of this year's crop, all combined to boost 2016/17 opening-season prices. Prices in July averaged $0.43 per pound (or $866 per ton), 36 percent above the July 2015 average and the highest for the month since 1985 (prices were not reported in 2013). Prices have held strong through most of last season due to tight supplies (domestic production below previous 5-year average and imports down 12 percent from 2014/15), with most months during the season also posting record-high average prices since 1985.

Table 4--Pears: Total production and season-average price received by growers, 2013-15 and indicated 2016 production

| State | Production 1/ | | | | Price | | |
|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 |
| | --- *Million pounds* --- | | | | --- *Cents per pound* --- | | |
| Pacific Coast: | | | | | | | |
| California: | | | | | | | |
| Bartlett | 354 | 308 | 344 | 328 | 17.4 | 20.8 | 25.2 |
| Other | 86 | 70 | 60 | 66 | 28.6 | 35.1 | 28.4 |
| Total | 440 | 378 | 404 | 394 | 19.6 | 23.5 | 25.7 |
| Oregon: | | | | | | | |
| Bartlett | 110 | 106 | 115 | 100 | 25.6 | 28.6 | 32.0 |
| Other | 304 | 326 | 341 | 336 | 27.3 | 29.8 | 34.4 |
| Total | 414 | 432 | 456 | 436 | 26.9 | 29.5 | 33.8 |
| Washington: | | | | | | | |
| Bartlett | 370 | 362 | 356 | 336 | 21.8 | 25.7 | 26.5 |
| Other | 498 | 470 | 404 | 398 | 29.1 | 32.1 | 36.7 |
| Total | 868 | 832 | 760 | 734 | 26.0 | 29.3 | 31.9 |
| Michigan | 11 | 5 | 4 | na | 17.4 | 22.1 | 30.3 |
| New York | 18 | 11 | 13 | na | 28.3 | 33.3 | 37.8 |
| Pennsylvania | 3 | 5 | 4 | na | 46.2 | 55.0 | 60.5 |
| United States | 1,754 | 1,663 | 1,641 | 1,564 | 24.6 | 28.1 | 31.0 |

na = not available.
1/ Includes unharvested production and production not sold.
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2015 Summary* and *Crop Production* (August 2016 issue).

Figure 5
**U.S. fresh pear per capita use declining**




F= forecast.
Source: USDA, Economic Research Service, *Fruit and Tree Nut Yearbook*, various years.

Harvest has started in Washington and Oregon and supplies are picking up, especially as the Northwest pear season also started early due to the warm winter and spring. AMS data show U.S. fresh pear shipments through early September running 11 percent above the same period last year, reflecting higher volumes from California, Oregon, and Washington. Of the total shipments thus far, about 61 percent were California pears, 33 percent were Washington pears, and most of the remainder were Oregon pears. More fruit hitting the market this summer likely contributed to seasonal price declines. However, the expected smaller crop points to continued higher-than-year-ago fresh pear grower prices in the fall when harvest in the Northwest gets well underway.

At the retail level, lower imports, mostly from the Southern Hemisphere, are partly behind the higher pear prices early this season. AMS data on advertised retail prices for nonorganic Bartlett, Bosc, and D'Anjou pears in the United States show seasonal price declines from July through August but with monthly averages still mostly up 3-34 percent above the same time a year ago. Through most of September, the average price for Bartlett and D' Anjou pears were flat to slightly higher year-over-year, but down 6 percent for Bosc pears.

The combined 3-State Bartlett pear production forecast for 2016 is 764 million pounds, down 6 percent from last year. Bartlett pears account for over 80 percent of U.S. pears harvested each year for processing. Similar to last year, this year's reduced Bartlett pear crop signals fewer pears moving through the processing sector, likely boosting processing-pear grower prices in 2016/17. During the previous season, 35 percent of total utilized production moved through the processing sector for a total of 279,400 tons, down less than 1 percent from the 2014/15 total. Processor demand remained strong in 2015/16, especially as canned pear imports fell slightly, boosting processing-pear grower prices for the season to $346 per ton, up 20 percent from the previous year and the highest since 1980. Import volumes declined last season from China, South Africa, and Mexico—the top 3 foreign suppliers of canned pears to the United States, with China accounting for 85 percent of the total volume.

### *U.S. Grape Crop Forecast to Increase Slightly in 2016*

U.S. grape production is forecast at 15.6 billion pounds (or 7.82 million tons) in 2016, up 2 percent from a year ago and the third-largest in over three decades, if realized. Despite persistent drought conditions, production in California is forecast fairly flat at 13.8 billion pounds (equal to 6.90 million tons or 88 percent of the total crop) as increases to the wine-type and table-type grape crops are offset by the smaller raisin-type crop (table 5). Snow and winter rains provided some relief to the State's water reserves, and the warm, dry summer helped boost fruit sugar content. Earlier industry reports indicated that while this year's California grape crop was shaping up well for the 2016/17 marketing season (May-April), cooler temperatures in May slowed crop growth and a heat wave in the early summer may have impacted sizing of some of the earlier varieties. California is forecast to produce 5 percent more wine-type grapes and 10 percent more table-type grapes than a year ago. Last year, both these crops experienced reduced outputs. In contrast, the State's production of raisin-type grapes is forecast down 13 percent, a reverse of last year.

Elsewhere across the country, combined production is forecast up 11 percent from last year due to expected larger crops in several States, including other key producers—Washington (up 11 percent), New York (up 14 percent), Pennsylvania (up 18 percent), and Michigan (up 9 percent). Second in rank to California, Washington's grape crop is forecast at 960 million pounds (or 6 percent of the total crop), with increases expected for wine and juice-type grapes.

Table 5--Grapes: Total production and season-average price received by growers in principal States, 2013-15 and indicated 2016 production

| | Production | | | | Price | | |
|---|---|---|---|---|---|---|---|
| State | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 |
| | -- *Million pounds* -- | | | | -- *Cents per pound* -- | | |
| Arkansas | 4 | 3 | 3 | na | 50.5 | 45.1 | 38.1 |
| Georgia | 9 | 8 | 10 | na | 55.5 | 73.5 | 75.5 |
| Michigan | 188 | 127 | 161 | 176 | 18.7 | 15.3 | 15.7 |
| Missouri | 12 | 8 | 11 | 13 | 36.4 | 39.5 | 44.0 |
| New York | 412 | 376 | 290 | 330 | 18.7 | 19.3 | 19.5 |
| North Carolina | 10 | 12 | 15 | 10 | 42.2 | 40.4 | 38.1 |
| Ohio | 13 | 8 | 7 | 10 | 29.5 | 23.8 | 20.5 |
| Oregon | 98 | 116 | 130 | 124 | 109.5 | 102.0 | 113.5 |
| Pennsylvania | 220 | 182 | 154 | 182 | 15.9 | 15.9 | 16.0 |
| Texas | 14 | 19 | 23 | 25 | 78.0 | 75.0 | 80.0 |
| Virginia | 15 | 18 | 18 | 18 | 90.0 | 92.5 | 97.5 |
| Washington | | | | | | | |
| Wine | 420 | 454 | 460 | 500 | 55.5 | 55.5 | 57.0 |
| Juice | 364 | 570 | 378 | 460 | 12.2 | 8.8 | 9.2 |
| All | 784 | 1,024 | 838 | 960 | 35.4 | 29.5 | 35.4 |
| Total [1] | 1,780 | 1,900 | 1,660 | 1,848 | | | |
| California: | | | | | | | |
| Wine | 8,490 | 7,790 | 7,410 | 7,800 | 37.7 | 38.0 | 34.0 |
| Table | 2,454 | 2,330 | 2,270 | 2,500 | 63.0 | 67.5 | 76.5 |
| Raisin [2] | 4,540 | 3,748 | 4,014 | 3,500 | 18.2 | 19.1 | 17.4 |
| All | 15,484 | 13,868 | 13,694 | 13,800 | 36.0 | 37.8 | 36.2 |
| United States | 17,264 | 15,768 | 15,354 | 15,648 | 35.6 | 37.0 | 36.2 |

na = not available.

[1] Sum of State production, excluding California. [2] Fresh weight of raisin-type grapes.

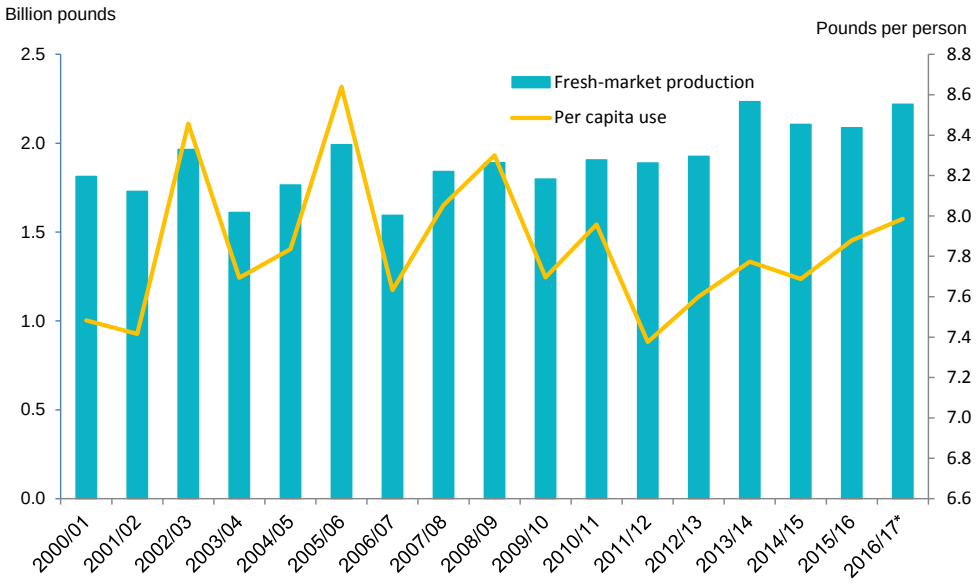
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2015 Summary* and *Crop Production* (August 2016 issue).

