



# Fruit and Tree Nuts Outlook: September 2022

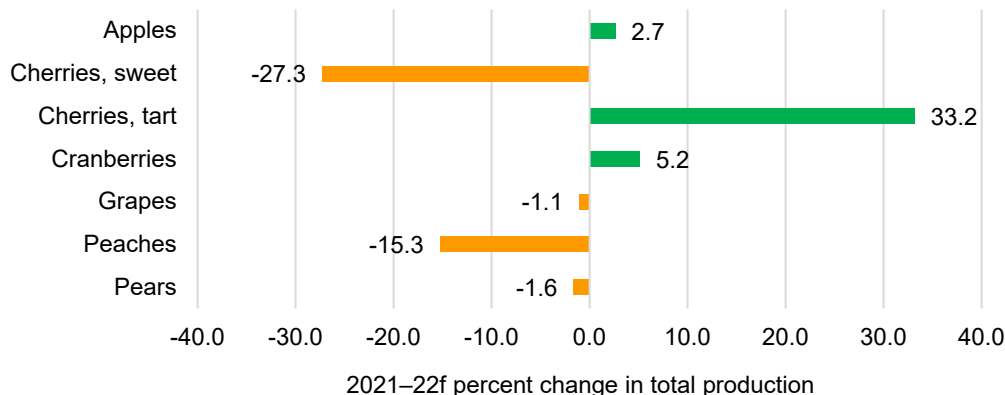
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## U.S. Production of Major Noncitrus Fruit Forecast Mixed for 2022

The 2022/23 season has begun for many fruit and tree nuts. USDA’s National Agricultural Statistics Service (NASS) forecast sweet cherry, grape, peach, and pear production down while apple, tart cherry, and cranberry production are expected to increase. In 2022, cold, wet spring weather was one of the major reasons for the swings in forecast production of peaches and sweet cherries. Good growing conditions are expected to increase yields for apples, cranberries, and tart cherries. The U.S. tree nut supply is forecast down as heat and drought conditions continue to negatively impact the almond, walnut, and hazelnut crop for the 2022 season. The expected decrease in supply will likely continue to put upward pressure on prices in 2022. Despite an expected increase in lemon supply, total citrus volume in 2021/22 is the lowest observed in at least half a century.

**Year-to-year production swings for selected fruit, 2021–22f**



Note: f = forecast.

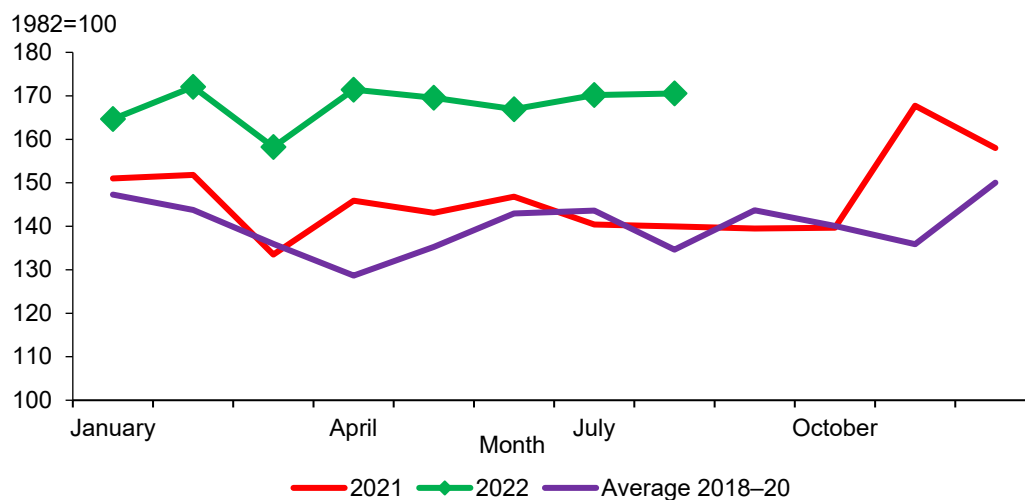
Source: USDA, National Agricultural Statistics Service, *Crop Production* (June, July, and August 2022 issues).

# Price Outlook

## Fruit and Nut Grower Price Index Starts High in 2022

Fruit grower prices from January to August 2022 are higher than the same period last year. The Bureau of Labor Statistics (BLS) Producer Price Index (PPI) for fresh fruit rose in November 2021 and has remained high in 2022 (figure 1). BLS reported the August PPI for fresh fruit was 170.55, up 21.9 percent from August 2021 and 0.21 percent increase from July 2022. The increase in the August PPI was led by high prices for Valencia oranges and peaches compared with last August.

