



# Fruit and Tree Nuts Outlook: March 2024

**Catharine Weber, Skyler Simnitt,  
Helen Wakefield, Seth Wechsler, and  
Bryn Swearingen**

## U.S. Citrus Crop Down Slightly

### In this report:

[Weather Outlook](#)

[Price Outlook](#)

[Citrus Fruit Outlook](#)

[Noncitrus Fruit Outlook](#)

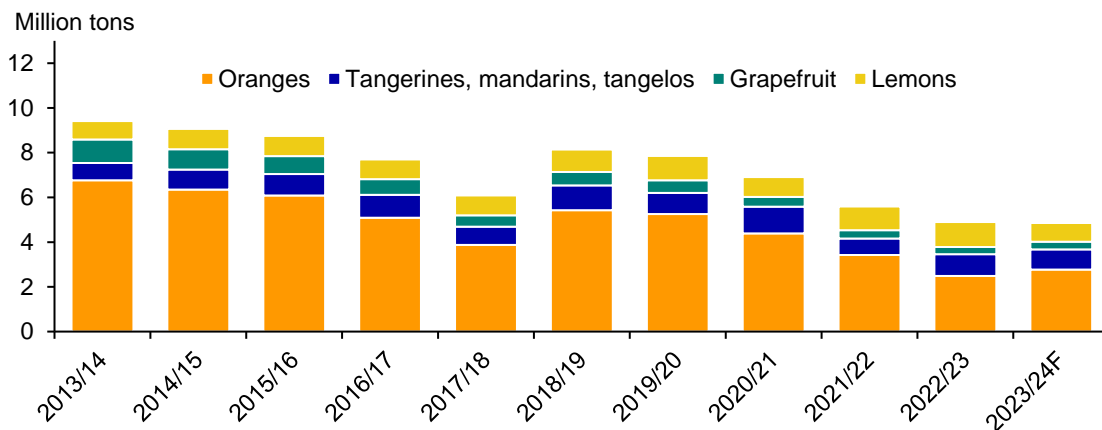
[Melons Outlook](#)

[Tree Nuts Outlook](#)

[Special Article: California Table Olives](#)

The most recent U.S. citrus crop forecast (March 2024) for 2023/24 is 4.85 million tons, down 1 percent from the 2022/23 final utilized total of 4.9 million tons. The March 2024 USDA, National Agricultural Statistics Service (NASS) Crop Production report forecasts that domestic producers will grow 2.77 million tons of oranges, an 11 percent increase from final production in the 2022/23 season. Grapefruit production is expected to reach 340,000 tons, up 4 percent from 2022/23. Lemon production, 95 percent of which is supplied by farms in California, is expected to decrease by 25 percent, from 1,116,000 tons in 2022/23 to 836,000 tons in 2023/24. Tangerine production is expected to decrease by 7 percent, from 971,000 tons in 2022/23 to 904,000 tons in 2023/24.

### U.S. citrus utilized production forecast slips 1 percent below last year's crop



F = Forecast.

Source: USDA, Economic Research Service based on data from the USDA, National Agricultural Statistics Service, *Crop Production*, March 2024 issue, and *Citrus Fruit Summary*, various issues.

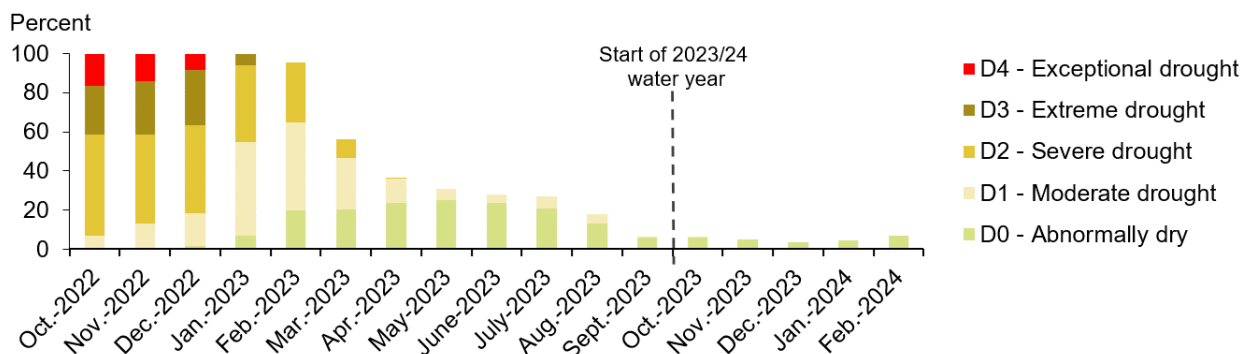
# Weather Outlook

## California Drought Eased in 2023, Priming the Pump for 2024

According to U.S. Department of Commerce’s National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information (NCEI), 2023 was the fifth warmest year in the contiguous United States since 1895. High temperatures exacerbated drought conditions in Washington, while a cooler than expected spring provided a steady flow of snow melt that eased drought conditions in California. The weather outlook for spring 2024 is mixed. The NOAA forecasts that California will remain drought free, but that drought conditions in Washington will persist and spread. Water availability will be an important factor in both States, which together represent over 80 percent of fruit and tree nut value.

**California:** Most of the streamflow in the western United States originates as snowpack. Consequently, many States use “water years,” which start in October and end in September, to track precipitation. At the start of the 2022/23 water year, most of California was in severe or extreme drought (figure 1). These conditions persisted until late December 2022 when a series of storms pummeled the west coast, blanketing the Sierra Nevada and Cascade Mountains in snow. By April 2023, snowpack in the mountains was 137 percent above average. A cool spring ensured that this snow melted slowly, easing drought conditions through the spring and summer.

Figure 1  
**From water year 2022/2023 to 2023/2024, the percent of California in drought**



Note: The US Drought Monitor ratings can be thought of as percentiles. D0 (abnormally dry) reflects conditions in the 70th to 80th percentiles; D1 (moderately dry) reflects the 80th to the 90th percentiles; D2 (severely dry) reflects the 90th to 95th percentiles; D3 (extremely dry) reflects the 95th to 98th percentiles; and D4 (exceptionally dry) reflects conditions drier than 98 percent of those on record.

Source: USDA, Economic Research Service using data from the U.S. National Integrated Drought Information System.

It is expected that California will have less snowpack in 2023/24 than in 2022/23. However, drought conditions have eased relative to 2019/20 through 2021/22 (which were California’s 3

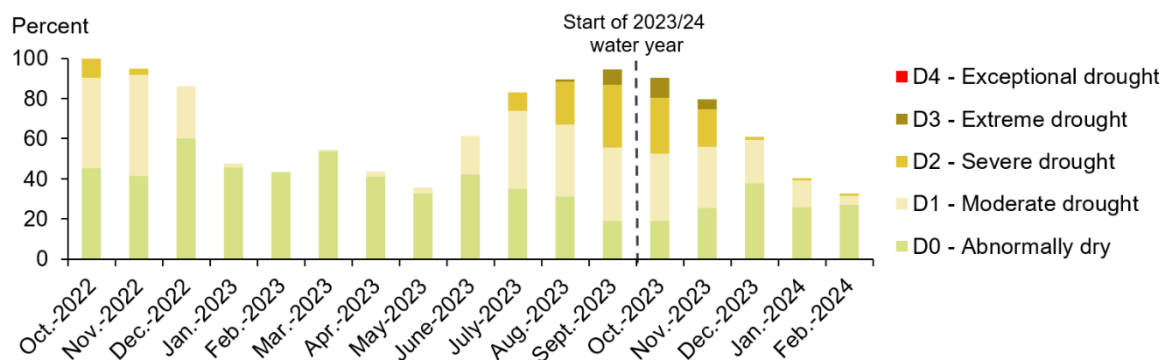
driest years on record). As of March 18, 2024, the California Department of Water Resources (DWR) reported that 9 percent more precipitation had fallen, there was 2 percent more snowpack, and reservoir levels were 16 percent higher than the water year-to-date historical average.

Recent reductions in drought have affected California’s 2024 water management plans. As of December 2023, DWR had planned to allocate only 10 percent of requested water supplies. On February 21, 2024, this allocation was increased to 15 percent.

**Washington:** Following a dry summer in water year 2021/22, 2022/23 began with all of Washington abnormally dry or drier (figure 2). Precipitation helped ease conditions throughout the fall and winter, but unseasonably warm weather in late January 2023 caused rain to fall on snow, eroding the snowpack by as much as 8 inches throughout the Cascades. Despite these losses, snowpack was 11 percent above average by May 2023.

Figure 2

**From water year 2022/2023 to 2023/2024, the percent of Washington in drought dropped from 100 to 90 percent, but the intensity of drought worsened**



Source: USDA, Economic Research Service using data from the U.S. National Integrated Drought Information System.

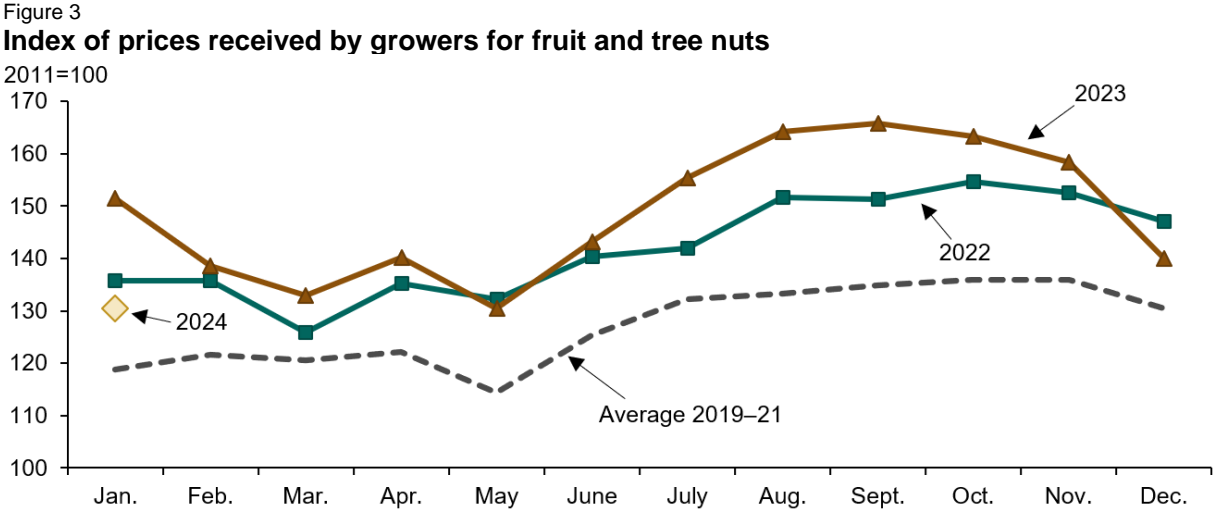
The period from May through June 2023 was the fourth warmest and 11<sup>th</sup> driest period in Washington since 1895. These conditions caused snow in the Cascades to melt more quickly than usual, easing drought conditions in the spring, but exacerbating them in the summer. By the start of water year 2023/24, 90 percent of Washington was abnormally dry or drier.

Though winter precipitation helped ease drought conditions in 2023/24, snowpack on March 1, 2024, was 33 percent lower, on average, than it was at the same time last year. In early March 2024, the Washington Department of Ecology reported that “Washington would need significantly above normal precipitation and cold temperatures to address the existing snowpack deficit and snowpack drought concerns.” As of early March, statewide forecasts predict lower than average precipitation and higher than average temperatures.

# Price Outlook

## Fruit and Tree Nut Grower Prices Lower in Early 2024

Fruit and tree nut grower prices fell in late 2023 and early 2024. In January 2024, the index of prices received by growers for fruit and tree nuts was 130.5 (2011=100), approximately 3 percent below the average January index from 2022–23, but 10 percent higher than the average index from January 2019–21 (figure 3).



Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Agricultural Prices*.

In the September 2023 *Fruit and Tree Nuts Outlook* report, USDA, ERS documented steady decreases in almond, walnut, and hazelnut prices from their record highs in the mid-2010s through the 2022/23 marketing year. Recently collected trade data from the U.S. Department of Commerce, Bureau of the Census suggests that prices remained low through the start of the 2023/24 marketing year. Industry expectations about high tree nut yields in 2024/25 (bolstered by improvements in weather during almond pollination and the availability of water in California during the spring) are expected to put downward pressure on prices late in 2023/24.

Bigger apple, strawberry, and orange crops helped drive grower prices below last season (table 1). The U.S. Apple Association reported total fresh-market apple volume in storage as of February 1, 2024, was 36 percent higher than last February’s total and 24 percent above the 5-year average. Increased apple inventory has kept apple prices down, reflecting the bigger 2023/24 production in Washington State. Larger strawberry supplies in January from Florida (the main domestic source for winter strawberries in the United States) and southern and central California softened grower prices (down 14 percent) compared to the same time last year. Fresh orange prices were up in December but dropped in January; they are expected to average

below last year’s levels due to increased domestic supply. Fresh lemon prices are up this year (August 2023–January 2024), given lower year-over-year production levels in California. Fresh grapefruit prices have remained strong with the 2023/24 crop 10 percent below the 3-year average.

**Table 1—Monthly fruit prices received by growers, United States**

Commodity	December		January		Year-to-year change	
	2022	2023	2023	2024	December	January
	----- Dollars per box -----				Percent	
Citrus fruit: <sup>1</sup>						
Grapefruit, all	22.66	30.21	20.98	25.39	33.3	21.0
Grapefruit, fresh	31.03	43.21	30.63	40.53	39.3	32.3
Lemons, all	17.55	22.31	15.97	15.69	27.1	-1.8
Lemons, fresh	24.43	29.43	24.05	24.65	20.5	2.5
Oranges, all	12.91	9.58	14.88	10.67	-25.8	-28.3
Oranges, fresh	20.89	22.45	20.70	19.25	7.5	-7.0
	----- Dollars per pound -----					
Noncitrus fruit: <sup>2</sup>						
Apples, fresh	0.889	0.639	0.922	0.625	-28.1	-32.2
Grapes, fresh	1.155	1.845	--	--	59.7	--
Pears, fresh	0.690	0.635	0.710	0.595	-8.0	-16.2
Strawberries, fresh	2.960	2.890	2.990	2.560	-2.4	-14.4

-- Insufficient number of reports to establish an estimate.

<sup>1</sup>Equivalent on-tree price.

<sup>2</sup>All monthly grower price estimates for the noncitrus fruits are derived exclusively from data provided by the USDA, Agricultural Marketing Service (AMS) and reflect free-on-board shipping point basis.

Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Agricultural Prices*.