**Fresh-Market Grape Production Likely To Increase:** The anticipated larger California table grape crop points to higher tonnage of U.S. grapes for fresh use in 2016/17. About a 6 percent bump in tonnage is projected by USDA/ERS for U.S. fresh-market grape production during the 2016/17 marketing year, totaling 2.2 billion pounds, comprised mostly of table grapes but also includes a small proportion of raisin grapes. If achieved, fresh use production will exceed the previous 5-year average level, translating to ample supplies to meet current demand (fig. 6). Domestic per capita use of fresh grapes is closing in on reaching the 8.0-pound mark, a level not achieved over the past 5 years.

The 2016 harvest in California's San Joaquin Valley is in full progress. Despite the forecast increase in table grape production, total shipment volume for the season through early September was running slightly behind a year ago, based on AMS data. Subsequently, U.S. fresh grape grower prices have been fairly strong so far in 2016/17, with May-July prices averaging 11-15 percent higher than during the same period last season, based on NASS data. The May-July 2016 average price was $2,000 per ton, compared with $1,787 during the same 3-month period in 2015. These higher prices also translated to higher retail prices. BLS retail price data show prices for Thompson seedless grapes slightly higher than a year ago from May through August of this year. As with the average grower prices and BLS reported retail prices thus far, weekly information from AMS show advertised retail prices for various seedless-type grapes at major U.S. supermarket outlets have declined seasonally since May. Movement of prices relative to last year, however, varied across these varieties.

U.S. fresh-grape exports reached 722.9 million pounds in 2015/16, down 16 percent from 2014/15 and below the previous 5-year average volume on reduced domestic production and the strong U.S. dollar. Exports declined to Canada, Mexico, Hong

Figure 6
**U.S. fresh-grape production and per capita use**




* USDA, Economic Research Service projection.
Source: USDA, Economic Research Service calculations on per capita use; USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts Summary*, various issues.

Kong, the Philippines, and Indonesia—the top five global markets for U.S. fresh grapes in 2015/16, receiving nearly two-thirds of total volume. Backed by the expected increase in domestic production, early exports in 2016/17 indicate prospects of a rebound, with volumes from May through July up 7 percent from the same period last season. Of the top markets, volumes to Canada, the Philippines, and Indonesia show positive gains thus far.

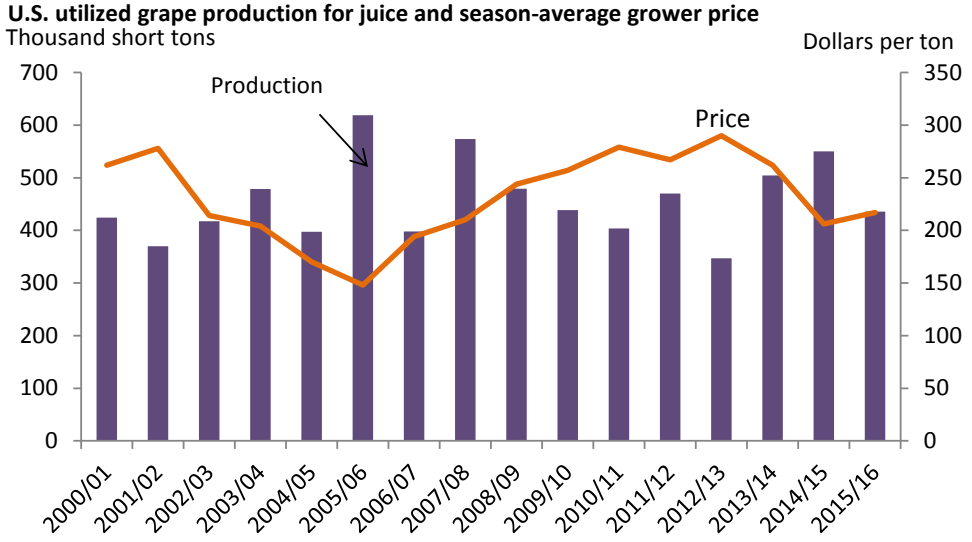
**More Grapes Destined for Wineries:** The anticipated larger wine grape crop in California point to increased grape tonnage to be crushed for wine in the United States in 2016. California's wine grape production is forecast at 7.8 billion pounds (or 3.9 million tons) in 2016, up 5 percent from the previous year. Additionally, while California traditionally accounts for over 90 percent of U.S. grapes made into wine each year, expected production gains in Washington, New York, Pennsylvania, Texas, Missouri, Michigan, and Ohio will also contribute to the higher crushed tonnage this year. Washington is the only other State, besides California, that report wine grape production annually. This year, the forecast is for 500 million pounds (or 250,000 tons) of wine grapes to be produced in Washington, up 9 percent from last year and making up 52 percent of the State's total crop. Based on recent 5-year average shares of State-level grape production going to wineries, USDA/ERS projects total grape tonnage crushed for wine to increase about 7 percent in 2016/17 from the previous season to around 9.1 billion pounds (or 4.5 million tons), putting downward pressure on 2016/17 grower prices for grapes sold to wineries.

**Grape Tonnage for Juice Likely Up:** A forecast 22-percent increase in Washington's juice-grape production this year, along with forecast bigger crops in Michigan, New York, and Pennsylvania, indicate an upturn in grape tonnage crushed for juice during the 2016/17 marketing season (August-July). Positive tonnage gains headed to juice processors will likely soften juice-grape grower prices this season. This contrasts with the situation in 2015/16 when a significant decline in grape tonnage for juice realized a 5-percent boost in the season-average grower price (fig. 7). Reduced tonnage for juice in New York, Pennsylvania, and Washington during the 2015/16 season due to smaller total grape crops (juice-grape production only for Washington) drove down the overall tonnage of grapes that moved to the juice processing sector. According to the California Department of Food and Agriculture and the USDA/NASS Pacific Regional Office, California grape tonnage for concentrate production totaled 434,612 tons in 2015, 11 percent of the State total crushed tonnage and down 8 percent from the previous year. The share of total concentrate tonnage used specifically for making juice, however, remains unreported.

The significant decline in domestic grape production for juice in 2015/16 was matched with a 3 percent decline in U.S. grape-juice imports. Imports dipped to a 14-year low at 47.2 million single-strength-equivalent (sse) gallons on continuing lower supplies from Argentina. While, on average, Argentina supplies over 80 percent of U.S. grape juice imports, bigger declines from Canada, Australia, and Italy are also of note. Among other leading suppliers, imports were up significantly from Chile and Mexico. International demand for U.S. grape juice fell to a 30-year low in 2015/16, with volume down 10 percent to 8.4 million sse gallons and value down 6 percent to $67.5 million—the lowest in the past 8 years. Export volumes last season fell markedly to Canada, Japan, and South Korea—the top 3 export markets for U.S. grape juice, accounting for 71 percent of total volume.

Figure 7

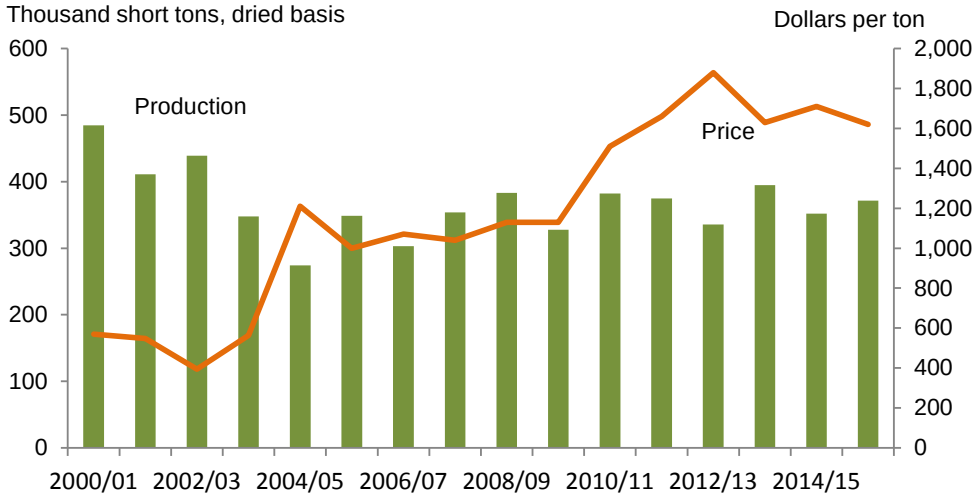
**U.S. utilized grape production for juice and season-average grower price**




Source: USDA, National Agricultural Statistics, *Noncitrus Fruits and Nuts Summary,* various issues.

Figure 8

**California raisin grape production dried into raisins and average grower price**




Source: USDA, National Agricultural Statistics, *Noncitrus Fruits and Nuts Summary,* various issues.

**U.S. Raisin Production To Drop:** At 3.5 billion pounds (or 1.75 million tons), the forecast 13-percent smaller California raisin-grape crop indicates a reduction in the quantity of available grapes for drying in 2016/17. Some table grapes also get used in raisin production each year but over 95 percent of California grapes dried are of the raisin type. While reduced tonnage for drying should help strengthen grower prices for raisin grapes, above-average raisin stocks in the beginning of the 2016/17 marketing season likely will diminish processor demand, easing potential price gains for raisin grapes during the season. In the previous 2015/16 season, production gains, increased imports, and weak export demand left a large buildup in raisin ending stocks, pushing raisin-grape grower prices down 5 percent to $1,620 per ton from the 2014/15 season (fig. 8). As other factors normally come into play,

nonetheless, production and price for raisin grapes have depicted an inverse relationship through most of the past 16 years. U.S. raisin production is forecast by USDA's Foreign Agricultural Service (FAS) to drop to 315,000 metric tons (or 347,000 short tons) in 2016/17, down 9 percent from last season. This decline will be partly offset by large beginning stocks, while projected higher domestic and export demand will draw down ending stocks. Imports are projected down slightly in 2016/17 on flat to lower production and exports in Chile, Argentina, and the Republic of South Africa—top suppliers of imported raisins to the United States.