Figure 1  
**Index for monthly prices received by producers for fresh fruit**



Note: Producer Price Index is average prices normalized to 100 in 1982.  
Source: U.S. Department of Labor, Bureau of Labor Statistics.

The USDA, National Agricultural Statistics Service (NASS) grower price index for fruit and tree nuts was 139.8 (2011 =100) for July 2022, up 0.4 percent from June 2022 and 6.4 percent from July 2021. Price increases during July for peaches, oranges, grapes and pears more than offset price decreases for apples, grapefruit, lemons and strawberries compared to a year ago (table 1).

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

Commodity	June		July		Year-to-year change	
	2021	2022	2021	2022	June	July
	-----Dollars per box-----				Percent	
Citrus fruit: <sup>1</sup>						
Grapefruit, all	23.44	19.04	24.84	12.91	-18.8	-48.0
Grapefruit, fresh	--	--	--	--	--	--
Lemons, all	29.83	11.60	30.69	9.06	-61.1	-70.5
Lemons, fresh	36.04	22.54	37.74	22.74	-37.5	-39.7
Oranges, all	11.05	21.66	13.79	19.36	96.0	40.4
Oranges, fresh	19.43	30.46	18.36	28.31	56.8	54.2
	-----Dollars per pound-----					
Noncitrus fruit:						
Apples, fresh <sup>2</sup>	0.718	0.720	0.735	0.690	0.3	-6.1
Grapes, fresh <sup>2</sup>	1.505	1.555	1.205	1.235	3.3	2.5
Peaches, fresh <sup>2</sup>	0.635	0.900	0.605	0.940	41.7	55.4
Pears, fresh <sup>2</sup>	0.665	0.605	0.715	0.725	-9.0	1.4
Strawberries, fresh	1.310	0.906	1.300	1.240	-30.8	-4.6

-- Insufficient number of reports to establish an estimate.

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

<sup>2</sup> Equivalent packinghouse-door returns for CA, MI, NY, and PA (apples only), OR (pears only), and WA (apples, peaches, and pears).

Note: Beginning with the February 2020 estimates, all monthly price estimates for the noncitrus fruits are derived exclusively from data provided by USDA's Agricultural Marketing Service (AMS) and reflect free-on-board shipping point basis.

Previously these estimates were based on a combination of survey data and information from AMS.

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

Some factors behind the grower price movements for selected fresh-market fruit are as follows:

- All lemon prices are down as a result of higher supplies in 2021/22 going toward the processing market. Increased U.S. imports in the fresh market will likely put downward pressure on prices.
- Orange prices were up as a result of low supply mostly due to a lower than anticipated Valencia orange crop in Florida.
- Apple prices were down in July 2022 from last July. The US Apple association reported on June 1, 2022, fresh apple holdings were up 16 percent compared to last June. Prices could continue to decline if the USDA, NASS forecast of a larger 2022/23 crop is realized.
- Good strawberry crop out of California is likely putting downward pressure on grower prices. July 2022 California strawberry shipments were 16 percent higher than a year ago.
- Predicted decline in peach production due to freeze events is likely putting upward pressure compared with last year on grower prices in June and July 2022.

## Consumer Price Index for Fresh Fruit Down

The Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) for fresh fruit was reported at 402.947 (1982–84 = 100) in August 2022, up 8 percent from August 2021 (table 2). Retail prices for oranges, bananas, apples, and strawberries are higher compared with August 2021. The overall increase in the CPI for fresh fruit in 2022 compared to last year is likely driven by a combination of changes in supply, inflation, and consumer spending habits.

**Table 2--U.S. monthly Consumer Price Index for fresh fruit and retail prices for selected fruit, 2021–22**

Commodity	Unit	2021		2022		2021–22 change	
		July	August	July	August	July	August
		----- 1982–84 = 100 -----				--- Percent ---	
Fresh fruit		372.0	372.2	405.5	402.9	9.0	8.3
Apples		350.0	352.3	367.9	365.6	5.1	3.8
Oranges, including tangerines		530.5	536.9	604.7	614.2	14.0	14.4
		--- Dollars ---		--- Dollars ---		--- Percent ---	
Fresh:							
Navel oranges	Pound	--	--	--	1.703	--	--
Grapefruit	Pound	--	--	--	--	--	--
Lemons	Pound	--	--	2.138	2.032	--	--
Bananas	Pound	0.594	0.589	0.640	0.643	7.7	9.2
Peaches	Pound	--	--	--	--	--	--
Anjou pears	Pound	--	--	--	--	--	--
Strawberries <sup>1</sup>	12-oz. pint	2.256	2.434	2.208	2.558	-2.1	5.1
Thompson seedless grapes	Pound	--	--	--	--	--	--

-- Insufficient marketing to establish a price.