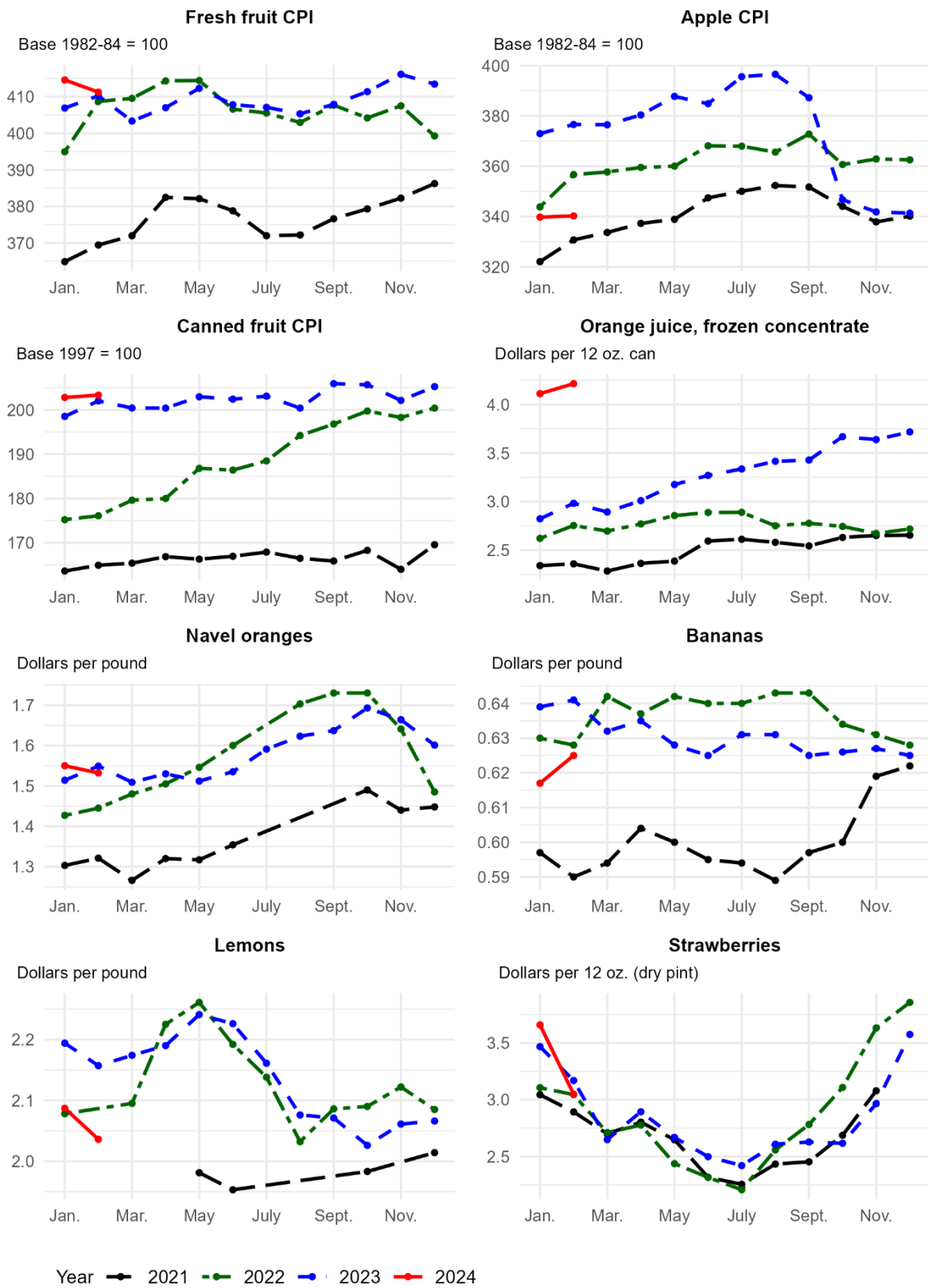
## Consumer Price Index for Fresh Fruit Up in Early 2024

The Consumer Price Index (CPI) for fresh fruit was reported at 411.3 (1982–84=100) in February 2024, up slightly (0.2 percent) from last February (figure 4). In 2024, highlights for various U.S. retail prices based on data from the U.S. Department of Labor, Bureau of Labor Statistics (BLS) include:

- Apples and bananas are two of the most heavily weighted prices in the fresh fruit CPI, together accounting for about 27 percent of the index relative importance—about the same as all citrus fruit (28 percent). Lower apple and banana retail prices in early 2024 have provided a moderating influence on the fresh fruit CPI.

- The CPI for apples provides an indication of apple retail prices in general. The apple CPI was down 10 percent in February 2024 with fresh apple volume in storage above the 5-year average.
- In January and February 2024, banana average retail prices fell below prices during the same months last year with a year-over-year decrease of 3.4 and 2.5 percent, respectively. In the first 2 months of 2024, USDA, Agricultural Marketing Service (AMS) banana shipment volumes were higher compared with the same period last year from major suppliers Guatemala, Costa Rica, and Ecuador.
- BLS data show the average retail price for strawberries in February decreased from \$3.17 per 12-ounce pint in 2023 to \$3.05 in 2024. Lower supplies from Florida in February were more than offset by higher supplies from Mexico in early 2024, increasing shipment volumes in early 2024 compared to the same period a year ago.
- The overall larger supplies of oranges lowered prices. February 2024 retail prices for navel oranges were \$1.53 per pound, a 1.1 percent decrease from February 2023.
- At the same time, prices for frozen concentrated orange juice are up 41 percent compared to last year. While U.S. orange juice production is estimated 20 percent higher this season, ending stocks are expected to reach their lowest levels in decades and several years of lackluster orange crops in Brazil have put upward pressure on orange juice prices.
- The CPI for both processed fruit and vegetable category and canned fruit was up just under 1 percent in February. In the February 2024 USDA, ERS *Food Price Outlook*, the annual CPI for processed fruit and vegetables midpoint forecast is 2.9 percent higher for 2024 than last year.

Figure 4  
**U.S. monthly retail prices for selected fruit, 2021–24**



Source: USDA, Economic Research Service based on data from U.S. Department of Labor, Bureau of Labor Statistics.

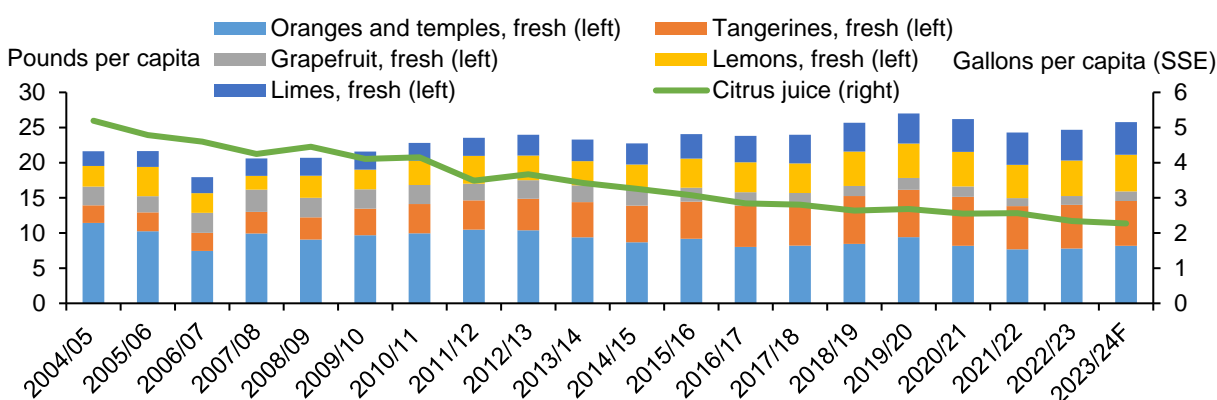
# Citrus Fruit Outlook

## Fresh Citrus Consumption Up as Juice Consumption Falls

The winter months coincide with peak harvest season for many U.S.-grown citrus commodities. Supermarkets across the country prominently display navel oranges, tangerines, mandarins, lemons, and limes from November through February. Fresh citrus per capita availability (a proxy for consumption) has averaged 23.2 pounds per person on an annual basis from 2004/05–2022/23 (figure 5). Estimates for the 2023/24 season place per capita availability at 25.8 pounds per person.

Figure 5

### Fresh citrus commodities remain popular despite falling juice consumption



F = Forecast; SSE = Single strength equivalent.

Note: Tangerines includes mandarins and tangelos. Citrus juice includes orange juice, grapefruit juice, lemon juice, and lime juice.

Source: USDA, Economic Research Service *Fruit and Tree Nuts Yearbook Tables* (2023) and ERS calculations based on Supply and Availability data for the current season.

USDA, ERS Supply and Availability data suggest that consumer tastes for different citrus fruits are varied and have changed over time. Over the last two decades the consumption of fresh grapefruit, and to a lesser extent oranges, has decreased, as the consumption of fresh lemons, tangerines, and limes has risen. Consumption of orange and grapefruit juices has declined 56 percent since 2004/05 with per capita availability on an annual basis expected to reach 2.3 gallons in the 2023/24 season.

## Orange Production Forecast Up in 2023/24

The combined orange forecast for the 2023/24 season is estimated at 2.77 million tons, up 11 percent from last season's total utilized production. This increase, which is due to higher production of Valencia and non-Valencia oranges in California and Florida, has put downward pressure on prices. The average price received for a box of fresh oranges (on-tree equivalent) was \$22.71 for September–January, down 22 percent from the same period during the previous



season. The average grower price for a box of fresh oranges is expected to be lower than the previous season overall.

The fresh orange season begins in November of the preceding year and lasts through October of the current year. Harvest begins for navel and other early/mid-season orange (non-Valencia) varieties in the late fall and ends in the early spring. California has been the top supplier of fresh oranges to the U.S. market for decades, accounting for more than half of domestic production most years since the 1920s. California is expected to supply about 90 percent of domestically grown oranges for the U.S. fresh market in 2023/24. The California Valencia orange crop is expected to increase this season by 19 percent (1.3 million boxes) relative to the historically small harvest observed in 2022/23. The California navel and early/mid-season orange crop is forecast up by 4 percent (1.5 million boxes) this season despite ongoing concerns about fruit fly infestations across various counties in the State. Larger sized fruit were more common this season because many orange trees lost flowers last winter due to heavy rains. When there is less fruit per tree, the fruit that is grown tends to be larger.

Florida is a smaller player than California in the fresh orange market, accounting for only 7.5 percent of domestic fresh oranges on average, from 2018/19–2022/23. Florida's non-Valencia (early/mid-season) orange crop is forecast to increase 11 percent (650,000 boxes) in 2023/24 while its Valencia orange crop is to increase 35 percent (3.35 million boxes). Although the non-Valencia (early/mid-season) orange harvest in Florida is complete as of March 2024, precise estimates of the share entering the fresh market will not be available until August 2024. However, if 12 percent of Florida's non-Valencia (early/mid-season) crop and 9 percent of its Valencia crop go to the fresh market, then combined Florida production for the fresh market in 2023/24 may be up 23 percent over last season.

Texas accounts for less than 2 percent of domestic orange production. All-orange production in the Lonestar State is expected to decrease by 16 percent (180,000 boxes) in 2023/24. In prior years, approximately 64 percent of Texas oranges went to the fresh market, with the remainder going to processing. In Texas, decreases in production were driven by decreases in bearing acreage, which dropped by 12 percent (800 acres) between the 2021/22 and 2022/23 seasons.

**Chile and Mexico remain top suppliers of fresh orange imports:** During the last 3 years, fresh orange imports accounted for approximately one-fifth of domestic availability. During the first 3 months of the current season (November 2023–January 2024) fresh orange imports decreased 12 percent relative to the same time last year. Increases in imports from South Africa, the Dominican Republic, and Chile did not offset large decreases in oranges from

Mexico. Although imports are expected to increase later in the season, they are expected to remain below the levels observed last season.

The United States is a net exporter of fresh oranges. Most exports are shipped to Canada, South Korea, Mexico, and Hong Kong. Currently, orange exports are 22 percent (17,500 tons) higher than the same period last season (November–January). In the *Citrus: World Markets and Trade* report, the USDA, Foreign Agricultural Service estimates a 1.7 percent increase in export volume in 2023/24.

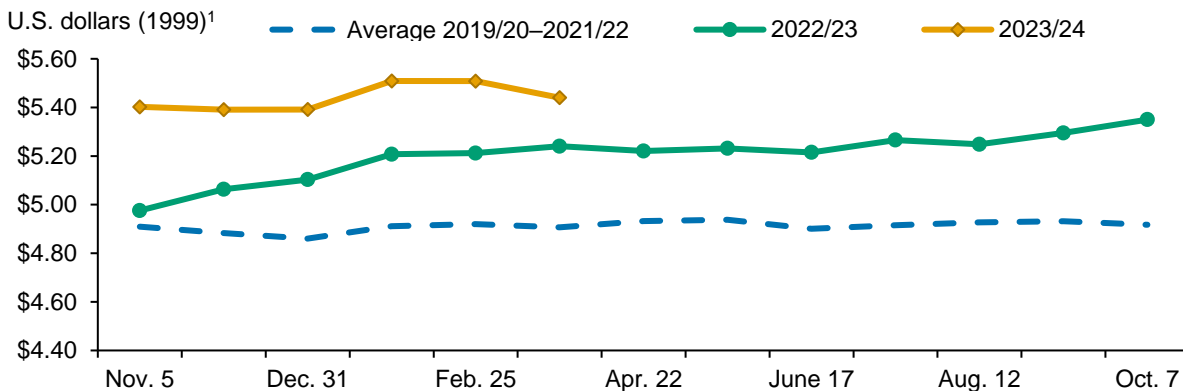
**Long-term decline of Florida orange juice production continues despite modest expected increase in 2023/24:** If historical trends persist, approximately 45 percent of U.S.- grown oranges will be processed this season (2023/24) and Florida will remain the top domestic supplier for the U.S. orange juice market.

While many varieties of oranges are grown commercially in Florida, NASS groups them into two categories for survey purposes: Valencia (renowned for their quality as a juice orange) and non-Valencia. The harvest season for non-Valencia oranges usually begin in late September (and persists through the early spring), while the harvest season for Valencia begins in the early spring. The Economic Research Service forecasts an increase in orange juice production of 20 percent or more over last season, which was disrupted by Hurricane Ian. Nonetheless, total production is forecast to be the second lowest level in decades at 137 million single strength equivalent (SSE) gallons. If realized, this quantity would be approximately half of utilized orange juice production in the season following hurricane Irma (2017/18), which was a historically small harvest. Orange juice ending stocks are projected to reach a 30-year low as inventory is consumed.

Retail prices of orange juice have trended upward since last season, in part due to falling domestic production and reductions in stocks (figure 6). Analysis of A.C. Nielsen retail sales data published by the Florida Department of Citrus indicates that the average real (inflation-adjusted) price of orange juice (chilled, not from concentrate, and frozen concentrated varieties combined) was \$5.44 a gallon during the first 20 weeks of the current season (beginning October 2023). This is an increase in real prices of 6 percent over the same 20-week period last season. A.C. Nielsen retail sales data specific to frozen concentrated orange juice (FCOJ) indicate that real prices over the same period are up even higher (23 percent) than last season.

Figure 6

**Orange juice prices are up in 2023/24 amid record low domestic stocks**



<sup>1</sup>Prices were adjusted using Bureau of Labor Statistics Consumer Price Index (CPI). Baseline period was 12th month 1999. Note: Month-days along the x-axis (e.g., Oct. 7) correspond to the closing date of each of 13, 4-week periods in the marketing year 2022/23.

The U.S. marketing year for orange juice begins in October of the preceding year and ends in September of the current year. Source: USDA, Economic Research Service using data from *Florida Department of Citrus Monthly Topline Report*, compiled from A.C. Nielsen Sales Data, *Expanded All Outlets Combined (xAOC)*, various issues.

Most of the orange juice consumed in the United States is imported. The import share of domestic availability is expected to be 80 percent this season, slightly down from last year’s record high of 84 percent.

Brazil, the top producer of orange juice globally, is expected to remain the largest supplier of orange juice to the U.S. market in 2023/24. Brazil supplied 76 percent of orange juice imports to the U.S market last season and has accounted for 81 percent of imports so far this season (October 2023–January 2024). Notably, Brazil has produced relatively small orange crops since the 2020 growing season. This has resulted in low orange juice stocks in Brazil that may limit exports to the United States and put upward pressure on prices.

Mexico is the second largest supplier of orange juice to the U.S. market, supplying between 18 and 35 percent of imports over the last 3 years. Orange juice imports from Mexico have risen in 2023/24. Currently, imports are 16 percent higher than during the same 4-month period last season.

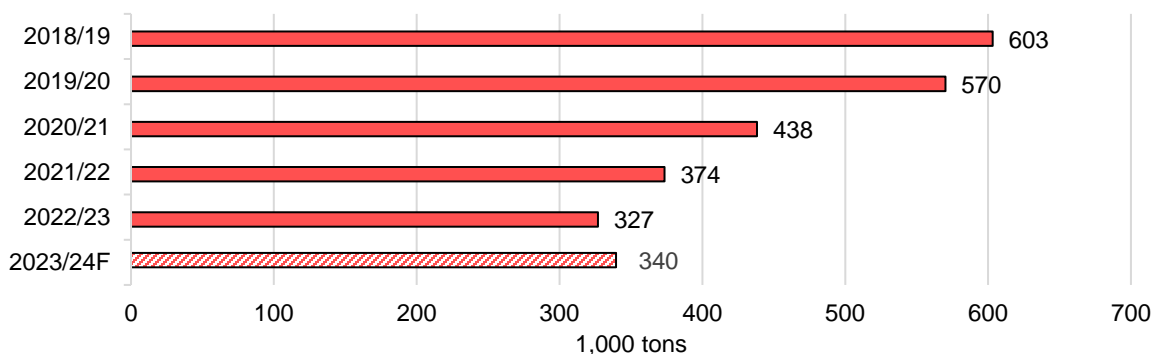
Orange juice exports were 14 percent lower (1.65 million gallons) from October 2023 to January 2024 than the same period last year. Canada has been the main recipient of U.S. orange juice exports, accounting for 76 percent of U.S. exports in 2023/24 to date. There has been a notable increase in orange juice exports to Costa Rica this season with 524,625 gallons shipped between October 2023 and January 2024. This is a nearly 25-fold increase in shipments to Costa Rica compared to the same span last season. Canada is expected to remain the top export market for U.S. orange juice followed by the Dominican Republic and Mexico.