### *U.S. Peach Production Continues To Decline*

Forecast estimates from USDA/NASS indicate that the 2016 U.S. peach crop will be down for the seventh consecutive year to 1.61 billion pounds, down 5 percent from last year and the smallest crop since the 1980s. Approximately 72 percent of this output is expected to come from California, where statewide-production is forecast at 1.16 billion pounds, down 5 percent from last year; the freestone crop is expected down 3 percent and the clingstone crop down 6 percent (table 6). California's warm winter this year prompted early crop maturity and, with persistent lack of water, resulted in variable fruit set. Freestone yields are reported at below-average levels. Impacted by spring hailstorms that moved through the Sacramento Valley, clingstone yields are also lower, but fruit quality of this year's harvest is very good, with sizing of fruit improved from last year.

Production in most other States, particularly on the East Coast, was substantially reduced due to frost damage. The warm winter forced trees out of dormancy early, damaging young buds during a February freeze. Peach crops in other States are of the freestone type, which when combined with California's freestone crop, indicate a 4-percent year-over-year reduction. Almost 75 percent of U.S. freestone peaches are destined for fresh use, while clingstones—virtually all produced in California—make up the rest of the U.S. peach crop and are mostly canned. The reduced clingstone crop suggests limited processing supplies, potentially boosting grower prices for processing-use peaches this year.

Despite the expected smaller freestone crop, average grower prices in May and June showed declines of between 10-30 percent from the same period last year likely as a result of higher shipments in California due to an earlier start to the harvest and increased imports from Mexico. Prices strengthened in July, averaging $1,030 per ton, 10 percent higher than the July 2015 average price. At the retail level, fresh peach prices also averaged below a year ago in June and gained ground in July. Prices are likely to continue strong this summer, especially with the potential for domestic shipments to finish early.

Even with the smaller fresh-market crop, domestic fresh peach demand is projected to remain relatively unchanged from a year ago in 2016, with U.S. per capita use projected between 2-3 pounds, near or at levels of the past 3 years. Imports are projected to increase 11 percent to around 93 million pounds on increased trade with Chile while exports are projected up 2 percent to 165 million pounds, a slight uptick from last year but still lower than the average of recent years. Exports shipments to Canada are experiencing a marginal rise and remain fairly flat to other top markets.

Table 6 --Peaches: Total production and season-average price received by growers, 2013-15 and indicated 2016 production

| State | Production | | | | Price | | |
|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 |
| | -- *Million pounds* -- | | | | -- *Cents per pound* -- | | |
| Alabama | 8 | 7 | 11 | 7 | 58.5 | 60.0 | 56.0 |
| Arkansas | 3 | 1 | 2 | na | 80.5 | 92.0 | 92.0 |
| California | 1,296 | 1,240 | 1,215 | 1,160 | 21.5 | 28.8 | 28.1 |
| Freestone | 560 | 576 | 534 | 520 | 25.8 | 40.6 | 34.0 |
| Clingstone | 736 | 664 | 681 | 640 | 18.2 | 18.5 | 23.5 |
| Colorado | 15 | 27 | 22 | 25 | 93.5 | 121.5 | 112.5 |
| Connecticut | 3 | 4 | 3 | na | 138.5 | 125.0 | 104.0 |
| Georgia | 71 | 71 | 81 | 86 | 41.3 | 54.5 | 52.0 |
| Idaho | 12 | 16 | 14 | 11 | 47.3 | 53.5 | 47.2 |
| Illinois | 8 | 7 | 7 | 8 | 67.0 | 63.5 | 73.5 |
| Maryland | 8 | 8 | 8 | 5 | 53.0 | 52.0 | 51.5 |
| Massachusetts | 3 | 2 | 3 | na | 138.5 | 112.0 | 116.5 |
| Michigan | 41 | 18 | 14 | 26 | 35.3 | 46.0 | 41.7 |
| Missouri | 8 | 8 | 5 | 6 | 92.5 | 57.0 | 68.5 |
| New Jersey | 36 | 45 | 42 | 28 | 75.5 | 66.0 | 65.5 |
| New York | 15 | 15 | 14 | 3 | 40.8 | 89.5 | 62.5 |
| North Carolina | 12 | 9 | 11 | 7 | 57.5 | 72.5 | 66.0 |
| Ohio | 11 | 0 | 2 | 5 | 74.0 | 84.0 | 76.0 |
| Pennsylvania | 39 | 30 | 36 | 33 | 51.5 | 59.5 | 58.5 |
| South Carolina | 139 | 131 | 138 | 136 | 53.5 | 56.0 | 53.5 |
| Texas | 17 | 8 | 10 | 9 | 128.5 | 100.0 | 90.0 |
| Utah | 11 | 13 | 8 | 12 | 54.0 | 49.1 | 54.0 |
| Virginia | 15 | 11 | 10 | 8 | 46.3 | 58.5 | 67.0 |
| Washington | 26 | 25 | 26 | 33 | 38.5 | 43.4 | 53.5 |
| West Virginia | 11 | 11 | 12 | 6 | 45.0 | 51.0 | 53.5 |
| United States | 1,808 | 1,706 | 1,694 | 1,613 | 30.9 | 37.6 | 36.7 |

na = not available.

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2015 Summary* and *Crop Production* (August 2016 issue).

## *Cranberry Production Remains Large*

The NASS August forecast for U.S. cranberry production in 2016 is at 859 million pounds (or 8.59 million barrels), up less than 1 percent from a year ago but 3 percent above the previous 5-year average. Due to generally favorable weather during the growing season, production in Wisconsin, the largest producer, is anticipated to increase 7 percent, offsetting expected declines in other States and driving up overall production (table 7). Among other producing States, anticipated declines will be most significant in Massachusetts, down 12 percent. Drought conditions have contributed to the forecast of smaller crops in Massachusetts and New Jersey. Despite good pollination weather, production in Washington is forecast down 1 percent from a year ago. Should the national forecast materialize, production will rank second to the 896 million-pound-record in 2013. The expected large production will likely put downward pressure on cranberry grower prices during the 2016/17 marketing year (September-August).

Despite large production in recent years, favorable demand for U.S. cranberry products during the 2014/15 and 2015/16 marketing years has slowed the pace of ending inventory buildup, increasing 2-8 percent year-over-year, compared with the 30 percent growth rate reported by the Cranberry Marketing Committee (CMC) in 2012/13 and 2013/14. While this suggest that the carry-in inventory volume in 2016/17 will still be increasing, a slower growth rate should be more favorable to the U.S. cranberry industry that has faced oversupply challenges in the recent past. Keeping to a moderate increase in carry-in inventory volume will likely help mitigate any downward pressure on 2016/17 grower prices, particularly as domestic

Table 7--Cranberries: Total production and season-average prices received by growers, 2013-15, and indicated 2016 production

| State | Production | | | | Price | | |
|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 |
| | -- Million pounds -- | | | | -- Cents per pound -- | | |
| Massachusetts | 185 | 207 | 235 | 207 | 31.6 | 37.1 | 32.8 |
| New Jersey | 55 | 65 | 60 | 59 | 37.5 | 36.9 | 37.3 |
| Oregon | 39 | 50 | 56 | 53 | 30.6 | 23.1 | 25.9 |
| Washington | 15 | 16 | 20 | 19 | 43.7 | 44.6 | 44.2 |
| Wisconsin | 602 | 502 | 486 | 521 | 32.0 | 27.9 | 30.5 |
| United States | 896 | 840 | 856 | 859 | 32.4 | 30.9 | 31.6 |

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2015 Summary* and *Cranberries* (released August 2016).

production remains fairly flat. With almost similar situation in 2015/16, the all-cranberry grower price rose 2 percent from the previous year to $31.6/barrel.

CMC market data indicated total U.S. cranberry sales in 2015/16 stood at 9.48 million barrels, up 4 percent from the previous year. This is the third consecutive year of increased sales for the industry following a 2-year slump in 2012/13 and 2011/12. Domestic sales in 2015/16 increased less than 1 percent from the previous year while foreign sales rose 11 percent.

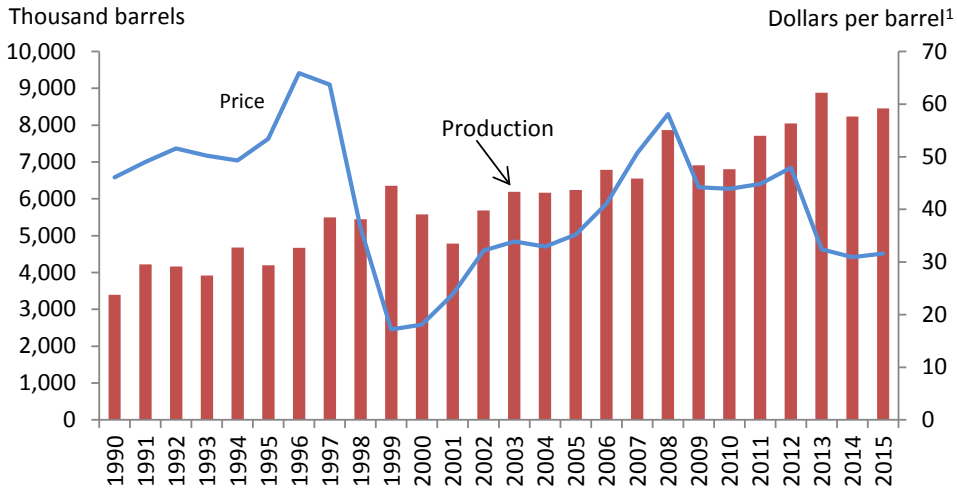
The domestic market accounts for over two-thirds of total U.S. cranberry sales volume. Fresh sales to this market showed positive growth in 2015/16, increasing 4 percent from the previous year while total domestic processed sales were fairly flat. Domestic cranberry sales to the Federal Government for food programs in 2015/16 remained relatively unchanged from the strong level in 2014/15. CMC data show sales to USDA/AMS commodity purchase programs in 2014/15 rose 68 percent from the previous year and were well above the previous 5-year average. Although still fairly minor in relation to other domestic marketing outlets, sales to USDA has increased significantly in proportion of total domestic sales in recent years, from less than 1 percent in 2012/13 and prior years to 7 percent in 2014/15 and 2015/16.

USDA purchases, as well as marketing and promotion undertakings by the industry to boost domestic and export demand, has been critical in managing recent large supplies in the industry and preventing grower prices to once again dip to the lows of the late 1990s. The industry is regulated by a Federal Marketing Order but the last time volume control was implemented was during the 2001/02 marketing year, which succeeded 2 years of rock bottom prices ($17-18/barrel) (fig. 9). In 2001/02, the all-cranberry average grower price improved to almost $24/barrel (up 31 percent from the previous year) as the volume control regulation—with a 65-percent producer allotment that year—contributed to a significant reduction in inventories.

Processed cranberries (mostly sweetened and dried cranberries) made up nearly 80 percent of U.S. cranberry exports (foreign sales) in 2015/16 while cranberry concentrate accounted for most of the remaining sales. Foreign sales in 2015/16 were up from the previous season, with sales of processed cranberries and cranberry concentrate posting positive growth.

Figure 9

**U.S. utilized cranberry production and average grower price**




[1] 1 barrel = 100 pounds.

Source: USDA, National Agricultural Statistics, *Noncitrus Fruits and Nuts Summary,* various issues.

# Citrus Fruit

## *Final 2015/16 Estimate Shows Total Citrus Production Down*

As the 2015/16 season ends for most citrus fruits, final production estimates were released on September 12 in the USDA/NASS *Citrus Fruits 2016 Summary*. The final estimate for all U.S. citrus production was 8.56 million tons, down 6 percent in comparison to the 2014/15 season (table 8). Throughout the 2015/16 season, upward adjustments were made to production volumes after the initial forecast of 8.30 million tons was reported in October 2015. Texas's production increased 13 percent since 2014/15. California witnessed a 9 percent increase year over year, while Florida's citrus production declined 18 percent, from 5,049,000 tons in 2014/15 to 4,216,000 tons in 2015/16. Citrus production in Arizona in 2015/16 was down 20 percent at 70,000 tons.

All orange production was down 7 percent in 2015/16 to end with 5.9 million tons, from the 2014/15 level of 6.4 million tons. The U.S. navel harvest declined 6 percent to total 3.5 million tons, while Valencia orange production declined 8 percent, due to combined losses from California and Florida. Texas' production increased 15 percent to 71,000 tons, with higher production in both orange varieties. California's total orange production was up 19 percent in 2015/16, with increases in early- and mid-season navel production more than offsetting declines in Valencia orange production. Florida's all orange production declined 16 percent in 2015/16 from previous season, with early- and mid-season navel production down 24 percent and Valencia production down 8 percent.

## *Drop in California Navel Orange Production Forecast in 2016/17*

On September 12, the NASS Pacific Regional Office released its first estimate for the 2016/17 citrus season. The forecast was reported in the 2016-17 *California Navel Orange Objective Measurement Report*, which collected data from the Central Valley between July 9 and September 1, with 577 navel groves randomly selected. This initial forecast for the California navel orange production is at 84.0 million cartons (40-lb cartons) or 1.68 million tons, down 8 percent from last season. The survey measurements indicated that fruit set and the average fruit size are below last year's measurements. With 384 fruit per tree for the Central Valley average, fruit set per tree is down 7 percent this year but above the 5-year average of 334. Decreasing fruit set is not expected to be offset by larger size fruit. The average September 1 diameter was 2.213 inches, down from 2.248 inches in the previous season, and below the 5-year average of 2.251 inches.

U.S. exports are very strong for fresh oranges in 2015/16 through July, reaching 1.40 billion pounds, a 26 percent increase year over year. South Korea was the leading market for U.S. fresh oranges so far, with 351.6 million pounds, followed by Canada, receiving 318.9 million pounds. Hong Kong and Japan are also important export markets for U.S. fresh oranges, and both have experienced growth this season thus far. Exports to Hong Kong increased 45 percent in volume through July, while exports to Japan were up 8 percent. It is important to note that fresh orange exports to China increased 58 percent through July. Monthly export volumes have been stronger 7 out of 9 months in 2015/16 thus far, representing a rebound from a downward trend in the last four seasons.

Table 8--Citrus: Utilized production, 2013/14, 2014/15 and forecast for 2015/16[1]

| Crop and State | Utilized | | Forecast for 2015/16 | Utilized | | Forecast for 2015/16 |
|---|---|---|---|---|---|---|
| | 2013/14 | 2014/15 | as of 09-2016 | 2013/14 | 2014/15 | as of 09-2016 |
| | ---- *1,000 boxes*[2] ---- | | | ----*1,000 tons* ---- | | |
| Oranges: | | | | | | |
| Early/mid-season and navel: | | | | | | |
| California | 38,700 | 39,000 | 45,500 | 1,548 | 1,560 | 1,820 |
| Florida[3] | 53,300 | 47,400 | 36,100 | 2,399 | 2,133 | 1,625 |
| Texas | 1,401 | 1,170 | 1,351 | 60 | 50 | 57 |
| Total[4] | 93,401 | 87,570 | 82,951 | 4,007 | 3,743 | 3,502 |
| Valencia: | | | | | | |
| California | 10,800 | 9,200 | 8,700 | 432 | 368 | 348 |
| Florida | 51,400 | 49,550 | 45,500 | 2,313 | 2,230 | 2,048 |
| Texas | 376 | 282 | 340 | 16 | 12 | 14 |
| Total | 62,576 | 59,032 | 54,540 | 2,761 | 2,610 | 2,409 |
| All oranges | 155,977 | 146,602 | 137,491 | 6,768 | 6,353 | 5,911 |
| Grapefruit: | | | | | | |
| California | 3,850 | 4,800 | 3,800 | 154 | 192 | 152 |
| Florida | 15,650 | 12,900 | 10,800 | 665 | 548 | 459 |
| Texas | 5,700 | 4,250 | 4,800 | 228 | 170 | 192 |
| All grapefruit | 25,200 | 21,950 | 19,400 | 1,047 | 910 | 803 |
| Tangerines and mandarins: | | | | | | |
| Arizona | 150 | 170 | -- | 6 | 7 | -- |
| California | 14,700 | 18,700 | 21,700 | 588 | 748 | 868 |
| Florida | 2,900 | 2,265 | 1,415 | 138 | 108 | 67 |
| All tangerines and mandarins | 17,750 | 21,135 | 23,115 | 732 | 863 | 935 |
| Lemons: | | | | | | |
| Arizona | 1,800 | 2,000 | 1,750 | 72 | 80 | 70 |
| California | 18,800 | 20,600 | 20,500 | 752 | 824 | 820 |
| All lemons | 20,600 | 22,600 | 22,250 | 824 | 904 | 890 |
| Tangelos | | | | | | |
| Florida | 880 | 665 | 390 | 40 | 30 | 18 |
| All citrus[4] | 220,407 | 212,952 | 202,646 | 9,410 | 9,060 | 8,557 |

-- = Discontinued.

[1]The crop year begins with bloom of the first year shown and ends with completion of the harvest following year.

[2]Net pounds per box: oranges in California (CA)-80 (75 prior to the 2010-2011 crop year), Florida (FL)-90, Texas (TX)-85; grapefruit in CA-80 (67 prior to the 2010-11 crop year), FL-85, TX-80; lemons-80 (76 prior to the 2010-11 crop year); tangelos-90; tangerines and mandarins in AZ and CA-80 (75 prior to the 2010-11 crop year), FL-95.

[3] Includes Temples. [4]Totals may not be equivalent to the sum of the categories due to rounding.

Source: USDA, National Agricultural Statistics Service, *Crop Production,* various issues.

Imports are also strong for fresh oranges through July, reaching 195.5 million pounds, an increase of 7 percent year over year. Mexico is the top supplier of fresh oranges with 110 million pounds and accounted for 56 percent of total imports so far in 2015/16. South Africa and Chile continue to be the two other major suppliers of fresh oranges. The remaining months of the marketing year (July through October) are typically the heaviest time for imports; however, fresh oranges imports this July were 5 percent lower relative to July 2015, but still above the past 5-year average.

The *Citrus Fruit 2016 Summary*, released September 12, reports that the season-average (November through June) equivalent-on-tree price for California navels in 2015/16 was $12.13 per box, a 10-percent decline from $13.44 per box in 2014/15. The total value of the California navel crop was $671 million, 6 percent above the

2014/15 crop value but 9 percent below the 2013/14 season. As drought conditions continue in California, the anticipated smaller navel crop should keep prices elevated through the 2016/17 season.

### *With Lower Production, Florida Ships Less Citrus in 2015/16*

The Florida Department of Citrus (FDOC) released its final weekly fresh citrus shipment report for the 2015/16 season on August 18. The report shows Florida fresh citrus shipment volumes down 21 percent, with revenue down 12 percent as well. Shipments totaled 17.5 million 4/5 bushel cartons in 2015/16, compared to 21.9 million cartons the previous season. The lower shipments coincide with the reduction in total citrus production volume for the State. Fresh grapefruit represented 52 percent of total Florida fresh citrus shipments, reaching 9.1 million cartons, down 14 percent from the 2014/15 volume of 10.6 million cartons. The largest decline was exports to Canada, where Florida fresh grapefruit shipments experienced a 19 percent drop. Domestic and international shipments both declined 14 percent in 2015/16. Fresh orange shipments are down more severely than grapefruit. Total Florida orange shipments represented 35 percent of total fresh citrus shipments in 2014/15. At only 6.14 million cartons, 2015/16 orange shipments were 23 below the previous season. International fresh orange shipments increased substantially (up 123 percent); however, because of its small size in absolute terms, this increase was not enough to offset declines in shipment volumes to the domestic (down 24 percent) and Canada (down 22 percent) markets. Movement of specialty citrus slipped 35 percent, with revenue down 25 percent for the 2015/16 season.