## Slight Increase Expected in U.S. Grapefruit Production in 2023/24

All grapefruit production is forecast to be 340,000 tons in 2023/24, approximately 4 percent higher than it was in 2022/23 (figure 7). Despite increases in production, current fresh grapefruit prices are higher than the 5-year average. The average November 2023–January 2024 price for fresh U.S. grapefruit was \$41.59 per box, nearly 32 percent higher than the same 3-month period last season.

Figure 7

### Grapefruit: production is up 4 percent up in 2023/24 but still below historic levels



F = Forecast.

Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, Crop Production, March 2024 issue, and Citrus Fruit Summary, various issues.

In 2023/24, California, Florida, and Texas are expected to produce 3.8 million boxes (152,000 tons), 2.2 million boxes (94,000 tons), and 2.35 million boxes (94,000 tons), respectively. Although Texas grapefruit production is expected to increase for the second year in a row, production levels are still 47 percent below the 2019/20 season which preceded Winter Storm Uri. Bearing acreage in Texas dropped 33 percent between 2020/21 and 2021/22. Unless acreage returns to previous levels, Texas's grapefruit crop is not expected to rebound to 2019/20 levels. If realized, total U.S. grapefruit production will be the second smallest in 96 years.

Although Florida's grapefruit production is expected to increase this year and to equal production in Texas, this will be second smallest crop since 1918 (still greater than last season's record low of 77,000 tons). Florida's grapefruit industry underwent considerable attrition since the late 1990s in yield and acreage.

Fresh grapefruit imports were 82 percent higher from September 2023 to January 2024 than the same period last year and are expected to remain high throughout the season. Several countries supply fresh grapefruit to the U.S. market including Mexico, South Africa, Israel, Peru,

China, and (more recently) Vietnam. The share coming from each country varies from year-to-year although South Africa was the top supplier in the 2022/23 season.

Fresh grapefruit exports are currently up this season by 17 percent. The largest export markets for U.S.-grown grapefruit are expected to remain Canada, Japan, and South Korea, which together accounted for two-thirds of grapefruit exports last season (2022/23).

Grapefruit juice was more popular among U.S households in the past than it is today. In 1978, per capita availability (a proxy for consumption) was 0.8 gallons per person. Domestic consumption has steadily declined since then and is expected to reach 0.06 gallons (less than 1 cup) per person in 2023/24.

The Economic Research Service expects total grapefruit juice production to increase to 15 million gallons this season (2023/24), up by 2 million gallons from 2022/23. Given higher production, imports are expected to decrease to 6 million gallons, down 32 percent from last year. Mexico, South Africa, and Spain are expected to remain the top suppliers of grapefruit juice to the U.S. market. Exports are expected down from last season at 4 million gallons, with Canada, Japan, and the United Kingdom remaining the three largest export markets for U.S. grapefruit juice.

Despite decreases in production, U.S. grower prices for a box of grapefruit for the processing market for the 3-month period spanning November 2023–January 2024 were \$3.73 per box, down 15 percent from the same period last year. However, Nielsen Retail sales data as of the week ending February 24, 2024, report that supermarket grapefruit juice prices were up 5 percent. If changes in retail juice prices foreshadow changes in grower prices for processed fruit, then U.S. grower prices for processed grapefruit may increase later in the year.

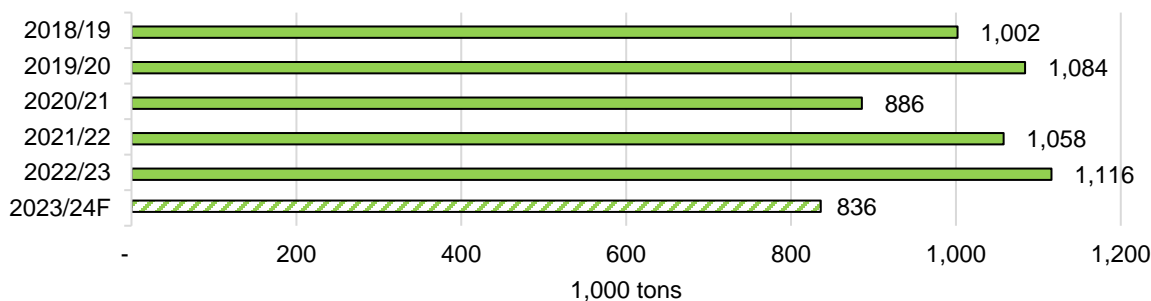
## Lemon Production Forecast Down in 2023/24

The current marketing year for lemons started in August 2023 and will last through July 2024 (figure 8). Overall lemon production is expected to decrease to 836,000 tons, down 25 percent (280,000 tons) from last season (2022/23). This is a 15-percent decrease from the original NASS forecast in October 2023. Despite this decrease, lemon production in the United States has increased over the last two decades. Yields increased at an annual average rate of 3 percent between 2003/04 and 2022/23, and although total bearing acreage trended downward in the early 2010s (reaching a low of 54,000 acres in 2013) it has increased since, reaching a 15-year high of 59,400 acres in 2022/23 as reported by NASS in the *Citrus Summary Report* (August 2023). Shipment data from the USDA, Agricultural Marketing Service confirms that

fresh lemons shipments decreased 31 percent over August 2023–January 2024, compared to the same period last season.

Figure 8

**Lemons: production forecast down 25 percent in 2023/24 compared to last year**



F = Forecast.

Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Crop Production*, March 2024 issue, and *Citrus Fruit Summary*, various issues

**Fresh lemon prices up:** Fresh lemon grower prices in the current season (August 2023–January 2024) increased to \$33.53 a box, on average, up 33 percent from the same period last year. This is partly due to decreases in domestic production this season.

During the first 6 months of the season (August 2023–January 2024) fresh lemon imports increased 18 percent. With strong demand for lemons and lower production levels, imports are expected to remain high for the remainder of the 2023/24 season. The import share of availability (production, plus imports, plus net change in stocks, minus exports) for fresh lemons increased over the last decade. Barring an unexpected change, imports are expected to account for 24 percent of the fresh lemons consumed in the United States in the 2023/24 season. Argentina is expected to remain the top supplier of lemon imports to the U.S. market in 2023/24, followed by Mexico and Chile.

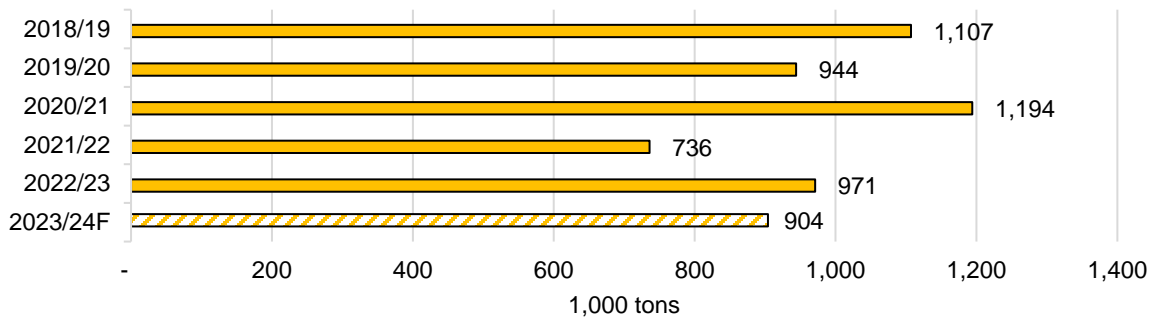
Despite lower production levels in the current season, lemon exports are up 7 percent compared to the same period last year. However, exports are projected to fall in the coming months, given reduced domestic production. If expected trade trends continue, per capita availability of fresh lemons will reach more than 5 pounds per person in 2023/24.

## Smaller Tangerines Crop Expected in 2023/24

The marketing year for the tangerine commodity group (tangerines, mandarins, and tangelos) began in November 2023, and will conclude in October 2024. The 2023/24 harvest is forecast at 904 thousand tons, a downward revision from the NASS forecast published in October 2023 (figure 9). This estimate reflects a 7 percent decrease from total utilized production in the 2022/23 season.

Figure 9

**Tangerines: production forecast down 7 percent in 2023/24 compared to last**



F = Forecast. Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Crop Production*, March 2024 issue, and *Citrus Fruit Summary*, various issues.

Tangerine production in the United States has increased by 6 percent per year, on average, from 2003/04 to 2022/23. Most of the forecasted decrease in the U.S. tangerine crop over last season is due to a 7 percent (1.7 million box) drop in California production, as California accounts for 97 percent of domestic production. Florida has seen falling tangerine production levels for nearly two decades; the 2023/24 crop is expected to increase by 4 percent (20,000 boxes). This increase in Florida tangerine production in 2023/24 can mostly be attributed to recovery from last season’s historic low caused by Hurricane Ian.

U.S. consumers’ demand for tangerines is expected to remain strong despite reduced domestic production. Imports for the first 3 months of the marketing year (November 2023–January 2024) are down slightly (6 percent) from the same period in 2022/23. However, imports are expected to increase when Chile’s export season picks back up in May 2024. Chile is expected to remain the top foreign supplier of tangerine imports to the U.S. market in 2023/24, followed by Peru and Morocco.

Because domestic production decreased in 2023/24, tangerine exports have fallen by 14 percent marketing year-to-date. Canada and Mexico are the two largest export markets for U.S.-grown tangerines (46 and 28 percent, respectively, of U.S exports in 2022/23). Exports to Canada fell 24 percent from November through January compared to the same period last year. Exports to Mexico increased by 42 percent. If current trends persist, the per capita availability of tangerines in 2023/24 is expected to exceed 6 pounds per person.

# Noncitrus Fruit Outlook

## Winter Strawberry Shipments Up, Prices Down

In the United States, strawberries are grown on a large commercial basis in California and Florida. California harvests strawberries throughout the year, but the vast majority is harvested from April to November. Florida is a winter-spring producer, harvesting from mid-December to mid-May.

Data from the annual acreage survey conducted by the California Strawberry Commission (CSC) indicates that strawberry acreage in California is expected to increase by 1.4 percent (year-over-year) to 40,865 acres in 2024, keeping with an upward trend in acreage since 2019. In California, fall planted acreage (harvested in winter, spring, and summer of 2024) increased 4.5 percent to 31,221 acres. Just over three quarters of the 1,300 new fall planted acres are in the Watsonville/Salinas region of central California. Summer planted acres (which will be harvested in the fall of 2024) are expected to decline slightly. Approximately 12 percent of California acreage (4,860 acres) is anticipated to be in organic production this year, 8 percent lower than in 2023.

The CSC estimates that 15,150 acres of strawberries were planted during the 2023/24 season in Florida, marking the fourth consecutive year of increased acreage in the State. Much of Florida strawberry production is centered around the Tampa Bay area in Central Florida.

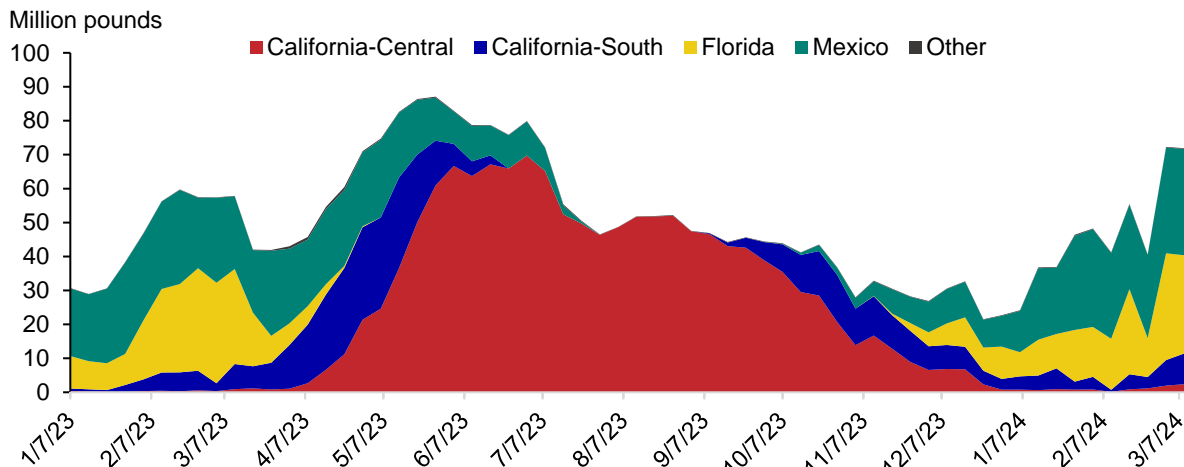
Shipment volume data from USDA, AMS reflect changes in the supply of strawberries available. In the first 10 weeks of 2024, strawberry shipments (domestic and imports) increased 2.2 percent relative to the same period last year. Increases in imports from Mexico and shipments from California producers offset decreases in strawberry shipment volumes from Florida (figure 10). In mid-February 2024, Florida producers experienced windy and rainy weather that temporarily disrupted strawberry shipments. However, steady shipments from Florida resumed by early March.

Free-on-board (FOB) shipping point prices reflect the sales price of a commodity at the point (location) of production or port of entry from which the produce is originally shipped. FOB includes other expenses and fees such as the cost of packaging. Conventional strawberry FOB shipping point prices averaged \$9.25 per flat (eight 1-pound containers with lids) by early March 2024, down from \$12.50 at the same time a year ago. Organic FOB shipping point prices averaged \$16 per flat, a 16 percent decrease from early March 2023.



Figure 10

**Weekly fresh strawberry shipments, January 2023–mid-March 2024**



Note: Other includes import shipments from countries other than Mexico and domestic shipments from North Carolina.  
 Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service, *Market News*, movement data.

**Fresh strawberry trade volumes up, frozen volumes continue downward slide:** In 2023, approximately one-fifth of the fresh strawberries available in the United States were imported. This share has doubled since the early 2000s, when 10 percent of the strawberries available were imports. Generally, 98 percent of strawberry imports originate in Mexico.

Fresh strawberry import volume increased 4 percent year-over-year in 2023, from 564 million to 589 million pounds. This is the fifth consecutive year of increased import volumes. The nominal value of imports also increased, from \$1.08 billion to \$1.18 billion. In fact, 2023 marked the third year that fresh strawberry imports were valued over \$1 billion. Approximately 11.5 percent (68 million pounds) of fresh strawberry import volume in 2023 was organic, on par with the 2022 share.

Fresh U.S. strawberry export volumes increased 4 percent year-over-year, up 11 million pounds to 292 million pounds in 2023. Six percent of fresh strawberry exports were classified as organic. Fresh exports crossed the half a billion-dollar mark, valued at \$529 million. In 2023, 88 percent of fresh strawberry exports were destined for Canada (67 percent) and Mexico (21 percent).

Though imports of fresh strawberries increased, frozen strawberry import volumes dropped for the second year in a row following record high volumes in 2021. In 2023, 355 million pounds of frozen strawberries were imported, a 9 percent decrease from 2022. Most frozen import volume comes from Mexico (54 percent), with Chile (13 percent), Egypt (9 percent), and Peru (8 percent) making up another 30 percent of U.S. import volume.

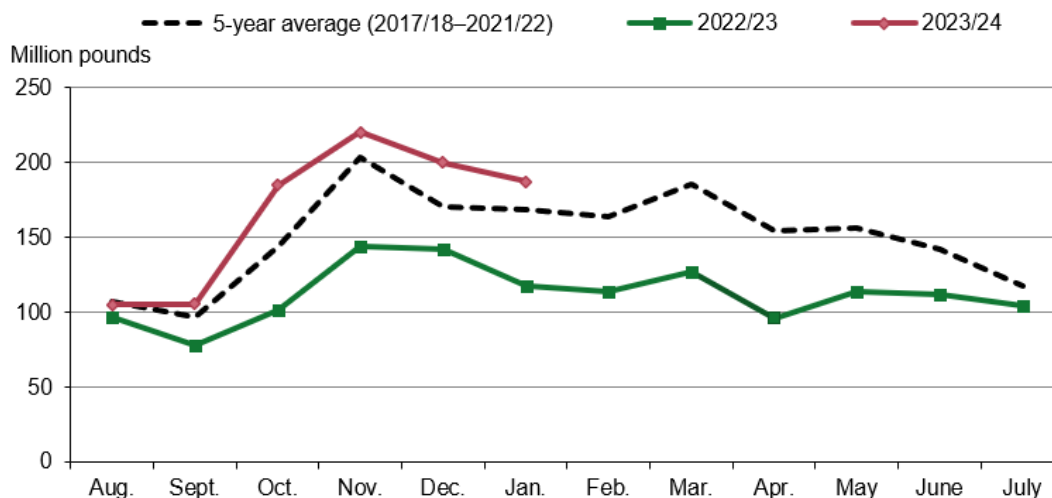
Frozen strawberry export volumes decreased 10 percent year-over-year, from 24.3 million to 21.9 million pounds, keeping with a 10-year decline. This figure is the lowest since 1990, just under the previous low in 2004. The share of exports headed for Canada and Mexico increased from 58 percent in 2022 to 67 percent in 2023.