### *2016 Citrus Acreage Continues To Decline in Florida*

The first official NASS estimate for Florida's 2016/17 citrus production will not be released until October, but the first data regarding the upcoming crop was released on September 12 in the Florida NASS Field Office *Commercial Citrus Inventory Preliminary Report*. The report provides the first estimate of commercial citrus acreage in 2016. Despite new plantings of 10,090 acres, the loss of 31,365 acres reduces Florida's citrus acreage by 21,275 acres to a total of 480,121 acres in 2016. This loss represents the largest decline in Florida's citrus acreage since 2009, and continues the net loss of acres that started in 1998. Florida's specialty citrus fruit witnessed the largest reduction in acreage, with an 11 percent loss in 2016. Grapefruit acreage was down 8 percent, with white grapefruit witnessing the greater decline (down 17 percent). Orange acreage is down 4 percent, continuing a downward trend. However, oranges represent a record-high 89 percent of all Florida's citrus acreage.

### *Fresh Lemon Prices Lower During the 2015/16 Season*

U.S. imports for fresh lemons in 2015/16 reached a record high of 179.6 million pounds and were 6 percent higher than in 2014/15. In 2015/16, Mexico, Chile, and Uruguay are the three largest suppliers of fresh lemon imports in the United States providing 96 percent of total imports, at 172 million pounds. In 2015/16, Mexico remains the largest fresh lemon supplier to the United States, with 90.1 million pounds, and accounts for 50 percent of total imports. Chile is the second-largest supplier with 78.2 million pounds, up 26 percent from 2014/15. Uruguay replaced

Spain as a distant third, supplying the United States with 4.2 million pounds of fresh lemons.

Total U.S. fresh lemon exports ended at 232.6 million pounds for 2015/16, 4 percent less than the 2014/15 volume of 242.5 million pounds. Although exports to Japan and Canada are down, these two countries remain the top two markets for U.S. fresh lemons. Canada was the largest destination for U.S. fresh lemons with 71.8 million pounds. Exports to Japan were down 4 percent, which relegated Japan to second place with a volume of 65.4 million pounds. Canada received 31 percent of total U.S. export volume, followed by Japan with 28 percent.

The start of the 2015/16 season was characterized by lower lemon prices, likely due to the large harvest during the 2014/15 and 2015/16 seasons. Later, from November to May, fresh lemon prices experienced a recovery and were at par or slightly above those registered in 2014/15. The 2015/16 season-average price was $37.37 per 80-lb box, 7 percent below the 2014/15 average price. The 2015/16 lemon season ended in July, with fresh lemon utilization at 1.4 billion pounds, up 11 percent from the previous season (table 9). Higher fresh lemon production, combined with high volume of imports, have contributed to lower domestic prices this season.

Table 9 --Fresh lemons: Average equivalent on-tree prices received by U.S. growers, 2010/11-2015/16

| Month | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
|---|---|---|---|---|---|---|
| | | | ------- *Dollars per box*[1] ------- | | | |
| August | 25.43 | 25.09 | 21.62 | 31.62 | 43.81 | 39.40 |
| September | 25.83 | 22.59 | 20.25 | 33.38 | 44.45 | 36.15 |
| October | 25.20 | 19.50 | 19.47 | 35.17 | 44.88 | 39.39 |
| November | 26.06 | 18.97 | 17.30 | 32.94 | 39.86 | 39.74 |
| December | 18.78 | 19.77 | 16.48 | 30.53 | 34.69 | 36.02 |
| January | 14.80 | 21.12 | 15.82 | 31.71 | 32.84 | 33.50 |
| February | 12.46 | 18.50 | 14.37 | 30.79 | 31.24 | 33.63 |
| March | 12.87 | 17.89 | 13.72 | 30.73 | 30.05 | 32.40 |
| April | 14.83 | 18.89 | 17.62 | 32.92 | 30.51 | 32.40 |
| May | 16.13 | 21.29 | 21.92 | 35.02 | 37.81 | 37.30 |
| June | 17.93 | 22.29 | 24.62 | 38.52 | 45.01 | 40.00 |
| July | 22.43 | 20.59 | 25.82 | 44.22 | 47.21 | 37.90 |
| Aug.-Jan. average | 22.68 | 21.17 | 18.49 | 32.56 | 40.09 | 37.37 |

[1]Beginning in 2010/11, boxes are 80 lb. Prior to 2010/11, box size was 76 lb.

Source: USDA, National Agricultural Statistics Service, *Agricultural Prices,* various issues.

## *California Walnut Growers Anticipate Record Crop for 2016/17 Season*

The *2016 California Walnut Objective Measurement Report*, released September 2, forecast walnut production at 1.34 billion pounds (or 670,000 tons), in-shell basis—a record crop, if realized. The crop is 11 percent larger than the 2015 harvest of 1.21 billion pounds (or 603,000 tons), the largest crop to date. Enough chilling hours and a decent amount of winter rains benefitted this year's crop, although weather during the bloom was a mix of good and bad. Hot weather in August advanced the harvest, which was set to begin in early September. While the state average nut-meat weight is down 5 percent from last year to 21.6 grams, nut sets are up 11 percent to 1,406 nuts per tree, boosting yield by 6 percent to 4,260 pounds per acre (or 2.13 tons per acre). In addition, bearing acreage increased 5 percent to 315,000 and tree density increased 2 percent to 73.3 trees per acre—continuing upward trends for both and contributing to the overall production boost.

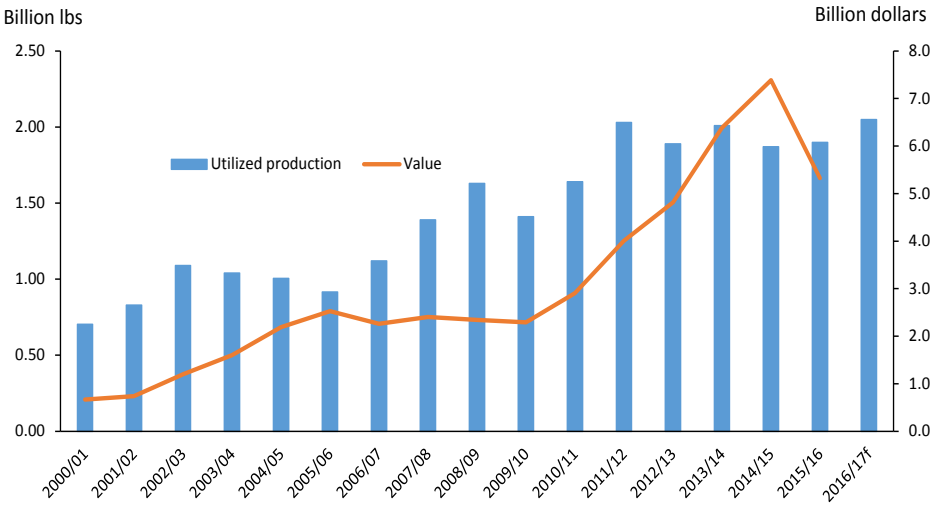
The bumper crop and huge beginning stocks during the 2015/16 season (marketing year: September-August) drove California walnut grower prices down 49 percent from the previous season to $0.81 per pound (or $1,620 per ton), in-shell basis, the lowest price in the past 5 years. Global sales for California walnuts increased in 2015/16, particularly for the shelled product. Total U.S. exports of shelled walnuts in 2015/16 through July were up 35 percent, reaching 295 million shelled pounds on gains to major markets, except to South Korea. Total shelled-walnut shipments to Germany increased by 26 percent, reaching 34.1 million pounds and representing 11 percent of all shelled-walnut exports. Deliveries to Japan, Vietnam, and China increased by 9 percent, 132 percent, and 66 percent, respectively, while South Korea received 25 percent less shelled walnuts at 25.7 million pounds. Turkey remains the main export destination for U.S. in-shell walnuts for the 2015/16 season to date, receiving 83.1 million pounds, up 57 percent over the same period last year. However, this increase was more than offset by declines to several markets, including Hong Kong (down 34 percent), Spain (down 11 percent), Vietnam (down 51 percent), United Arab Emirates (down 11 percent), and China (down 68 percent).

## *Record-High California Almond Crop Forecast for the 2016/17 Season*

In July, the NASS Pacific Regional Office released the *2016 California Almond Objective Measurement Report*, which revised production up 3 percent from May's *Almond Subjective Measurement Report* to reach 2.05 billion pounds. If realized, the 2016/17 almond crop will be 8 percent larger than 2015/16's final harvest total of 1.90 billion pounds and surpassing the previous record of 2.03 billion pounds in 2011/12 (fig. 10). Increased production in 2015/16 witnessed a significant drop in the average grower price for almonds, from a peak of $4.00 per pound in 2014/15 to $2.84 per pound in 2015/16. The value of utilized production reached $5.3 billion, the third-highest crop value on record, but 28 percent below the 2014/15 high of $7.4 billion.

Growers reported improved conditions this growing season in terms of chill hours, bloom, and precipitation. Bloom took place fast and uniform. While many areas are still under drought, trees have shown signs of recovery from multiple years of water deprivation. Along with a slight increase in bearing acreage, average nut set per tree

**Figure 10**
**California almond production and value of utilized production, 2000/01-2016/17**




f = forecast.
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts Summary*, various issues.

rose 5 percent from last season, to 6,159 nuts per tree, raising yield 7 percent to 2,280 pounds per acre, slightly higher than the average of the past 3 years. Harvest started in early August.

The 2015/16 almond season ended in July, with total marketable production at 1.86 billion pounds, an increase of 2 percent (table 10). This, along with higher imports and beginning stocks, boosted overall domestic supplies. However, lack of growth in export demand pushed ending stocks to a record high. At 421.9 million pounds in 2015/16, ending stocks were up 12 percent from the previous season, breaking the previous record of 413.7 million pounds in 2008/09. Total supplies available for the domestic market increased only slightly, translating to 1.77 pounds per person for the 2015/16 marketing year.