## Bigger Washington Apple Crop Boosts Exports in 2023/24

Most of the apples grown in the United States are produced in Washington State, which accounts for approximately two-thirds of U.S. production volume and more than 70 percent of U.S. fresh apple export value over the past 5 years. Driven by a 9 percent year-over-year increase in Washington apple production, fresh exports surged in the first 6 months of the 2023/24 marketing season (August–January), up 47 percent compared with the same time last season and up 13 percent from the previous 5-year average (figure 11). Strong exports at the start of this marketing year follow a 2022/23 season (August–July) that recorded the lowest fresh apple export volume since 2004/05.

Figure 11

### U.S. fresh apple export volume starts strong in 2023/24



Note: Apple marketing begins in August and ends in July of the following year.

Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

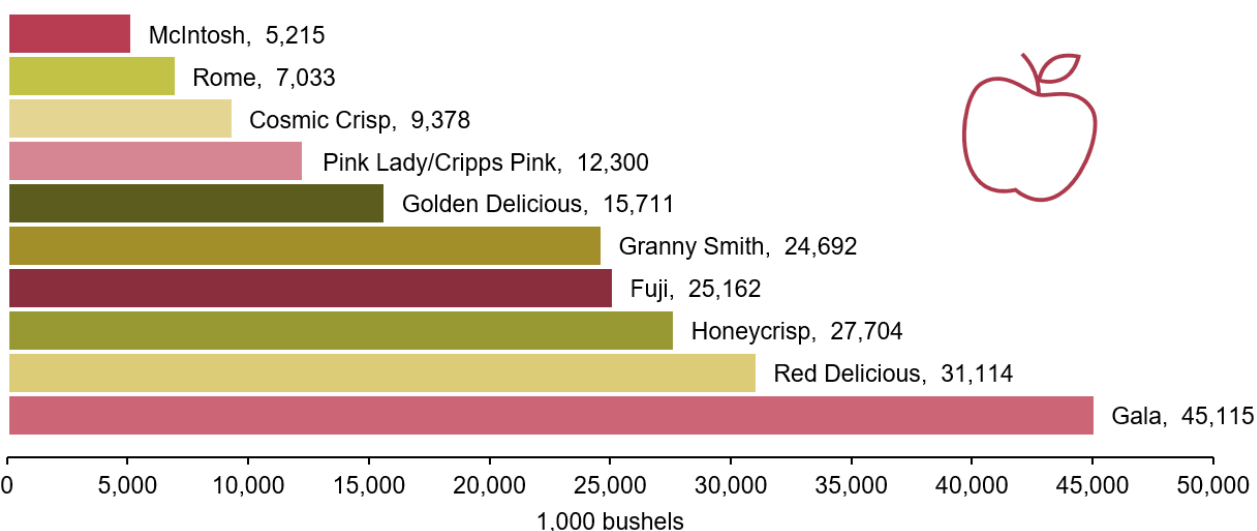
In the first half of 2023/24, increases in exports to top destinations Mexico, Taiwan, and Vietnam, were more than enough to offset a decrease in exports to Canada. Organic apples represented 15 percent of export volume (145.5 million pounds) with more than half of organic apple volume (84 million pounds) going to Mexico. Fresh exports to India in the first half of 2023/24 totaled 39 million pounds and accounted for 4 percent of total U.S. fresh apple export volume. This marked the highest volume to India for this period since 2017/18 when India was the second largest U.S. fresh apple export market. The 2023/24 uptick in exports follows India's removal of retaliatory tariffs on U.S. apples originally imposed in 2019.

Despite the increase in export volume in early 2023/24, U.S. total apple holdings (fresh and processing market) on February 1, 2024, were up 33 percent from last year, the U.S. Apple Association reported. The larger apple inventory has softened prices with average monthly grower prices and retail prices down in January 2024 compared to the same month last year.

**Cosmic Crisp variety ranks eighth in 2023/24:** Thousands of acres of Cosmic Crisp cultivars planted in Washington in recent years have started to bear fruit. The volume of Cosmic Crisp production is expected to be 45 percent higher than it was two seasons ago, according to the U.S. Apple Association (figure 12). Nonetheless, Cosmic Crisp production volumes are still far lower than other cultivars. Gala and Red Delicious apples remained the top apple varieties. However, annual production of Red Delicious has declined in recent years as growers replace older orchards with newer varieties. In 2023/24, Red Delicious production volume was 42 percent lower than 2018/19.

Figure 12

**Top apple varieties by the bushel in 2023/24F**



F = Forecast.

Note. 1 bushel is equivalent to 42 pounds. Top 10 varieties represent approximately 81 percent of U.S. production in 2023/24F.

Source. USDA, Economic Research Service using data from US Apple Industry *Outlook 2023 Report*.

## Fresh Blueberry Shipments Up in Early 2024

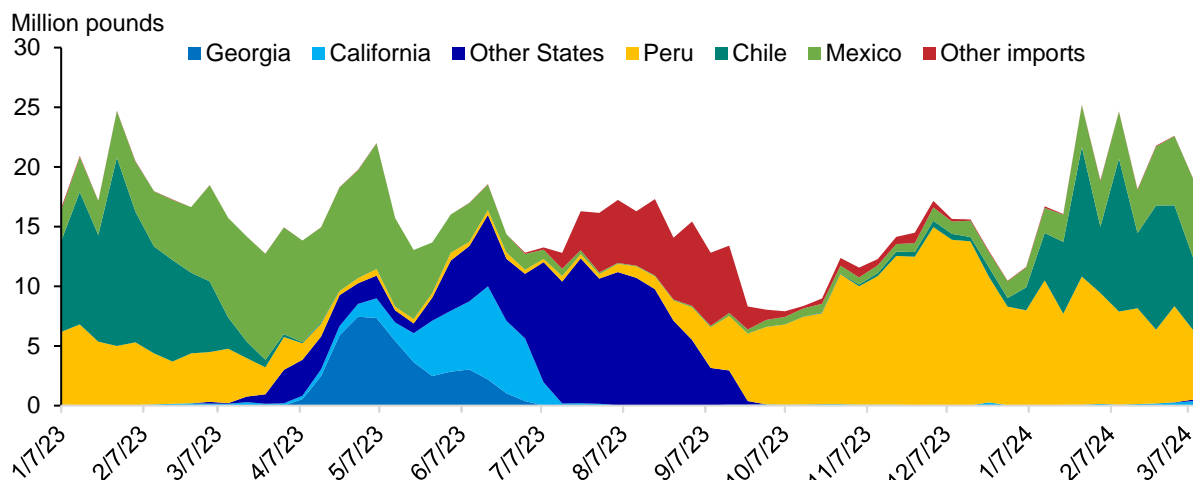
Blueberries are grown across the United States, from Washington to Florida. USDA’s National Agricultural Statistics Service will release its annual survey-based estimates of both cultivated and wild blueberry production data on May 7, 2024, in the *Noncitrus Fruits and Nuts 2023 Summary*. In the meantime, information on the 2023 season can be gleaned from blueberry domestic shipment data from USDA, AMS and State-level crop progress reports:

- Total domestic fresh blueberry shipment volume in 2023 was 2 percent higher than the previous year.

- On the West Coast, fresh blueberry shipment volumes fell in top States Washington and Oregon. In California, cool spring weather delayed crop development, leading to a higher percentage of shipments in June and July than normal. During the past three seasons, almost 80 percent of California's blueberry crop was destined for the fresh market while more than half of Washington and Oregon's production went to the processing market (69 and 55 percent, respectively).
- Fresh blueberry shipment volumes from Michigan were up in 2023 compared to last season. Some growers reported higher yields due in part to good weather during pollination.
- Shipment volumes from Georgia rose in 2023 from the previous year. Unlike peaches, Georgia blueberry crop quality and production volume was not negatively affected by the mid-March freeze.

In the first 10 weeks of 2024, fresh blueberry shipment volumes were up 4.9 percent compared to the same period last year (figure 13). Almost all early 2024 shipment volume was imported from either Peru, Chile, or Mexico. In March 2024, early domestic shipment volumes from California and Florida started to increase as the market begins to shift from imports to domestic suppliers during the spring and summer. Conventional blueberry FOB shipping point prices averaged \$17.67 per flat (12 1-pint cups with lids) by early March.

Figure 13  
**Weekly fresh blueberry shipments, January 2023–mid-March 2024**



Note: "Other States" includes Florida, Michigan, New Jersey, North Carolina, Oregon, and Washington. "Other imports" includes import shipments from Argentina, Canada, Colombia, Morocco, and the Netherlands.

Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service, *Market News*, movement data.

**Blueberry import volumes decrease in 2023:** About 65 percent of fresh blueberries available in the United States are imported each year, up from 45 percent in the 2000s. In 2023, fresh blueberry import volume decreased 15 percent year-over-year, down to 559 million pounds from

657 million pounds in 2022, the first decline in volumes since 2017. Import volumes in the latter half of 2023 were down 29 percent compared to the same period in 2022.

Approximately 88 percent of fresh blueberry imports come to the United States from three countries: Peru (43 percent), Mexico (29 percent), and Chile (16 percent). Peru and Chile experienced unseasonably warm temperatures due to El Niño weather patterns that negatively affected blueberry production and decreased trade volumes. Volumes from Peru rounded out 2023 down 25 percent year-over-year, dropping Peru's share of imports from 49 percent to 43 percent. Similarly, Chilean fresh blueberry volumes declined 26 percent from a year prior. Fresh organic imports fell 18 percent year-over-year, marking the first decrease in volume since 2016. With both conventional and organic import volumes down, organic blueberries maintained a similar share of the import market (averaging 16 percent in the 2020s to date).

## California Avocado Production Forecast Down in 2024

The California Avocado Commission (CAC) estimates that California producers grew 233.1 million pounds of avocados in 2022/23, and that 208 million pounds will be produced in 2023/24. If realized, the 2023/24 California avocado crop would be the smallest since the 2008/09 marketing year (November–October) and the second smallest since the late 1970s. In 2023/24, Hass avocados are expected to account for 94 percent (196 million pounds) of California's crop volume, with Lamb, Gem, and other varieties accounting for the remainder. California produces approximately 90 percent of U.S. avocados annually. U.S. net production (domestic production minus exports) represents approximately 10 percent of U.S. fresh avocado availability.

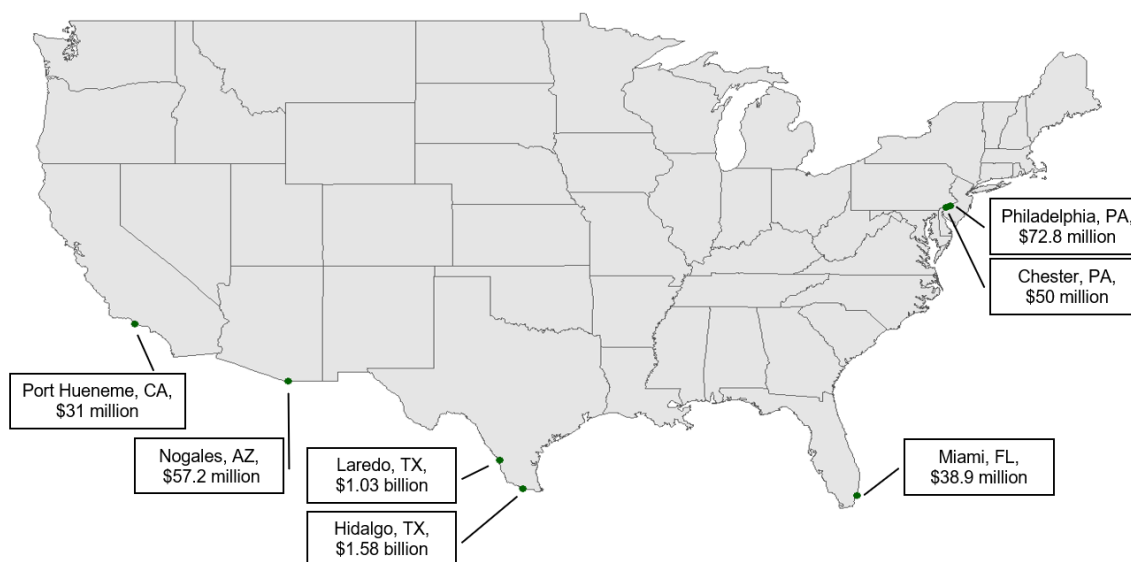
Avocado trees are sensitive to frost. Therefore, most California avocado production is concentrated in southern counties. The *2022 Census of Agriculture* reports that California avocado bearing acreage totaled 45,970—the lowest since the mid-1970s. Between 2012 and 2022, California's top-producing coastal counties north of Los Angeles, Ventura, and Santa Barbara, added almost 4,000 acres of avocados while San Diego County removed 6,919 acres. Urban development and high water costs are two factors contributing to the decline in San Diego County.

**2023 sets import volume record high:** In calendar year 2023, the United States imported a record 2.78 billion pounds of fresh avocados with 89 percent of volume coming from top producer Mexico. Hass-like conventional (2.56 billion pounds) and Hass-like organic avocados (133.7 million pounds) represented 97 percent of total fresh avocado volume. Approximately 3 percent of fresh avocado import volume was non-Hass-like avocados (83.1 million pounds), primarily from the Dominican Republic.

Fresh avocado imports totaled almost \$3 billion in 2023, ranking second in U.S. fresh produce import value behind tomatoes. Most fresh avocado imports enter the United States through two customs ports of entry in southern Texas (figure 14). In 2023, 53 percent of U.S. fresh avocado import value entered through the customs port in Hidalgo, Texas (\$1.58 billion) and 35 percent entered through Laredo, Texas (\$1.03 billion). All fresh avocado imports moving through the Hidalgo, Laredo, and Nogales ports were produced in Mexico. In contrast, the majority of avocado imports in Pennsylvania (Philadelphia and Chester) and Port Hueneme, California came from Peru. Imports at the Port of Miami, Florida came mainly from the Dominican Republic and Colombia.

Figure 14

**Top U.S. custom ports by value for fresh avocados imports, 2023**



AZ = Arizona; CA= California; FL = Florida; PA = Pennsylvania; TX = Texas

Note: Seven custom ports shown represent 96 percent of total fresh avocado import value in 2023. Top custom ports for avocado imports were not located in Alaska or Hawaii; therefore, the States are not shown on the map.

Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

**Hass avocado prices:** In the first half of 2023, increases in imports increased the supply of avocados available to domestic consumers and put downward pressure on FOB shipping point prices for Hass avocados. In July, shipments from Mexico declined and prices began to rise (figure 15). Average FOB shipping point prices<sup>1</sup> peaked in 2023 in mid-August (for medium size conventional Hass avocados from Mexico) at \$3.03 per pound (or \$75.75 per two-layer carton). At that time, the average price of smaller sized fruit (\$1.46 per pound) was half of the price of

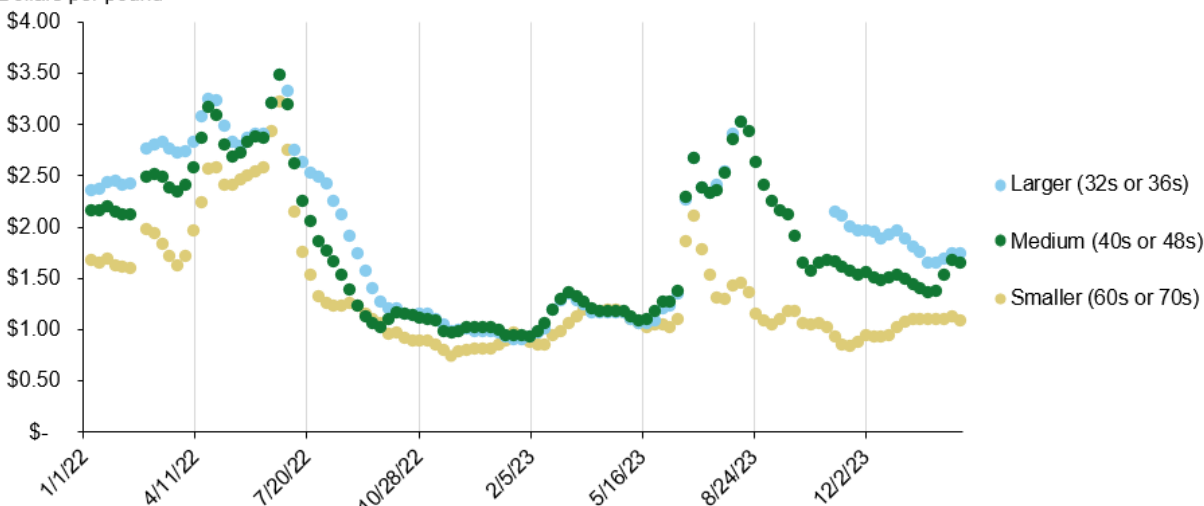
<sup>1</sup> USDA, AMS *Market News* FOB shipping point prices of imported produce represent the sale price at the crossing point or port of import, with any duties, crossing charges, or import fees paid prior to the reported sale.

the medium size. Prices for Hass avocados tend to be higher for medium and larger sizes, which are preferred by foodservice.

Figure 15

**FOB prices for Hass avocados from Mexico, January 2022–February 2024**

Dollars per pound



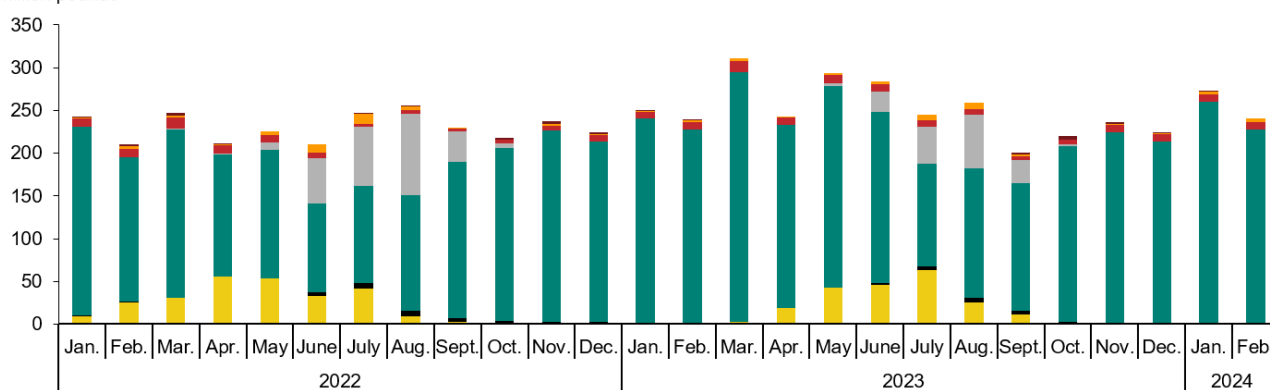
Note: Average weekly FOB prices by fruit size for conventional Hass avocados in 25-pound two-layer cartons. Fruit size is identified by the number of avocados in the same size container. For example, a two-layer carton may have 32 avocados or 60 avocados, and would be listed as 32s and 60s, respectively.  
 Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service, *Market News*, Shipping point prices.

The Mexican Hass Avocado Importer Association reported higher volumes of smaller size fruit offset an 18 percent decline in larger fruit through week 34 of the season (July 2023–February 2024). Industry reports indicate drought conditions in Mexico this season lowered yields and decreased fruit size. In early 2024, FOB prices for medium and large Hass avocados continued to trend higher than the same period last year. USDA, AMS *Market News* fresh avocado shipment volume (all varieties) was up 5 percent in the first 2 months of 2024 from 2023 with Mexico (95 percent) and the Dominican Republic (4 percent) accounting for most of the volume (figure 16).

Figure 16

**Monthly domestic and imported avocado shipments, January 2022–February 2024**

Million pounds



Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service, *Market News*, movement data.

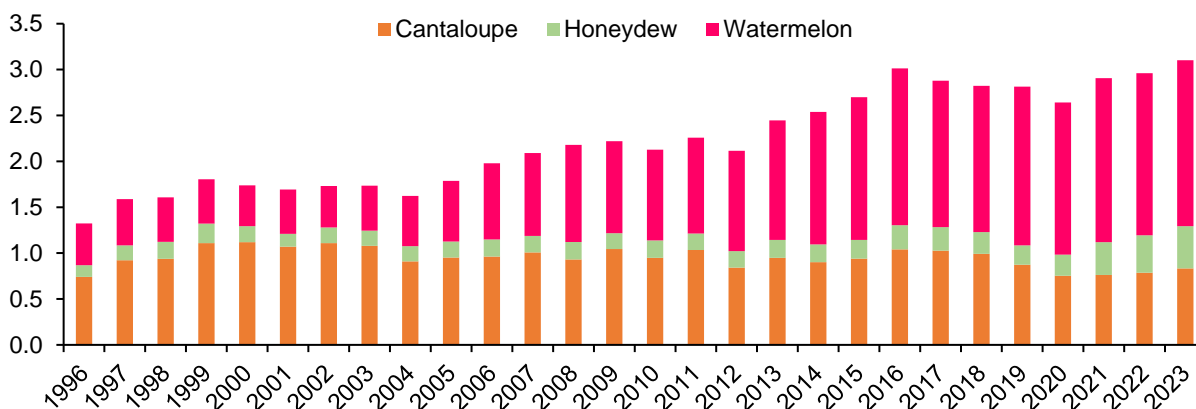
# Melons Outlook

Estimated domestic availability (a proxy for consumption) of melons was 7.54 billion pounds in 2023, up 1 percent from the previous year (table 2). Per capita availability was 22.5 pounds per person, on par with 2022 availability. Increases in watermelon and honeydew supplies helped offset a decline in domestic cantaloupe production. Watermelon continued to account for just over two-thirds of per capita melon availability at 15.3 pounds per person. Per capita availability increased in 2023 from the previous year for watermelon (up 3 percent) and honeydew (19 percent) but fell 10 percent for cantaloupe.

Melon imports rose for the third consecutive year to a record high 3.1 billion pounds with ample supplies from Guatemala, Honduras, and Mexico (figure 17). Melon import volumes were over five times greater than export volumes. The import share of domestic availability for all melons reached 41.4 percent in 2023, the highest on record. While watermelon makes up 58 percent of melon import volume, import share of domestic availability for watermelons (35 percent) is lower than cantaloupe (47 percent) or honeydew (73 percent).

Figure 17  
**Melon imports reach record high in 2023**

Billion pounds



Note: The United States also imports small volumes of ogen and galia melons, as well as other melons. In July 2023, honeydew import codes were added. USDA, Agricultural Marketing Service import shipment data was used to estimate the portion of honeydew melons from 1996 to June 2023.

Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census.



**Table 2—U.S. melons: Supply and availability, by type and all, 2019–23**

Year	Supply		Total supply	Exports <sup>2</sup>	Availability		Trade share of:	
	Utilized production <sup>1</sup>	Imports <sup>2</sup>			Domestic availability	Per capita availability	Availability imported	Supply exported
				--Million pounds--		--Pounds--		--Percent--
<b>Cantaloupe</b>								
2019	1,112	873	1,985	131	1,854	5.6	47.1	6.6
2020	1,238	753	1,991	105	1,886	5.7	39.9	5.3
2021	1,157	762	1,920	103	1,817	5.5	42.0	5.4
2022	1,277	786	2,064	91	1,973	5.9	39.9	4.4
2023	1,080	833	1,914	132	1,782	5.3	46.8	6.9
<b>Honeydew<sup>3</sup></b>								
2019	260	353	613	63	550	1.7	64.1	10.2
2020	245	348	593	69	524	1.6	66.4	11.6
2021	195	357	552	66	486	1.5	73.5	12.0
2022	184	408	592	66	526	1.6	77.6	11.1
2023	235	460	694	68	626	1.9	73.4	9.9
<b>Watermelon</b>								
2019	3,563	1,729	5,292	322	4,970	15.1	34.8	6.1
2020	3,522	1,658	5,179	360	4,820	14.5	34.4	6.9
2021	3,503	1,788	5,290	376	4,914	14.8	36.4	7.1
2022	3,547	1,766	5,314	329	4,985	14.9	35.4	6.2
2023	3,685	1,810	5,495	377	5,118	15.3	35.4	6.9
<b>All melons</b>								
2019	4,935	3,025	7,961	528	7,433	22.6	40.7	6.6
2020	5,004	2,784	7,789	539	7,250	21.9	38.4	6.9
2021	4,855	2,918	7,773	548	7,226	21.7	40.4	7.0
2022	5,008	2,971	7,979	487	7,492	22.5	39.7	6.1
2023	5,000	3,120	8,120	579	7,541	22.5	41.4	7.1

<sup>1</sup> Source: USDA, National Agricultural Statistics Service.

<sup>2</sup> Source: U.S. Department of Commerce, Bureau of the Census.

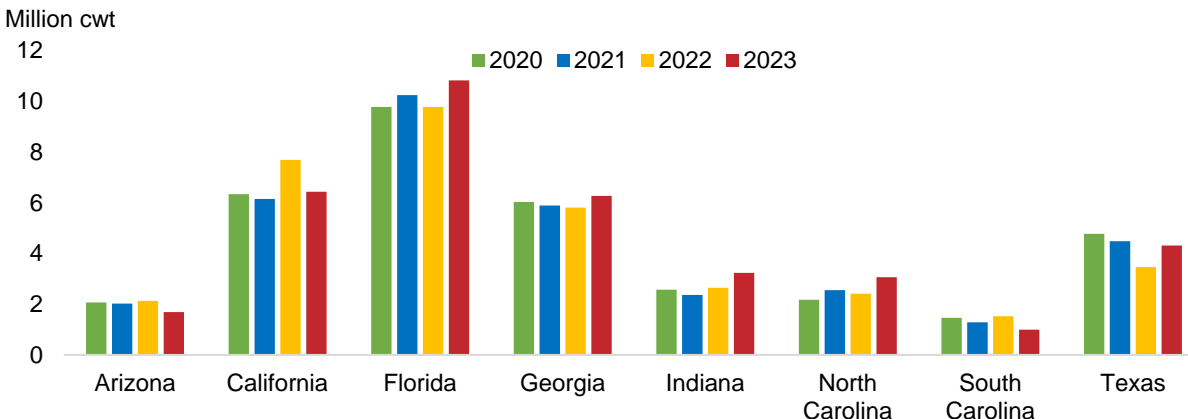
<sup>3</sup> Prior to July 2023, honeydew melons were included under "other melon" HS trade codes. USDA, Agricultural Marketing Service import shipment data was used to estimate the portion of honeydew melons from 2019 to June 2023 for imports and from 2019 to 2023 for exports. In July 2023, honeydew import trade codes were added.

Source: USDA, Economic Research Service.

**Watermelon:** In 2023, utilized production was 36.9 million hundredweight (cwt), up 4 percent year-over-year. With increased production, the 2023 watermelon season average price (\$21.40 per cwt) fell below 2022's record high of \$23.10 per cwt. Florida, the top producing State accounting for nearly 30 percent of U.S. production, saw utilized production increase 11 percent from 9.8 million cwt to 10.8 million cwt (figure 18). According to USDA, NASS, plentiful rainfall and favorable planting conditions led to a strong growing season in Florida (April to July), with the highest yields since 2017 offsetting a slight decrease in planted acreage. California and Georgia are the second and third largest producing States, with utilized production at 6.44 million cwt and 6.27 million cwt, respectively. These two States make up 34 percent of domestic

production. Planted acreage in Georgia increased from 15,000 acres in 2022 to 16,800 acres in 2023. California utilized production declined 16 percent from 2022's large crop of 7.7 million cwt, but 2023 production is above the State's 5-year average (2018–2022).

Figure 18  
**Watermelon utilized production up in key State Florida**



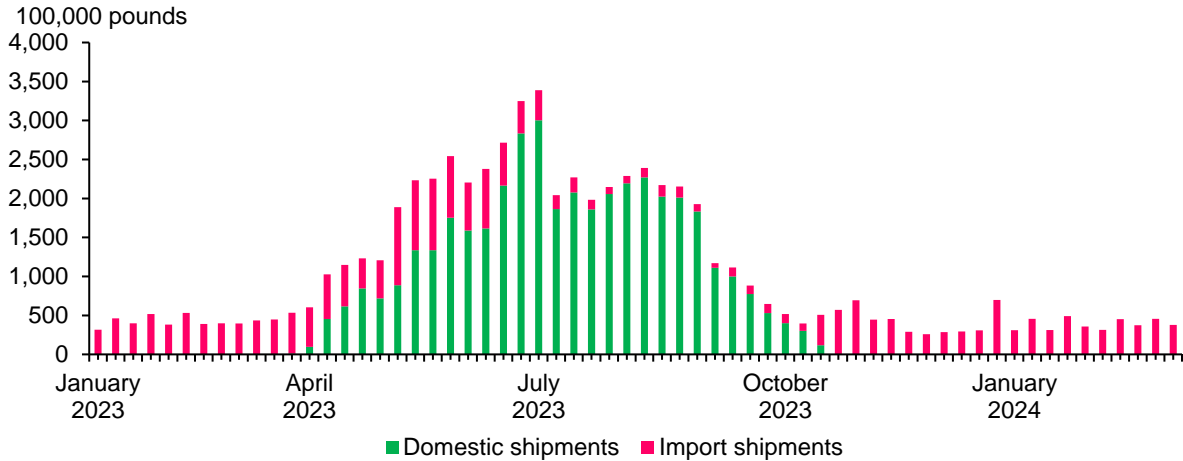
Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service.

Watermelon import volume increased 2.5 percent year-over-year from 17.7 million cwt to 18.1 million cwt. Most watermelon imports (96 percent) consist of seedless watermelon varieties, up from about 80 percent in the mid-2000s. About 80 percent of watermelon import volume comes from Mexico, followed by Guatemala (13 percent). Mexico's Ministry of Agriculture and Rural Development reported record watermelon production in 2023. Watermelon export volume increased 15 percent year-over-year from 3.3 million cwt to 3.8 million cwt. Of the 7 percent of domestic production exported, approximately 99 percent is destined for Canada.

In the first 10 weeks of 2024, watermelon shipment volumes (all imported) were down 7.8 percent compared to the same period last year (figure 19). Conventional red flesh seedless type watermelon FOB shipping point prices averaged \$326.50 per 24-inch bin (approximately 35 count) by early March, higher than a year prior. U.S. advertised retail prices for conventional red flesh seedless watermelons averaged \$8.05 each from January through early March, up significantly from the first quarter of 2023. Retail prices for conventional red flesh seedless miniature watermelons averaged \$4.29 through early March.

Figure 19

**Weekly watermelon domestic and import shipments, 2023 to early 2024**

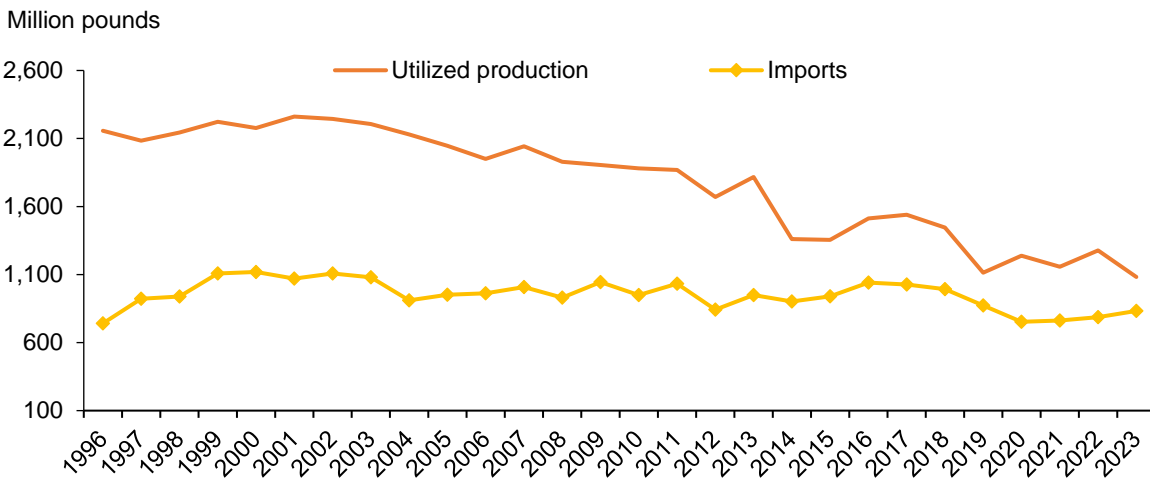


Source: USDA, Economic Research Service based on data from USDA, Agricultural Marketing Service.

**Cantaloupe:** In 2023, utilized production was 10.8 million cwt, down 15 percent year-over-year and well below the 3-year average of 12.2 million cwt. California, the top producing State accounting for 65 percent of domestic production, saw production decline from 8.8 million cwt in 2022 to 7 million cwt in 2023. Fewer planted acres coupled with heavy winter rains and cool spring temperatures hindered crop progress and sent California production tumbling 19.5 percent from the year before. Decreases in domestic production, increases in exports, and relatively small changes in import volumes contributed to a decrease in the supply of cantaloupes (figure 20). Nonetheless, season average prices declined 40 cents year-over-year to \$29.70 per cwt in 2023. This suggests a decrease in domestic demand for cantaloupes.