Total 2015/16 almond export volume is flat from the previous season at 1.27 billion pounds, shelled weight. Shelled almond exports only rose by a fraction year-over-year, totaling 965.6 million pounds. Shelled shipments to Spain increased 32 percent to 192.1 million pounds but were offset by weak exports to Germany, United Arab Emirates, Japan, South Korea, Turkey, China and Saudi Arabia among the leading export destinations for California shelled almonds. Total California in-shell almond exports declined 3 percent in 2015/16 as lower shipments to several markets outweighed the higher shipments to the top 4 markets during the season—India, Hong Kong, Vietnam, and Turkey. Prepared/preserved almond exports increased 4 percent to 91.5 million pounds in 2015/16, from 87.7 million pounds in 2014/15. Canada, Spain, and China are the largest destination for prepared almonds for the 2015/16 season. A 42-percent decline in almond shipments to Canada was matched by a sharper decline to Australia, dropping the country's ranking to 11th place in 2015/16, from the third-largest export destination for California-prepared and-preserved almonds during the 2014/15 season.

Table 10--Almonds: Supply and utilization (shelled basis), 2000/01 to date

| Season [1] | Utilized pro-duction | Loss and exempt [2] | Marketable production | Imports | Beginning stocks | Total supply | Ending stocks | Exports | Utilization | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Domestic | Per capita |
| | | | | --1,000 pounds-- | | | | | | *Pounds* |
| 2000/01 | 703,000 | 26,000 | 677,000 | 427 | 175,850 | 853,277 | 107,266 | 513,344 | 232,667 | 0.82 |
| 2001/02 | 830,000 | 29,300 | 800,700 | 809 | 107,266 | 908,775 | 80,922 | 585,723 | 242,130 | 0.84 |
| 2002/03 | 1,090,000 | 20,200 | 1,069,800 | 1,862 | 80,922 | 1,152,584 | 162,045 | 673,616 | 316,923 | 1.09 |
| 2003/04 | 1,040,000 | 21,800 | 1,018,200 | 2,772 | 162,045 | 1,183,017 | 148,940 | 698,896 | 335,181 | 1.15 |
| 2004/05 | 1,005,000 | 39,922 | 965,078 | 5,662 | 148,940 | 1,119,681 | 137,684 | 712,680 | 269,317 | 0.91 |
| 2005/06 | 915,000 | 36,470 | 878,530 | 9,207 | 137,684 | 1,025,421 | 112,222 | 728,470 | 184,730 | 0.62 |
| 2006/07 | 1,120,000 | 33,502 | 1,086,498 | 8,139 | 112,222 | 1,206,859 | 133,950 | 767,963 | 304,946 | 1.01 |
| 2007/08 | 1,390,000 | 41,491 | 1,348,509 | 7,107 | 133,950 | 1,489,566 | 231,151 | 891,443 | 366,972 | 1.21 |
| 2008/09 | 1,630,000 | 48,438 | 1,581,562 | 4,233 | 231,151 | 1,816,946 | 413,734 | 980,247 | 422,965 | 1.38 |
| 2009/10 | 1,410,000 | 46,326 | 1,363,674 | 5,610 | 413,734 | 1,783,018 | 321,355 | 1,030,754 | 430,910 | 1.40 |
| 2010/11 | 1,640,000 | 27,916 | 1,612,084 | 8,105 | 321,355 | 1,941,544 | 253,959 | 1,188,153 | 499,432 | 1.61 |
| 2011/12 | 2,030,000 | 40,493 | 1,989,507 | 15,926 | 253,959 | 2,259,393 | 335,233 | 1,357,972 | 566,188 | 1.81 |
| 2012/13 | 1,890,000 | 35,583 | 1,854,417 | 39,445 | 335,233 | 2,229,095 | 317,226 | 1,281,083 | 630,786 | 2.00 |
| 2013/14 | 2,010,000 | 60,292 | 1,949,429 | 33,928 | 317,226 | 2,300,583 | 350,564 | 1,336,882 | 613,137 | 1.93 |
| 2014/15 | 1,870,000 | 29,329 | 1,811,876 | 31,190 | 350,564 | 2,193,629 | 376,614 | 1,269,093 | 547,922 | 1.71 |
| 2015/16 P | 1,900,000 | 43,494 | 1,856,506 | 31,812 | 376,614 | 2,264,932 | 421,884 | 1,272,300 | 570,748 | 1.77 |

P = Preliminary. [1]Season begins in August. [2]Utilized production minus marketable production.
Source: USDA, Economic Research Service calculations.

## *Larger Hazelnut Crop Expected as Harvest Begins in Oregon*

In late August, the NASS Northwest Regional Field Office released the *2016/17 Hazelnut Crop Forecast*, which measured the crop to be 76 million pounds (or 38,000 tons), in-shell basis, up 23 percent from the previous season's off-year crop and 6 percent higher than in 2014/15. The volume, however, is down 10 percent from the previous on-year, 5-year average of 84.6 million pounds (or 42,280 tons). This year's dry winter was favorable to pollination and nut set, although the Eastern Filbert Blight disease remains a concern. Orchards were experiencing significantly higher average nuts picked per tree this season. However, the average dry weight per good nut dropped from 3.17 grams last season to 3.01 grams. Nut sizes are slightly smaller this season, with 11 percent in the industry sizing small, instead of 9 percent last season. Large and jumbo-sized nuts, on the other hand, remained fairly stable from the previous season at 42 percent and 36 percent, respectively.

# Trade Summary Tables

Table 11--U.S. exports of selected fruit and tree nut products

| Commodity | Marketing season | Season to date (through July) 2015 | Season to date (through July) 2016 | Year-to-date change |
|---|---|---|---|---|
| | | *1,000 pounds* | | *Percent* |
| Fresh market: | | | | |
| Oranges | November-October | 1,110,842 | 1,395,630 | 25.6 |
| Grapefruit | September-August | 308,499 | 272,108 | -11.8 |
| Lemons | August-July | 242,540 | 232,576 | -4.1 |
| Apples | August-July | 2,286,163 | 1,715,835 | -24.9 |
| Grapes | May-April | 90,940 | 97,212 | 6.9 |
| Pears | July-June | 19,395 | 11,792 | -39.2 |
| Peaches (including nectarines) | January-December | 99,801 | 101,970 | 2.2 |
| Strawberries | January-December | 202,161 | 178,528 | -11.7 |
| Cherries | January-December | 163,709 | 165,578 | 1.1 |
| Cantaloupe | January-December | 54,138 | 48,964 | -9.6 |
| Watermelon | January-December | 224,747 | 243,196 | 8.2 |
| | | *1,000 sse gallons* [1] | | |
| Processed: | | | | |
| Orange juice, frozen concentrate | October-September | 40,085 | 35,605 | -11.2 |
| Orange juice, not-from-concentrate | October-September | 58,571 | 40,016 | -31.7 |
| Grapefruit juice | October-September | 9,297 | 7,923 | -14.8 |
| Apple juice and cider | August-July | 10,330 | 10,300 | -0.3 |
| Wine | January-December | 66,225 | 57,339 | -13.4 |
| | | *1,000 pounds* | | |
| Raisins | August-July | 280,602 | 252,194 | -10.1 |
| Canned pears | June-May | 914 | 2,057 | 125.1 |
| Canned peaches | June-May | 5,130 | 4,392 | -14.4 |
| Frozen strawberries | January-December | 27,884 | 30,625 | 9.8 |
| | | *1,000 pounds* | | |
| Tree nuts: | | | | |
| Almonds (shelled basis) | August-July | 1,207,677 | 1,208,218 | 0.0 |
| Walnuts (shelled basis) | September-August | 343,963 | 414,870 | 20.6 |
| Pecans (shelled basis) | October-September | 89,002 | 76,198 | -14.4 |
| Pistachios (shelled basis) | September-August | 114,390 | 71,624 | -37.4 |

[1]Single-strength equivalent.

Source: U.S. trade data provided by the U.S. Department of Commerce, U.S. Census Bureau.

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

| Commodity | Marketing season | Season to date (through July) 2015 | Season to date (through July) 2016 | Year-to-date change |
|---|---|---|---|---|
| | | *1,000 pounds* | | *Percent* |
| Fresh market: | | | | |
| Oranges | November-October | 183,010 | 195,501 | 6.8 |
| Tangerines (including clementines) | October-September | 330,951 | 362,588 | 9.6 |
| Lemons | August-July | 169,620 | 179,546 | 5.9 |
| Limes | January-December | 641,069 | 688,386 | 7.4 |
| Apples | August-July | 360,144 | 414,978 | 15.2 |
| Grapes | May-April | 330,761 | 337,565 | 2.1 |
| Pears | July-June | 2,484 | 1,960 | -21.1 |
| Peaches (including nectarines) | January-December | 77,187 | 89,715 | 16.2 |
| Cantaloupe | January-December | 733,490 | 798,378 | 8.8 |
| Watermelon | January-December | 1,279,094 | 1,333,073 | 4.2 |
| Bananas | January-December | 6,017,079 | 5,999,305 | -0.3 |
| Mangoes | January-December | 660,966 | 663,713 | 0.4 |
| | | *1,000 sse gallons* [1] | | |
| Processed: | | | | |
| Orange juice, frozen concentrate | October-September | 282,125 | 173,385 | -38.5 |
| Apple juice and cider | August-July | 432,455 | 504,452 | 16.6 |
| Wine | January-December | 169,751 | 166,160 | -2.1 |
| | | *1,000 pounds* | | |
| Canned pears | June-May | 13,548 | 10,909 | -19.5 |
| Canned peaches (including nectarines) | June-May | 36,279 | 35,837 | -1.2 |
| Canned pineapple | January-December | 460,473 | 453,224 | -1.6 |
| Frozen strawberries | January-December | 231,226 | 224,470 | -2.9 |
| | | *1,000 pounds* | | |
| Tree nuts: | | | | |
| Brazil nuts (shelled basis) | January-December | 10,804 | 10,446 | -3.3 |
| Cashews (shelled basis) | January-December | 186,891 | 172,432 | -7.7 |
| Pine nuts (shelled basis) | January-December | 718 | 465 | -35.3 |
| Pecans (shelled basis) | October-September | 96,202 | 103,418 | 7.5 |

[1] Single-strength equivalent.

Source: U.S. trade data provided by the U.S. Department of Commerce, U.S. Census Bureau.