Figure 20

**Domestic cantaloupe production declines as imports remain flat, 1996–2023**



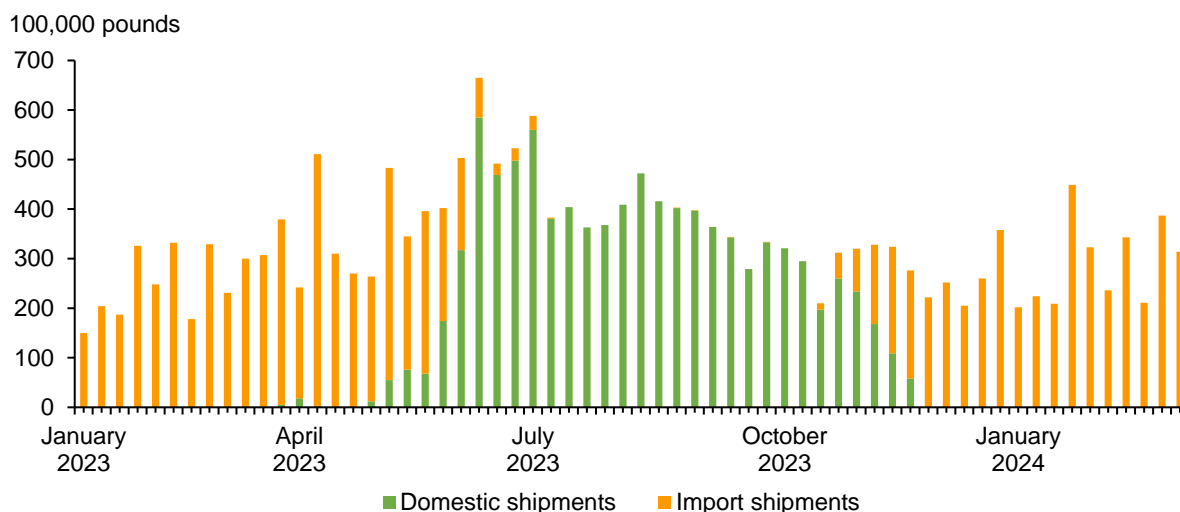
Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service and U.S. Department of Commerce, Bureau of the Census.

Cantaloupe imports increased 6 percent year-over-year from 7.9 million cwt to 8.3 million cwt. Over the last 3 years, 65 percent of fresh cantaloupe imports have come from Guatemala, followed by Honduras (20 percent) and Mexico (11 percent). Cantaloupe export volumes increased 45 percent year-over-year from 907 thousand cwt to 1.3 million cwt, breaking a 5-year streak of declining exports. The 2022 season marked the lowest fresh cantaloupe export volume since the early 1990s. Canada remained the top destination for cantaloupe exports (58 percent) in 2023, followed by Mexico (37 percent). Of the 7 percent of domestic production exported, volumes to Canada increased 16 percent over 2022, while exports to Mexico increased 124 percent.

In 2023, domestic shipment volumes were up 2.4 percent over 2022, while all shipments (domestic and imports) were up 4.2 percent. Despite a salmonella scare in imports from Mexico in the fourth quarter of 2023, shipment volumes were up 20.8 percent over the same period in 2022. In the first 10 weeks of 2024, cantaloupe shipment volumes (conventional and organic) increased 16.6 percent over the same period last year (figure 21). Conventional cantaloupe FOB shipping point prices averaged \$13.46 per carton (half cartons) by early March, 17 percent lower than a year prior. U.S. advertised retail prices for conventional cantaloupes averaged \$3.05 each from January through early March.

Figure 21

**Weekly cantaloupe domestic and import shipments, 2023 to early 2024**



Source: USDA, Economic Research Service based on data from USDA, Agricultural Marketing Service.

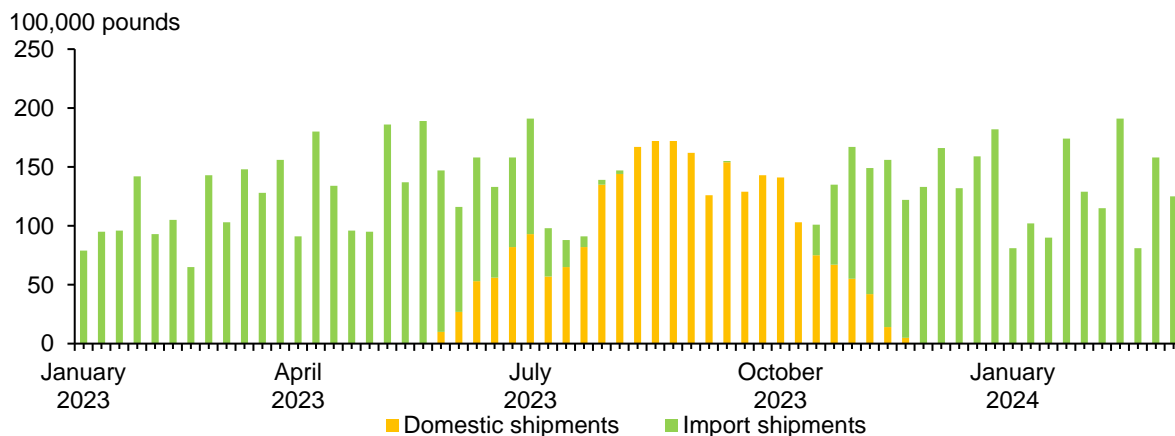
**Honeydew:** U.S. honeydew production is concentrated largely in California. In 2023, utilized production was 2.35 million cwt, up 28 percent year-over-year. The season average price decreased from \$39.60 to \$34.00 per cwt. In 2023, planted area in California increased 17 percent to 8,400 acres, a break in a multi-year trend of declining honeydew acreage. Yields were 10 percent higher than in 2022, increasing from 255 cwt to 280 cwt per acre. Increases in

planted acreage and yields pushed California production above the State’s 3-year average (2020–2022) of 2.1 million cwt.

Estimated 2023 annual honeydew import volumes increased 12.6 percent year-over-year from 4.1 million cwt to 4.6 million cwt. In July 2023, the United States added 10-digit statistical breakout codes differentiating imports of honeydew melons from other melons to its Harmonized Tariff Schedule. Between July 2023 and January 2024, over 90 percent of U.S. imports come from two countries, Mexico (48 percent) and Guatemala (45 percent), with most remaining honeydew imports coming from Honduras (7 percent). The import share of domestic availability for honeydew melons has exceeded 70 percent for the last 3 years. Honeydew export volumes increased 4.5 percent year-over-year from 655 thousand cwt to 685 thousand cwt. Compared to watermelon and cantaloupe, honeydew has the highest percentage of domestic supply exported at 11 percent on average over the last 5 years. Eighty percent of honeydew melon exports are destined for two countries, Canada (71 percent) and Mexico (9 percent).

In 2023 domestic shipment volumes were up 15.7 percent over 2022, while all shipments (domestic and imports) were up 11.6 percent. In the first 10 weeks of 2024, honeydew shipment volumes (conventional and organic) were up 16.6 percent over the same period last year (figure 22). Conventional honeydew FOB shipping point prices averaged \$11.94 per carton (two-thirds cartons) by early March, lower than a year prior. U.S. advertised retail prices for conventional honeydew melons averaged \$4.02 each from January through early March.

Figure 22  
**Weekly honeydew domestic and import shipments, 2023 to early 2024**



Source: USDA, Economic Research Service based on data from USDA, Agricultural Marketing Service.

# Tree Nuts Outlook

Only three months have passed in the 2024 calendar year, but the 2023/24 marketing year for tree nuts is halfway complete. The use of marketing years, which begin at harvest and last 12 months, make it easier for growers and market analysts to track the sales of nuts produced each summer. If a large quantity of nuts is not sold during the current marketing year, the excess supply is “carried over,” putting downward pressure on prices in the marketing year to come. The marketing year for hazelnuts and almonds begins in July and August; it begins in September for walnuts and pistachios, and in October for pecans. Spring is a good time to assess how shipments of these commodities are progressing and how much carryover is anticipated.

Spring is also a good time to assess how weather may have affected bloom and pollination for tree nuts. Almond pollination begins in mid-February and ends in mid-March. Pollination events for walnuts and pistachios begin in late March and end in mid-April. Hazelnut pollination is different. Flowers begin to form on hazelnut trees in June and July but do not mature until November or December; pollination begins in January and persists through February. Hazelnuts, walnuts, and pistachios are self-pollinating (i.e., wind pollinated), while almonds are pollinated using managed honeybees.

The 2023 almond bloom was one of the most unique, and least successful, in recent history. Low temperatures and wet weather in early February slowed bloom progression and complicated beehive placement. Stormy weather in late February and early March 2023 limited the amount of work that could be done by growers and bees; pesticide treatments were delayed, and bee flight hours were reduced. Early estimates from the 2023 California Almond Objective Measurement Report suggested that yields were slightly lower in 2023 (1,880 pounds per acre) than in 2022 (1,900 pounds per acre). If realized, 2023’s yields would be the lowest since 2009.

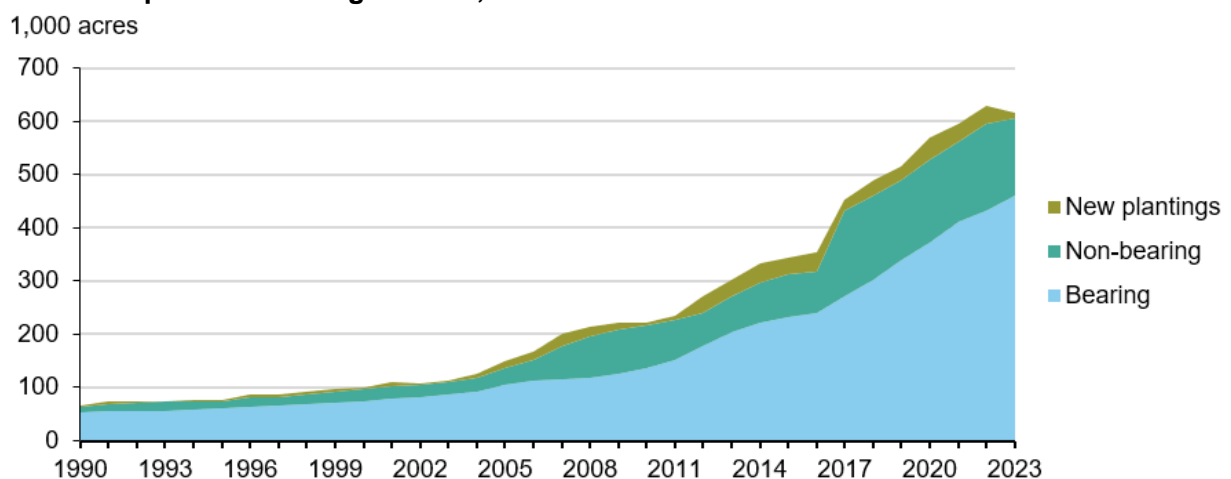
In 2024, almond bloom progressed more quickly than in 2023, with peak bloom occurring for some varieties before March. February 2024 had wet, windy days, but significantly fewer than in 2023. Excellent weather in late February 2024 increased bee activity, while a snowstorm in early March increased snowpack and reduced drought potential. Notably, California was in one of its driest periods on record during 2022 and early 2023. Drought is not expected to be a problem in 2023/24. Given the observed improvements in almond pollination and drought conditions, almond yields are expected to rebound from their 2023 levels and may exceed the historical average in 2024.

The 2023 *California Walnut Objective Measurement Report* indicates that walnut yields in 2023 were 2.03 tons per acre, approximately 5 percent higher than the 10-year average. Walnuts have one of the highest chill requirements of the tree nuts grown in California. While almonds require only 250 to 350 chill hours, some walnut cultivars, such as Chandlers, require between 700 and 1,000 chill hours per year. In 2023, cold weather ensured that chill requirements were satisfied in walnut groves across the State. The winter of 2024 was much milder, and the number of chill hours recorded from November 1 through February 29 were almost 50 percent lower in some parts of the State. It remains to be seen whether this decrease in chill hours will dramatically affect yields. Nonetheless, walnut yields in 2024 are expected to decrease relative to 2023.

## U.S. Pistachio Production and Acreage Set Record

The U.S. pistachio crop for the 2023/24 season (September–August) is forecast to reach a record 1.5 billion pounds (in-shell), based on data from the Administrative Committee for Pistachios (ACP). If realized, the 2023/24 crop will be almost 70 percent larger than last season’s production and 29 percent larger than the previous record in 2021/22. California pistachio orchards had adequate chill hours and water availability, and almost 30,000 more bearing acres compared to last season. Pistachio acreage has increased five-fold in two decades, surpassing walnuts in 2021/22 to rank second in California tree nut bearing acres. ACP estimated approximately 461,000 bearing acres, 144,000 non-bearing acres, and 10,500 newly planted acres in California in 2023 (figure 23). As non-bearing acres (immature plantings in their first through fifth year) come into production, pistachio growers could set new records in upcoming seasons.

Figure 23  
**California pistachio acreage climbs, 1990–2023**



Source: USDA, Economic Research Service using data from the Administrative Committee for Pistachios 2023 *Statistics*.

ACP reports an average yield of 3,217 pounds per acre in 2023, up 56 percent from the previous year and up 14 percent from 2021. The higher yields coincide with an “on year” of the alternate-bearing crop cycle. While 2023 yields were up, the preliminary estimate does not crack the top five historically high annual yields.

Beginning stocks for the 2023/24 season are less than half of beginning stocks for 2022/23. A smaller 2022/23 crop, coupled with strong domestic and international demand, helped reduce inventories. On the domestic front, preliminary USDA, ERS 2022/23 availability for pistachios is 0.66 pounds per person, more than double from a decade ago. While early monthly 2022/23 export volumes started below average, shipments increased through the spring months. At 327 million pounds (shelled basis), 2022/23 export volume was the second largest on record behind 2021/22 (365 million pounds).

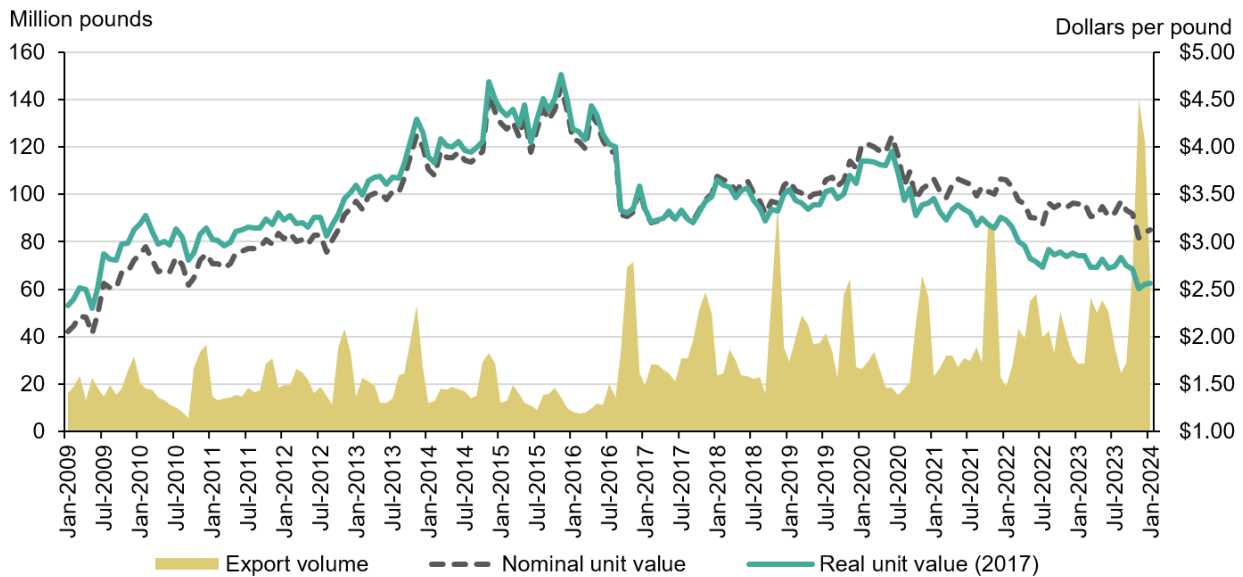
In contrast to last season’s slow start, U.S. export volume of in-shell pistachios in the first 5 months of the 2023/24 season (September–January) totaled 423.6 million pounds—73 percent higher than the second highest volume for that period (244.2 million pounds in 2021/22). China accounted for the largest share with 41 percent of export volume (175.8 million pounds), up 230 percent from the previous season. Export volume for that period also increased by triple digits to other top pistachio destinations, including Germany, Hong Kong, Turkey, and Belgium compared to last season. Lower prices contributed to the strong start to the 2023/24 pistachio export season. In real (inflation-adjusted) dollars, export unit value for in-shell pistachios during the peak shipment month of November was \$2.50 per pound (2017=100), the lowest since May 2009 (figure 24).

In-shell pistachio export volumes represent about 80 percent of export volume when converted on an equal basis (either in-shell or shelled equivalent), making in-shell pistachio exports an important indicator of international demand for U.S. pistachios and a proxy for monthly prices. Comparing the USDA, NASS pistachio season average grower price to a weighted export unit value (in-shell), preliminary trade data indicates real grower prices may fall below last season’s average (figure 25). Monthly pistachio exports through the remainder of the 2023/24 marketing year are expected to be below volumes in October–December 2024. However, grower prices in the latter half of 2023/24 may be buoyed as inventories continue to drop ahead of a smaller expected 2024/25 harvest (late August–September). Industry experts expect 2024/25 yields to decline in an off-year, resulting in lower year-over-year production.



Figure 24

**U.S. in-shell pistachio export volume up in early 2023/24, but real unit values down**



Note: Export unit value is calculated by dividing total export value by total export volume. Export data shown for in-shell pistachios. Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census; U.S. Department of Labor, Bureau of Labor Statistics, chain-type price index, 2017=100, monthly, seasonally adjusted.

Figure 25

**U.S. pistachio season average grower prices and weighted export unit value for in-shell pistachios, adjusted for inflation**



P = Preliminary.

Note: Pistachio marketing begins in September and ends in August of the following year.

<sup>1</sup> Export unit value is calculated by dividing total export value by total export volume for in-shell pistachio trade codes. Marketing year unit value weighted using monthly export data. 2023/24 value is based on data available from September–January.

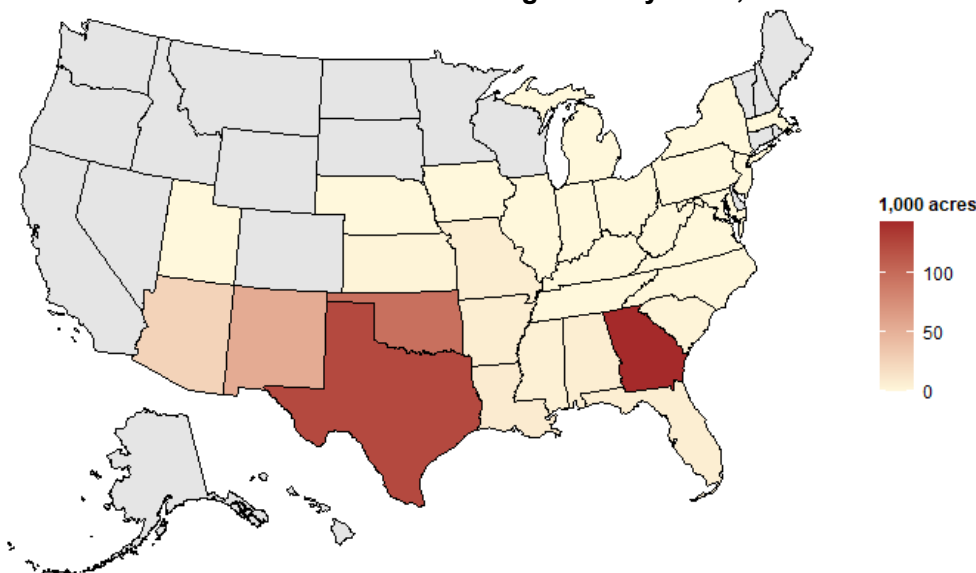
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census; USDA, National Agricultural Statistics Service; and U.S. Department of Labor, Bureau of Labor Statistics, gross domestic product (implicit price deflator), index 2017=100, annual, not seasonally adjusted.

## 2023/24 U.S. Pecan Crop Down in Top State Georgia

The United States has more than a half million bearing acres of pecans, according to the 2022 Census of Agriculture (figure 26). America’s native tree nut is grown in many southern and southwestern States, but five States (Georgia, Texas, New Mexico, Arizona, and Oklahoma) account for 89 percent of total bearing acreage. Most pecans grown in Georgia, New Mexico, and Arizona are higher-yielding improved variety cultivars. By contrast, native and seedling pecan acres account for 38 percent of bearing acres in Texas and 84 percent in Oklahoma. Planting density requirements for native/seedling varieties is lower than for improved varieties, resulting in lower average annual yields. On average in the last three seasons (2021–23), the yield in New Mexico (1,767 pounds per acre) was seven times larger than Texas (256 pounds per acre) and more than 15 times larger than Oklahoma (113 pounds per acre).

Figure 26

### America’s native tree nut: Pecan bearing acres by State, 2022



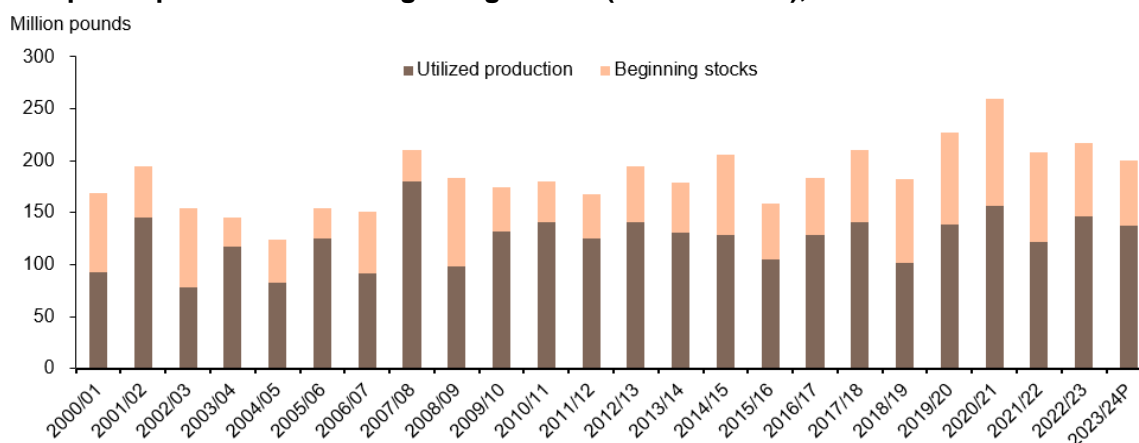
Note: Grey color represents States with either no area reported, or data withheld to avoid disclosing data for individual farms. Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service, 2022 *Census of Agriculture*.

In January 2024, USDA, NASS reported that U.S. pecan production was 271.5 million pounds (utilized in-shell basis) during the 2023/24 marketing season (October–September). The revised estimate is up 8 percent from the December 2023 forecast of 251.5 million pounds, but 6 percent below 2022/23. A double-digit year-over-year decline in top pecan producing State Georgia (down 33 percent) was partially offset by a 28 percent increase in New Mexico. In 2023, Georgia experienced a late spring freeze followed by Hurricane Idalia in August, which reduced yield and quality in some orchards. By contrast, New Mexico experienced an “on year” with highest yields in six seasons and 96 percent of the crop rated in good to excellent condition.

Based on USDA, NASS cold storage data, 2022/23 ending stocks (September 30, 2023) had decreased for shelled (down 19 percent) and in-shell pecans (down 10 percent) relative to 2021/22. Contributing to lower ending stocks, the preliminary 2022/23 pecan per capita availability (shelled basis), a proxy for consumption, reached a record high of 0.67 pounds per person according to USDA, ERS estimates. Strong domestic demand helped offset the decline in pecan exports, which dipped to their lowest volume (shelled basis) in 2022/23 since the 2008/09 season. For 2023/24, the slightly smaller crop and beginning stocks put the starting total shelled basis inventory at 201 million pounds, which is 8 percent lower than last season (figure 27).

Figure 27

**U.S. pecan production and beginning stocks (shelled basis), 2000/01–2023/24P**



P = Preliminary.

Note: U.S. pecan marketing year begins in October and ends in September of the following year.

Source: USDA, Economic Research Service based on data from USDA, NASS *Crop Production and Cold Storage Reports*.

Other highlights for the 2022/23 and 2023/24 pecan season include:

- The U.S. average grower price for pecans fell from \$1.80 per pound in 2022 to \$1.69 per pound in 2023. Following 2020, 2023 marked the second lowest pecan grower price (inflation-adjusted) in the past two decades.
- In 2022/23, the United States remained a net importer of pecans with Mexico accounting for the majority of imports. On a shelled basis, imports in 2022/23 were up 10 percent from the previous season but remained 23 percent below record volumes imported in 2018/19.
- In the first 4 months of the 2023/24 marketing year (October–January), in-shell pecan export volume totaled 48.7 million pounds—the largest for that period in 6 years—with China accounting for 81 percent of volume. Shelled pecan exports totaled 13.2 million pounds with top destination Canada accounting for 25 percent of volume.

## Special Article

# California Table Olives

Catharine Weber, Helen Wakefield, and Bryn Swearingen

Olives are a small edible fruit with a fleshy outer layer surrounding a hard pit. Botanically, these fruits are similar to almonds, cherries, peaches, and plums. Fresh olives are not considered palatable due to the presence of a very bitter compound called oleuropein (Luh et al., 2005). Olives are generally processed for table use (e.g., pickled in brine) or crushed into oil. This article focuses on table olives intended to be processed and consumed as food, as opposed to crushed into oil.

The majority of commercial olive production in the United States occurs in California. Data from the 2022 Census of Agriculture indicates that the Golden State accounted for more than 84 percent of U.S. olive bearing area with 41,828 acres spread across more than 1,600 operations (USDA, NASS, 2022). California olive acreage is concentrated in the northern Sacramento Valley and southern San Joaquin Valley with five counties (Glenn, Tulare, Yolo, Tehama, and San Joaquin) accounting for 70 percent of bearing and non-bearing acres in 2022. Over the past 40 years, olive bearing acreage has remained relatively stable, averaging about 35,000 acres annually.

The cultivated olive tree (*Olea europaea*) is a subtropical evergreen that favors Mediterranean-like climates with mild winters and long, hot, dry summers. Top olive producing countries are located around the Mediterranean Sea region. In the past two decades, Spain, Greece, Italy, Turkey, and Morocco represented more than 70 percent of average annual global olive production (FAO, 2024). In contrast, the United States typically represents about 1 percent of global olive production.

**Alternate bearing yield:** Olive yields are highly variable from year-to-year. In part, this is due to the alternate-bearing nature of the tree. The phrase “alternate bearing” refers to the tendency for a tree to produce an abundance of fruit in one year, but a small crop in the next. This tendency is observed in many commercially produced tree nuts and fruit trees, including almonds, pistachios, pecans, peaches, and citrus. In the “on” year, trees produce a large number of flowers, which tends to increase crop volume while reducing fruit size (Krueger et al., 2005). Because producing large volumes of fruit is energy intensive, fruit tends to mature more slowly in “on” years, and less shoot growth occurs. Since olive trees develop fruit buds on the previous year’s shoots, less shoot growth tends to reduce the size of the next year’s crop

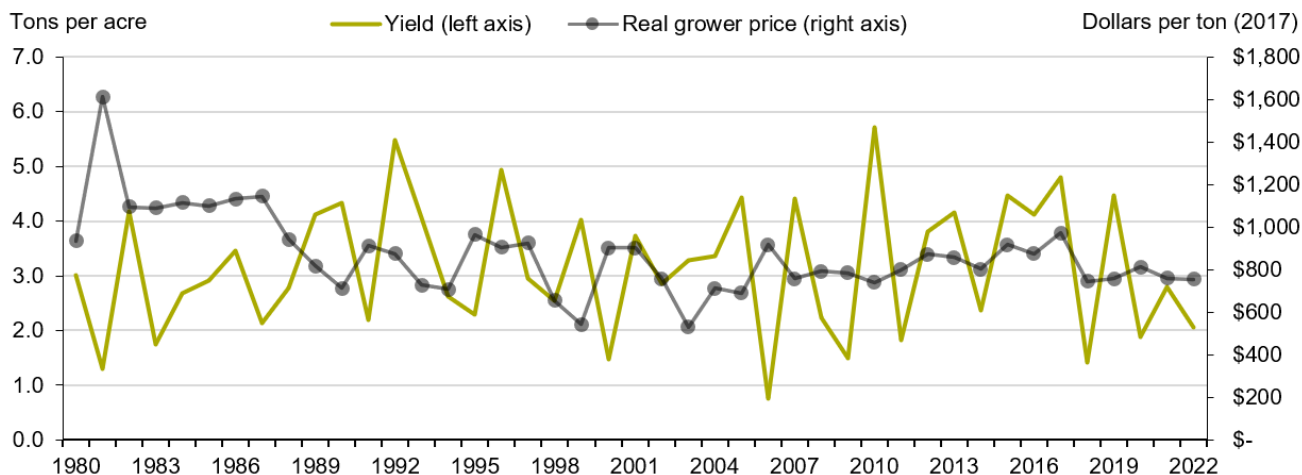
(Fichtner et al., 2021). The larger crop may also delay fruit maturity and increase the risk to early frosts during harvest in the fall.

Large swings in production adversely impact growers, harvesters, and processors (Fichtner et al., 2021). Often, producers attempt to mitigate the alternate bearing intensity of the tree through practices like chemical thinning (Krueger et al., 2005). Chemical thinning entails applying chemicals that limit the number of flowers that form or the amount of fruit that develops. When less fruit forms, the tree has more energy for vegetative growth and for increases in fruit size. Producers can also attempt to regulate crop volumes and sizes using manual thinning techniques (i.e., pruning) and by choosing specific cultivars. Factors like weather, orchard management, irrigation water availability, and tree age also affect yields.

Over the past 40 years, the median annual California olive yield was 2.9 tons per acre with a low of 0.8 tons in 2006 and a high of 5.7 tons in 2010 (figure SA-1). Historically, annual grower prices have changed by a smaller percentage than changes in yield. California processors primarily source olives through contracts with growers (USITC, 2018). The price a grower receives for their fruit is based on tonnage, fruit size, and quality (Ferguson & Welch, 2005). Following harvest (September–November), canned olive processors are able to store raw fruit in an acidic solution for up to 3 years prior to processing, which mitigates variations in annual production volume and seasonal processing capacity demand (Luh et al., 2005). The ability to store raw olives and canned inventory (“finished goods”) give processors greater flexibility to respond to changes in demand and monthly shipped volumes throughout the year (USITC, 2018).

Figure SA-1

**Olive yields fluctuate while inflation-adjusted annual average grower prices remain relatively steady**



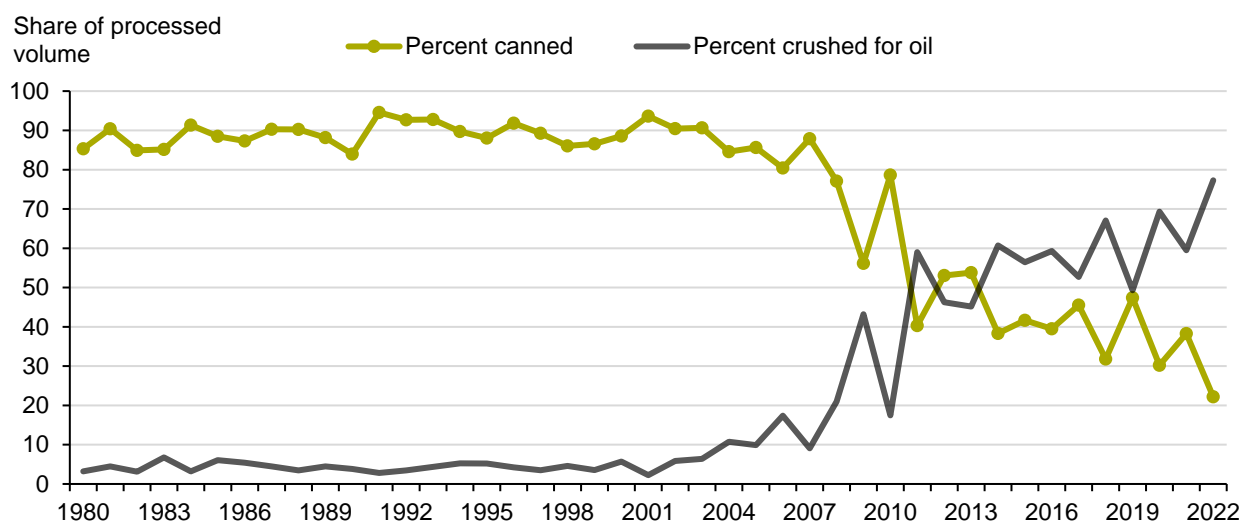
Source: USDA Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various issues; and California Olive Committee.