# Contacts and Links

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## *Data*

The *Fruit and Tree Nuts Situation and Outlook Yearbook* has over 130 tables of annual or monthly time-series data on specific fruit commodities. Data include bearing acreage, production, prices, trade, per capita use, and more. To order a copy, call 1-800-999-6779.

## *Related Websites*

Fruit and Tree Nuts Outlook
http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1378

Fruit and Tree Nuts Topic Page
http://www.ers.usda.gov/topics/crops/fruit-tree-nuts.aspx

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Situation and Outlook

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# Fruit and Tree Nuts Outlook: Economic Insight

# U.S. Fruit Competes For China Market Share

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Approved by the World Agricultural Outlook Board.

China's fruit imports have grown dramatically over the past 10 years as living standards rose and trade agreements opened the market to more suppliers. The United States was a pioneer in opening China's fruit market during the 1990s, but a recent surge of imports came mainly from tropical and Southern Hemisphere countries. The United States remains the predominant Northern-Hemisphere supplier, reflecting quality, extended seasonal availability and other competitive attributes.

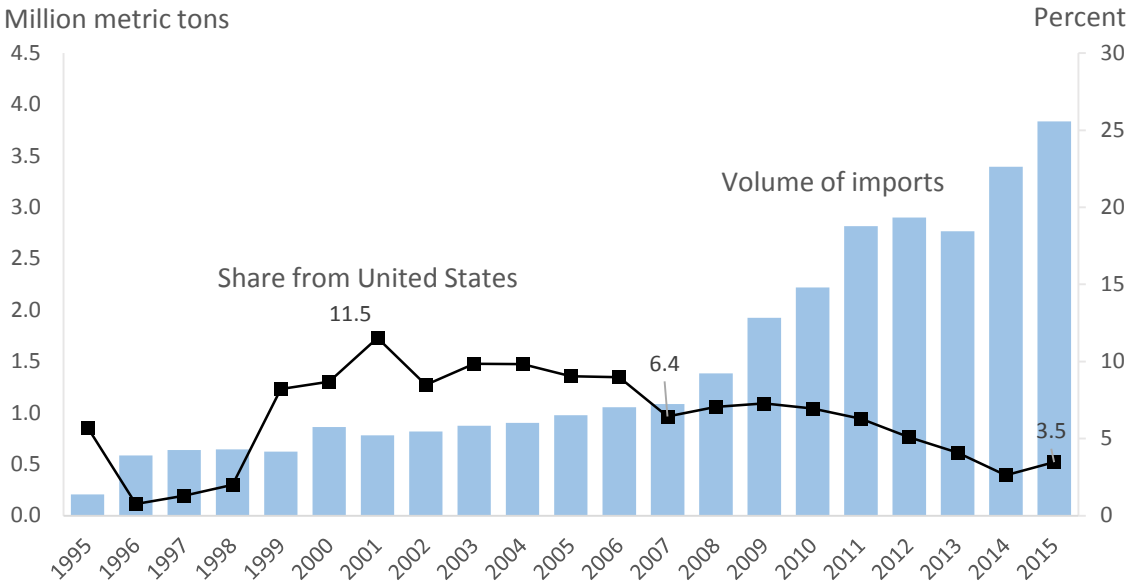
## *China Fruit Imports Rising*

China's fruit imports are surging as living standards rise, spurring demand for a more diverse and nutritious diet. Fruit is a discretionary item consumed as a dessert, given as gifts, and distributed at meetings and banquets. With greater disposable income, demand for fruit has grown rapidly. Imports consist primarily of fresh fruit.[1]

Bananas were China's predominant fruit import until the United States opened the market to more types of fruit in the early 1990s. It took a decade for the volume of China's fruit imports to double from 585,000 metric tons to over 1 million metric tons (mmt) during 1996-2006 (fig. 1). In the most recent 8 years, the import volume grew more than threefold to 3.8 mmt in 2015. The United States is a major supplier to China, but U.S. fruit faces increasing competition from both domestic Chinese fruit and imports from other countries. The U.S. share of China's fruit imports rose as high as 11.5 percent in 2001, but fell to just 3.5 percent in 2015.

[1] According to customs statistics, China's 2015 fresh fruit imports were valued at over $5 billion, while the combined value of frozen, dried, preserved fruits, jams, and juices was $595 million.

**Figure 1. China fresh fruit imports, 1995-2015**




Note: "Fresh fruit" includes Harmonized System codes 0803-0810.
Source: USDA, Economic Research Service calculations using data from Global Trade Information Services, Global Trade Atlas.

## *Quality and Timing Are Keys*

U.S. fruit competes head-to-head against Chinese products, since fresh fruit is harvested at similar times in both countries. For example, U.S. grapes are imported during September-December, but domestic Chinese supplies are abundant during that season. The seasonal factor means that the competitiveness of U.S. exports depends on quality attributes, availability of late-maturing varieties, and use of cold storage that allows U.S. suppliers to ship during China's off-season.

Particular attributes help keep U.S. fruit competitive in China. Navel oranges are the top variety in the import market since they are seedless, easy to peel, and break into segments (USDA/FAS, 2007). U.S. Red Delicious apples are considered a preferred choice for gift-giving because of their shiny dark red color and unique, uniform shape. U.S. Red Globe grapes are prized for appearance, taste, size, and consistency, which allows them to remain competitive during the Chinese harvest season (USDA/FAS, 2012; 2015). However, these advantages may erode as Chinese farms succeed in growing similar varieties.

The timing of availability is especially important. Modern controlled-atmosphere storage extends the seasonal availability of U.S. apples in China year-round which boosts the U.S. share of China's apple imports (Huang, 2013). Peak sales seasons for fruit come during China's main holidays during the September moon festival and October national day, and the Lunar New Year, which comes in January or February. Gift-giving and celebrations during these holiday periods increases the demand for fruit, especially for fruit with colors or other attributes associated with holidays.

## *Tropical and Southern Hemisphere Suppliers Dominate*

According to customs statistics, China's fresh fruit imports increased by 2.75 million metric tons during 2006-15, and were valued at nearly $5 billion in 2015. Four types of tropical fruit—bananas, dragon fruit, durians, and longans—accounted for two-thirds of the growth in import volume. China's growth in fruit imports also included many temperate zone fruits grown widely in the United States, such as grapes, citrus, cherries, apples, plums, cranberries, blueberries, and pears. The pace of growth during 2006-15 was very rapid for all types of fruit (table 1).

China's fruit imports come primarily from tropical and Southern Hemisphere countries. Over half of China's fresh fruit imports (by value) were supplied by three Southeast Asian neighbors: Thailand, Vietnam, and Philippines (fig. 2). These countries supply bananas, dragon fruit, longans, and lychees that are popular with Chinese consumers but are not widely produced in the country. Southern Hemisphere countries can supply temperate-zone fruits during China's off-season. Important suppliers like Chile, New Zealand, Ecuador, Peru, South Africa, and Australia are in the Southern Hemisphere. The United States, which supplied 6.9 percent of the value of China's fruit imports during 2013-15, was the only major supplier from the Northern Hemisphere.

China has two to three major suppliers of each type of temperate zone fruit (table 2). During 2013-15, the United States was the leading supplier of pears (a relatively small market), but it was the second- or third-leading supplier of cherries, grapes, citrus, apples, and plums. Southern Hemisphere countries were the leading suppliers of each of these fruits.

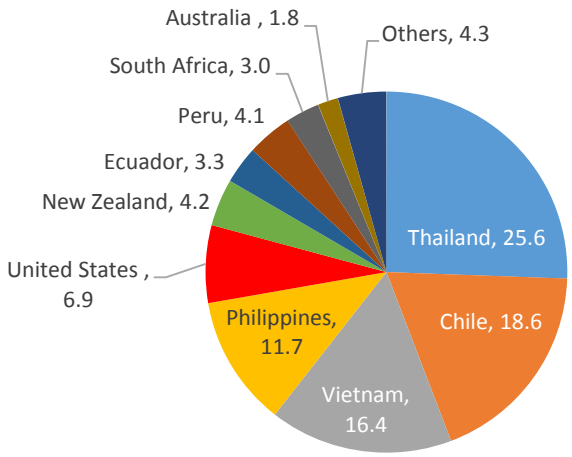
Chilean sweet cherry supplies are typically available in China at the end of the calendar year and during January-February, particularly advantageous timing since it coincides with the peak consumption season around the Chinese New Year holiday. U.S. cherries ripening at different times in different regions are able to extend their availability from May-June (California cherries) to September (cherries from northwestern States). Still, Chile has a dominant 79.7-percent share of China's cherry imports.

Table 1. China fresh fruit imports, 2006-2015

| Harmonized system code | Type of fruit | Growth in import volume, 2006-2015 | Import volume, 2015 | Value of imports, 2015 |
|---|---|---|---|---|
| | | ---1,000 metric tons--- | | Million dollars |
| | All fresh fruit | 2,752.4 | 3800.0 | 4,994.3 |
| 0803 | Bananas | 686.3 | 1073.8 | 772.8 |
| 080929 | Cherries | 91.3 | 91.5 | 672.5 |
| 08109080 | Dragon Fruit | 778.1 | 813.5 | 662.8 |
| 0806 | Grapes | 193.6 | 250.7 | 637.3 |
| 081060 | Durians | 213.6 | 298.8 | 567.9 |
| 08109030 | Longan | 185.6 | 354.1 | 341.9 |
| 0805 | Citrus | 136.0 | 214.9 | 266.9 |
| 081050 | Kiwi | 79.7 | 90.2 | 266.6 |
| 080450 | Mangoes | 89.1 | 112.9 | 260.2 |
| 080810 | Apples | 56.5 | 87.6 | 146.7 |
| 080940 | Plums | 32.4 | 34.8 | 105.2 |
| 080430 | Pineapples | 80.4 | 84.4 | 96.2 |
| 081040 | Cranberries, Blueberries | 6.0 | 6.5 | 68.1 |
| 080440 | Avocados | 16.0 | 16.0 | 45.1 |
| 0807 | Melons | 52.8 | 201.3 | 38.8 |
| 08109010 | Lychee | 44.9 | 50.5 | 24.8 |
| 080830 | Pears | 7.9 | 7.9 | 12.9 |
| 080420 | Figs | 1.8 | 2.5 | 3.7 |
| 080410 | Dates | 0.5 | 8.0 | 3.2 |
| | Other | | | 0.6 |

Source: ERS analysis of China customs statistics accessed through Global Trade Information Services, Global Trade Analysis System.

**Figure 2. China fruit imports, by source country**
share of 2013-15 average value (percent)




Source: USDA, Economic Research Service calculations using data from China National Bureau of Statistics, Rural Statistical Yearbook.

Table 2. Shares of China fruit imports, 2013-15 average

| Cherries | | Grapes | | Citrus | | Apples | | Plums | | Pears | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Exporting country | Share of China's imports | Exporting country | Share of China's imports | Exporting country | Share of China's imports | Exporting country | Share of China's imports | Exporting country | Share of China's imports | Exporting country | Share of China's imports |
| | Percent | | Percent | | Percent | | Percent | | Percent | | Percent |
| Chile | 79.7 | Chile | 38.0 | South Africa | 43.9 | Chile | 37.0 | Chile | 78.3 | **United States** | **65.9** |
| **United States** | **15.4** | Peru | 27.9 | **United States** | **23.6** | New Zealand | 32.7 | **United States** | **21.6** | Belgium | 18.8 |
| Canada | 2.8 | **United States** | **20.0** | Australia | 18.6 | **United States** | **21.8** | Others | 0.1 | Netherlands | 5.2 |
| Others | 2.1 | South Africa | 5.0 | Taiwan | 4.2 | France | 4.5 | | | New Zealand | 5.1 |
| | | Australia | 4.9 | Thailand | 4.0 | Japan | 3.2 | | | Others | 5.0 |
| | | Uzbekistan | 1.9 | Egypt | 3.5 | Others | 0.8 | | | | |
| | | Others | 2.4 | Others | 2.2 | | | | | | |

Source: USDA, Economic Research Service analysis of China customs statistics accessed through Global Trade Information Services, Global Trade Analysis System.

## *China Also a Major Producer of Fruit*

While demand for fruit in China has grown rapidly, the country is also the world's largest producer of fruit and output has also grown rapidly. China's National Bureau of Statistics estimated that fruit production nearly doubled between 2004 and 2014 (the latest numbers available), from 84 mmt to 166 mmt. The 2014 output dwarfed the 3.4 mmt of fruit imported that year. China produces many of the same types of fruit as U.S. producers, including apples (40.9 mmt produced in 2014), citrus (34.9 mmt), pears (18 mmt), and grapes (12.5 mmt). China has no data on cherry output, but USDA estimates China's 2016/17 cherry production at 320,000 metric tons, up 30 percent from the previous year (USDA/FAS, 2016).

China's fruit production continues to increase, spurred by both market demand and supportive policies. Orchards are a focus of rural development initiatives in relatively poor hilly regions that cannot produce grains or other row crops competitively. China's Ministry of Agriculture formulated a "Layout Plan for China's Advantageous Agricultural Products" (covering 2003-2007 and 2008-2015) which included national strategic plans for apples, citrus, and tropical fruit to create industry clusters. These initiatives helped make China's western provinces the chief suppliers

of apples to its market (Gale, Huang, and Gu, 2010), and China's Minister of Agriculture praised the citrus initiative for reducing the market share of imported oranges in China (Han, 2011).

China's fruit marketing is improving as processing companies and supermarket chains become more involved in growing and procuring fruit. For example, a few companies have leased their own farms, and some supermarket chains have set up national procurement systems to ensure year-round supplies (Hu, 2010).

## *Agreements Expand Access*

The United States was the pioneer in opening the China fruit market during the 1990s. However, the recent surge in fruit imports since 2007 coincided with China's entry into new trade agreements with fruit-supplying countries in Southeast Asia and the Southern Hemisphere.

U.S. oranges began appearing on fruit stands in China in the 1980s, before they were legally permitted (they entered through unofficial channels). After the United States negotiated a 1992 memorandum of understanding calling for import inspection and quarantine regulations to be based on sound science, China allowed the import of apples from Washington State in 1993 (USDA/FAS, 1995). During 1995-98, the United States gained access for apples from Oregon and Idaho, cherries from several Western States, and California grapes. A 1999 U.S.-China agreement that set the framework for China's membership in the World Trade Organization (WTO) opened China to citrus from select U.S. counties and lowered tariffs on fruit.

In June 2013, U.S. pears gained access to China. In 2015, access to China was expanded to include all types of apples grown in the United States. However, U.S. fruit also encountered problems in recent years. Access to China markets for California citrus was suspended between May 2013 and August 2014 over sanitary and phytosanitary (SPS)-related issues (USDA/FAS, 2014). Access to China's market for apples from Washington State was suspended due to pest concerns from August 2012 to October 2014.

In the most recent decade, bilateral and regional trade agreements cut tariffs on fruit imports from Southeast Asia and Southern Hemisphere countries.[1] China's trade agreement with the Association of Southeast Asian Nations (ASEAN) launched an "early harvest" program in 2004 that phased out tariffs, and fruit imports from these countries have been duty-free since 2007. Free trade agreements also cut China's tariffs for imports from Chile in 2006, New Zealand in 2008, and Peru in 2010. An agreement with Australia took effect late in 2015. In addition, China has an initiative on "south-south" cooperation that favors agricultural trade with developing countries—mostly in the Southern Hemisphere. China's "one belt, one road" ("new Silk Road") initiative also encourages agricultural trade and cooperation with countries in central and south Asia.

### *Looking Ahead: Positive Prospects To Grow China's Fruit Demand*

The medium-term outlook for U.S. fruit sales to China is favorable. China's per capita fruit consumption is still only about two-thirds of the U.S. average (USDA/FAS, 2015). The country's five-year plan for 2016-2020 aims to move more rural people into cities while modernizing agriculture, and the economic growth model is emphasizing improvements in quality of life. Greater purchasing power and urban lifestyles will increase consumer demand for fruit. Greater use of e-commerce is widening marketing channels for imported fruit, and making it easier for consumers to order fruit from overseas.

China is upgrading inspection and quarantine and food-safety testing facilities at ports of entry, which may give an advantage to high-quality products but also could introduce more stringent rules and procedures for entry of fruit. Authorities plan to support upgrades of agricultural marketing and storage infrastructure, which may aid distribution of both domestic and imported fruit.

[1] See "China FTA Network," http://fta.mofcom.gov.cn.

## *References*


China Ministry of Agriculture, Development Planning Office. 2004. *Youshi Nongchanpin Quyu Buju Guihua Huibian* [Advantaged Agricultural Products: Compilation of Regional Layout Plans]. Beijing: China Agricultural Press. Summary available at http://www.moa.gov.cn/ztzl/ysncpqybjgh/200302/t20030212_54320.htm

China's National Bureau of Statistics. *Rural Statistical Yearbook*, Beijing: China Statistics Press, various issues.

Gale, F., S. Huang, and Y. Gu. *Investment in Processing Industry Turns Chinese Apples Into Juice Exports*, U.S. Department of Agriculture, Economic Research Service, FTS-344-01, October 2010. http://www.ers.usda.gov/media/141094/fts34401_1_.pdf

Gale, F., J. Hansen, and M. Jewison. *China's Growing Demand for Agricultural Imports*. U.S. Department of Agriculture, Economic Research Service, EIB 136, February 2015. http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib136.aspx

Global Trade Information Services, Inc. *Global Trade Atlas*, Columbia, South Carolina. (Accessed May 2015).

Han, C. December 2011. "Ru Shi Shi Nian yu Zhongguo Nongye Fazhan [Ten Years in WTO and China's Agricultural Development]," *Farmers Daily*. Available at: http://www.moa.gov.cn/zwllm/zwdt/201112/t20111226_2443081.htm (accessed January 2015).

Hu, D. 2010. *Farmer-Supermarket Direct-Purchase: A How-to Guide*. Beijing: China Agricultural Science Press.

Huang, S. 2013. *Imports Contribute to Year-Round Fresh Fruit Availability*, U.S. Department of Agriculture, Economic Research Service, Outlook Report. FTS-356-01, December 2013. Available at: http://ers.usda.gov/media/1252296/fts-356-01.pdf (accessed January 2014)

U.S. Department of Agriculture, Foreign Agricultural Service (USDA/FAS). 1995. *China: South China Fresh Fruit Market Opportunities*, August 11, CH5515. Available at: http://apps.fas.usda.gov/scriptsw/attacherep/display_gedes_report.asp?Rep_ID=10002552 (accessed October 2014).

U.S. Department of Agriculture, Foreign Agricultural Service (USDA/FAS). 2007. *China: Citrus Annual*, November 29, CH7090. Available at: http://apps.fas.usda.gov/gainfiles/200712/146293194.pdf (accessed July 2014).

U.S. Department of Agriculture, Foreign Agricultural Service (USDA/FAS). 2012. *China: Marketing U.S. Fresh Deciduous Fruits in South China*, November 1, CH11845. Available at: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Marketing%20US%20Fresh%20Deciduous%20Fruits%20in%20South%20China%20_Guangzhou_China%20-%20Peoples%20Republic%20of_11-1-2012.pdf (accessed July 2014).

U.S. Department of Agriculture, Foreign Agricultural Service (USDA/FAS). 2015. *China: Fresh Deciduous Fruit Annual*, November 16, CH15059. Available at: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Fresh%20Deciduous%20Fruit%20Annual_Beijing_China%20-%20Peoples%20Republic%20of_11-16-2015.pdf (accessed July 2016).

U.S. Department of Agriculture, Foreign Agricultural Service (USDA/FAS). 2016. *China: Stone Fruit Annual*, July 7, CH16040. Available at: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Stone%20Fruit%20Annual_Beijing_China%20-%20Peoples%20Republic%20of_7-7-2016.pdf (accessed July 2016).