**Changes to California table olives in the 21<sup>st</sup> century:** For most of the 20<sup>th</sup> century, the California olive industry was synonymous with the canned olive industry. Between 1980 and 2000, about 90 percent of all utilized production volume was canned, and most of these olives were black-ripe. California black-ripe olives are harvested green, before full maturity, and turn black from oxidation during processing (Ferguson & Garcia, 2014). These shiny black-ripe olives are commonly sold as pitted or sliced canned products at retail and in food service (e.g., a pizza topping, or on salad). Since 1965, a grower-approved Federal Marketing Order has been in place for olives produced in California (USDA, AMS, 2024). The Federal regulations set minimum quality and grading standards for domestically produced and imported canned ripe olives. Ripe olives can be black or green, but green-ripe olives are not as common as black-ripe olives (USITC, 2018). The green-ripe olives differ from the green Spanish-style olives used for pickling. Historically, the production of green Spanish-style olives has been a minor part of California's industry due to more cost-competitive imports (Luh et al., 2005).

The turn of the century marked a shift in the California olive industry from table olives to olive oil. Since the mid-2000s, the share of California olive production crushed for oil grew rapidly, from 10 percent in 2005 to over 75 percent in 2022 (figure SA-2). This shift has been driven by increases in labor costs and import competition, as well as technological advancements that have made harvesting olive oil-type cultivars quicker and less expensive (Ferguson et al., 2010; Nelson, 2005). U.S. growers have historically harvested most table olives by hand (USITC, 2018; Ferguson & Garcia, 2014). Mechanical harvesting of table olives has lagged olive oil cultivars in part because of the difficulty of balancing high fruit quality with efficiency (Ferguson et al., 2010).

Figure SA-2

**Percentage of California olive production processed for canning or crushed for oil, 1980–2022**



Note: Canned category includes canned and limited size processed olives.

Source: USDA Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various issues; and California Olive Committee.

During the latter half of the 20<sup>th</sup> century, California olive oil production was mostly considered a salvage operation with olives too small for canning, culls, and frost-damaged fruit diverted to oil production (Connell, 2005). Since then, real grower prices for olives intended for crushing have more than doubled. The increase in domestic olive oil production has coincided with a slight increase in total olive bearing acreage, with at least part of this growth attributed to newer super-high-density (SHD) olive trees planted for olive oil (UC Davis Olive Center, 2009). With the growth in the share of production crushed for oil, California olive oil production rose from 2 million pounds in 2006 to an average of 21 million pounds in 2021–23 (USDA, ERS, *Oil crops yearbook*, 2024). However, this sharp increase in production is not enough to cover the domestic consumption of olive oil as imports still supply over 98 percent of the domestic consumption.

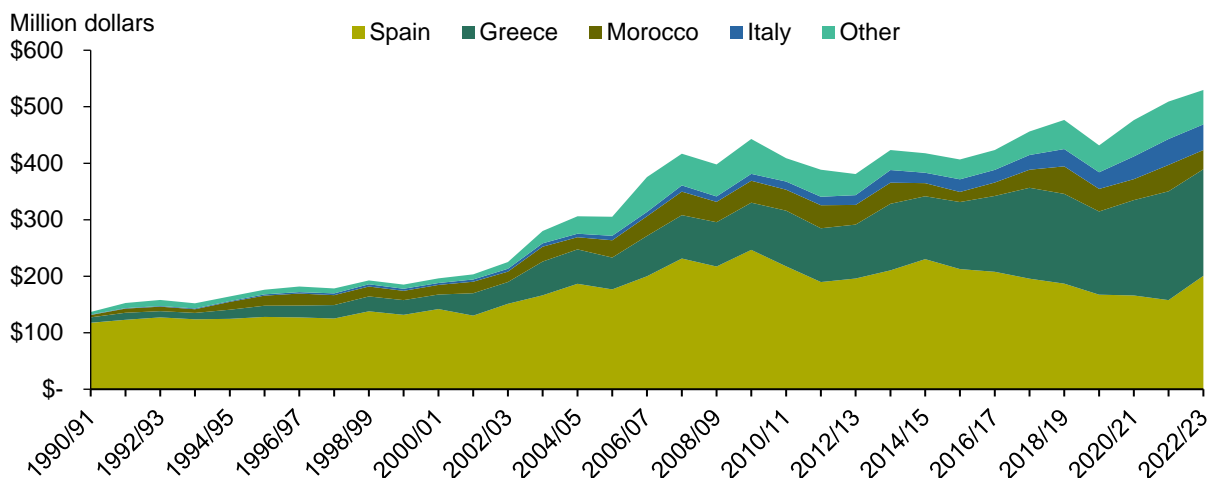
**Import share of domestic availability grows:** As the production of olives intended for canning has decreased, U.S. domestic per capita availability of processed olives (excluding olive oil) has declined slightly from an average of 1.6 pounds per person (product-weight) in 2010/11–2012/13 to 1.2 pounds in 2020/21–2022/23 (table SA-1 at the end of this article). While the United States has long been a net importer of processed olive products, the market share of imports has grown from 40 percent of domestic availability in the early 1990s to over 80 percent by the early 2020s.

The volume of processed olives imported by the United States has nearly doubled over the last three decades. Import volumes (excluding oil) during the 2022/23 season were the third highest

on record at 352 million pounds. Spain has been the top country of origin for U.S. processed olive products imports for many years, but its market share has declined from around 70 percent of processed olive import value (excluding oil) in 2000/01 to less than 40 percent in 2022/23 (figure SA-3). While import volumes of processed olives from Spain have remained relatively stable on an annual basis since the turn of the century, imports from Greece, Morocco, and Italy have grown. Greece’s market share averaged 36 percent of U.S. import value over the last 3 years, up from 7 percent in the early 1990s. In the same span, Morocco’s market share rose from 4 percent to 8 percent, and Italy’s market share rose from 1 percent to 9 percent.

Figure SA-3

**U.S. processed olive import value (excluding olive oil) by country, 1990/91–2022/23**



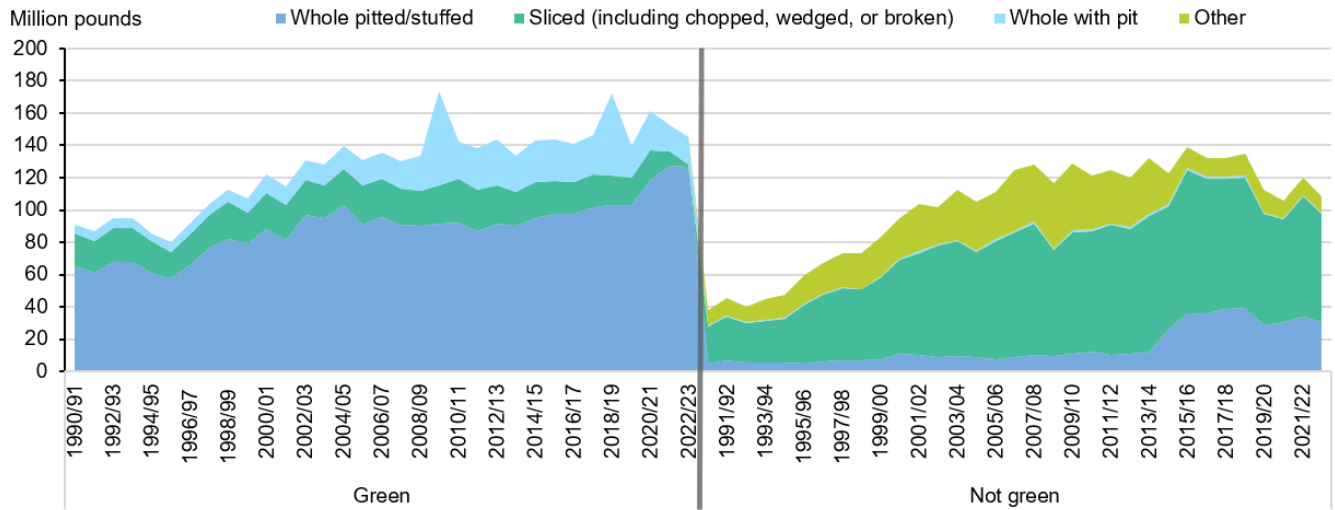
Note: U.S. olive marketing year starts in August.  
 Source: USDA Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census.

Approximately 90 percent of processed olive product volume imported by the United States is classified as green or “not green” olives in saline solution. While green olives are green in color, “not green” olive imports are generally black or brown. Olive imports may be further classified by other processing characteristics, like whether the olive has been pitted, stuffed, sliced, or wedged. In the past decade, the majority of green olive imports consist of whole olives that are pitted or stuffed (72 percent of volume and 77 percent of value) (figure SA-4). In contrast, the majority of “not green” olive imports are generally in a sliced or chopped state (62 percent of volume and 50 percent of value).



Figure SA-4

**Import volume of green and not green olives (in saline solution) by processed description, 1990/91–22/23**



Note: U.S. marketing year for olives begins in August and ends in July of the following year. Not green olive trade codes listed as "Other" include products that are not canned and do not identify the processing style (2005707000, 2005707500, and 2005707525).  
 Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

**Conclusion:** California is the primary producer of olives in the United States. While olive acreage has been relatively stable for decades, the alternate-bearing nature of olive trees leads to large changes in annual production and crop value. Although yields fluctuated, the utilization of California olives for canning remained stable throughout the 20<sup>th</sup> century. However, the turn of the century marked a shift from table olives to olive oil due to economic conditions, labor costs, and import competition coupled with technological advancements in mechanical harvesting techniques for specific olive oil-type cultivars. With a decline in domestic canned olive production, import share of domestic supply has grown.

## References

- Connell, J. H. (2005). History and scope of the olive industry. In G. S. Sibbett & L. Ferguson (Eds.), *Olive production manual* (2<sup>nd</sup> ed.). University of California Agriculture and Natural Resources.
- Ferguson, L., & Garcia, S. C. (2014). Transformation of an ancient crop: Preparing California 'Manzanillo' table olives for mechanical harvesting. *HortTechnology*, 24(3), 274–280.
- Ferguson, L., Rosa, U. A., Castro-Garcia, S., Lee, S. M., Guinard, J. X., Burns, J., Krueger, W.H., O'Connell, N. V., & Glozer, K. (2010). Mechanical harvesting of California table and oil olives. *Advances in Horticultural Science*, 24(1), 53–63.
- Ferguson, L., & Welch, G. (2005). Grading canned olives. In G. S. Sibbett & L. Ferguson (Eds.), *Olive production manual* (2<sup>nd</sup> ed.). University of California Agriculture and Natural Resources.
- Fichtner, E. J., Chao, Y. Y., Ferguson, L., Verreynne, J. S., Tang, L., & Lovatt, C. J. (2021). Repeating cycles of ON and OFF yields in alternate bearing olive, pistachio and citrus trees—different mechanisms, common solutions. *Acta Horti*, 1315, 1–10.
- Food and Agriculture Organization of the United Nations (FAO). (2024). *FAOSTAT*.
- Krueger, W. H., Maranto, J., & Sibbett, G. S. (2005). Olive fruit thinning. In G. S. Sibbett & L. Ferguson (Eds.), *Olive production manual* (2<sup>nd</sup> ed.). University of California Agriculture and Natural Resources.
- Luh, B. S., Ferguson, L., Kader, A., & Barrett, D. (2005). Processing California olives. In G. S. Sibbett & L. Ferguson (Eds.), *Olive production manual* (2<sup>nd</sup> ed.). University of California Agriculture and Natural Resources.
- Murdock, J., & Goodrich, B. (2023). *Sample costs to produce table olives Manzanillo variety in the Central Valley—drip irrigation*. University of California Agriculture and Natural Resources Cooperative Extension.
- Nelson, J. E. (2005). California table olives: Marketing, imports, and the Federal Marketing Order. In G. S. Sibbett & L. Ferguson (Eds.), *Olive production manual* (2<sup>nd</sup> ed.). University of California Agriculture and Natural Resources.
- UC Davis Olive Center. (2009). Survey super-high-density olive production in California.
- U.S. Department of Agriculture, Agricultural Marketing Service (AMS). (2024). *Marketing orders & agreements, 932 olives*.
- U.S. Department of Agriculture, Economic Research Service (ERS). (2024). *Oil crops yearbook, table 32—edible fats and oils: U.S. supply and disappearance, 2006–2023*.
- U.S. Department of Agriculture, National Agricultural Statistics Service (NASS). (2022). Census of agriculture.
- U.S. International Trade Commission (USITC). (2018). Ripe olives from Spain (Publication 4805).

Table SA-1

**Processed olives, excluding oil: Supply and availability, product-weight equivalent, 1990/91–22/23**

Year <sup>1</sup>	Utilized processed production, excluding crushed for oil <sup>2</sup>	Imports <sup>3</sup>	Total supply	Exports <sup>3</sup>	Domestic availability	Per capita availability	Import share of domestic supply
	----- Million pounds -----				-- Pounds --	-- Percent --	
1990/91	267.1	143.4	410.5	4.8	415.3	1.6	34.5
1991/92	132.9	165.7	298.6	7.0	305.6	1.2	54.2
1992/93	336.7	169.2	505.8	8.1	514.0	2.0	32.9
1993/94	246.3	159.7	406.1	20.1	426.2	1.6	37.5
1994/95	167.7	146.2	313.9	9.9	323.8	1.2	45.2
1995/96	154.8	147.2	302.0	7.6	309.6	1.2	47.6
1996/97	336.0	162.9	499.0	9.6	508.6	1.9	32.0
1997/98	211.8	183.2	395.0	9.9	404.8	1.5	45.2
1998/99	181.0	192.3	373.4	9.8	383.2	1.4	50.2
1999/00	289.4	197.3	486.6	8.5	495.1	1.8	39.8
2000/01	104.9	236.8	341.7	8.1	349.8	1.2	67.7
2001/02	276.7	229.8	506.4	8.5	514.9	1.8	44.6
2002/03	204.6	244.4	449.0	8.0	457.0	1.6	53.5
2003/04	233.2	251.1	484.3	7.3	491.5	1.7	51.1
2004/05	202.5	254.9	457.3	8.5	465.8	1.6	54.7
2005/06	270.3	257.5	527.8	9.6	537.4	1.8	47.9
2006/07	40.3	302.0	342.3	9.2	351.6	1.2	85.9
2007/08	254.4	279.8	534.2	9.2	543.4	1.8	51.5
2008/09	111.9	277.0	389.0	11.0	400.0	1.3	69.3
2009/10	55.8	369.8	425.5	8.6	434.1	1.4	85.2
2010/11	360.4	300.1	660.5	9.7	670.2	2.2	44.8
2011/12	61.9	290.2	352.1	10.2	362.3	1.2	80.1
2012/13	182.3	293.6	476.0	12.8	488.8	1.5	60.1
2013/14	192.9	292.9	485.8	15.6	501.5	1.6	58.4
2014/15	79.1	322.4	401.5	15.8	417.3	1.3	77.3
2015/16	165.4	312.1	477.5	11.5	489.0	1.5	63.8
2016/17	142.3	305.7	447.9	12.7	460.7	1.4	66.4
2017/18	192.3	306.6	498.9	12.0	510.9	1.6	60.0
2018/19	37.2	351.2	388.4	12.3	400.6	1.2	87.7
2019/20	184.5	310.6	495.2	9.8	504.9	1.5	61.5
2020/21	48.5	328.4	377.0	9.5	386.5	1.2	85.0
2021/22	97.8	333.9	431.8	8.2	440.0	1.3	75.9
2022/23	41.1	352.4	393.5	8.1	401.6	1.2	87.7

Note: Beginning and ending stock data is unavailable for this time period.

<sup>1</sup>Season begins August 1 of the first year shown.

<sup>2</sup>USDA, NASS processed utilization minus olives crushed for oil. Converted to product-weight by multiplying fresh-weight volume by 1.06.

<sup>3</sup>Imports and exports exclude fresh olive trade codes.

Source: USDA, Economic Research Service using data from USDA, NASS and U.S. Department of Commerce, Bureau of the Census.

## Suggested Citation

Weber, C., Simnitt, S., Wakefield, H., Wechsler, S., & Swearingen, B. (2024). *Fruit and tree nuts outlook: March 2024* (Report No. FTS-378) U.S. Department of Agriculture, Economic Research Service.

Use of commercial and trade names does not imply approval or constitute endorsement by USDA.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: [program.intake@usda.gov](mailto:program.intake@usda.gov).

USDA is an equal opportunity provider, employer, and lender.