<sup>1</sup> Dry pint.

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

# Noncitrus Fruit Outlook

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## Spring Freeze Impacts Noncitrus Forecast

Last summer record breaking heat was reported in the Northwest and many growers were concerned about damage from the high temperatures. In 2022, cold weather and in some areas freeze events earlier this year slowed down the bloom of various noncitrus crops and some frost was observed. These spring freeze events negatively affected stone fruit yields. In contrast, the Upper Midwest fared well during the growing season despite a cooler than usual spring. Good growing conditions in Michigan, New York, and Wisconsin contributed to a production upswing for apple, tart cherries, and cranberries.

### **USDA, NASS apple crop forecast up overall but down for major producing State**

**Washington:** For the 2022/23 season (August–July) U.S. total apple production is forecast at 10.1 billion pounds, up 3 percent from a year ago. The Washington crop, the largest producing State, is forecast to be 6.5 billion pounds, down 4 percent from last year (figure 2). In 2022, the US Apple Association reported rainy, cold spring weather, hail events and damage from extreme heat last season affected Washington’s crop. In New York, growers are expecting near record yields after a moderate winter followed by ideal growing conditions. In Michigan, production is expected to be up 68 percent following last year’s crop that was damaged by frost. Many varieties are expected to be harvested ahead of schedule and growers are anticipating some of the best yields since 2016. Higher overall supplies will likely put downward pressure on prices.

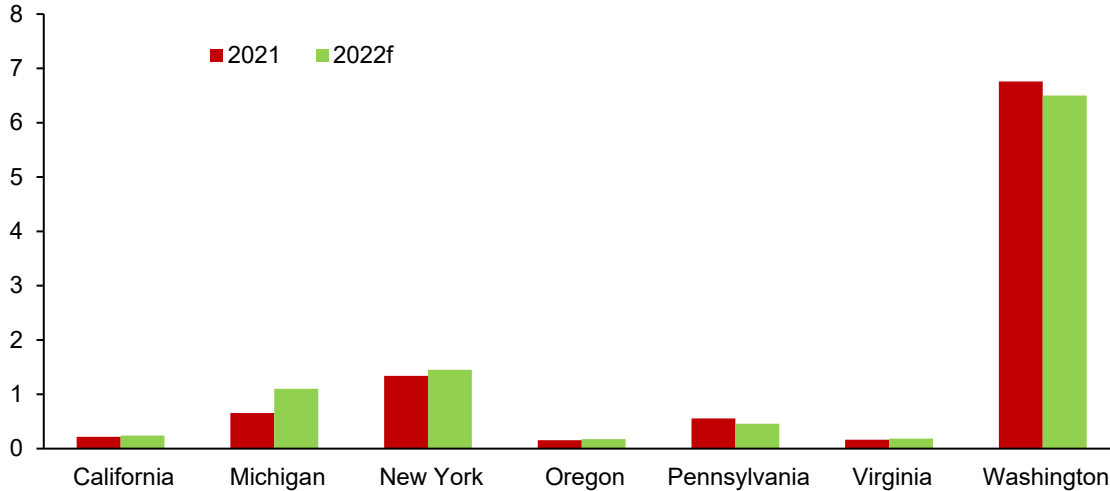
For the 2022 season, USDA, ERS estimates apple supply for the fresh market to increase about 4 percent from 6.61 billion pounds last year. Processing supply is expected to be about the same as last year. Last year, Washington accounted for 45 percent of processed apples, while New York and Michigan combined made up 32 percent.

On average since 2011/12, over 20 percent of fresh apples in the United States are exported. In 2021/22, U.S. exports were down 7 percent compared to the previous season. High retaliatory tariffs from India continue to be a challenge for U.S. apple growers. Exports to India were down 82 percent compared to 2020/21. While exports were up to other top markets including Canada and Taiwan in 2021/22.

Figure 2

### Apple production forecast down in Washington for 2022/23

Billion pounds



f = forecast.

Note: Apple production estimates are published only for commercial orchards. Commercial orchards are defined as orchards of 100 or more bearing trees.

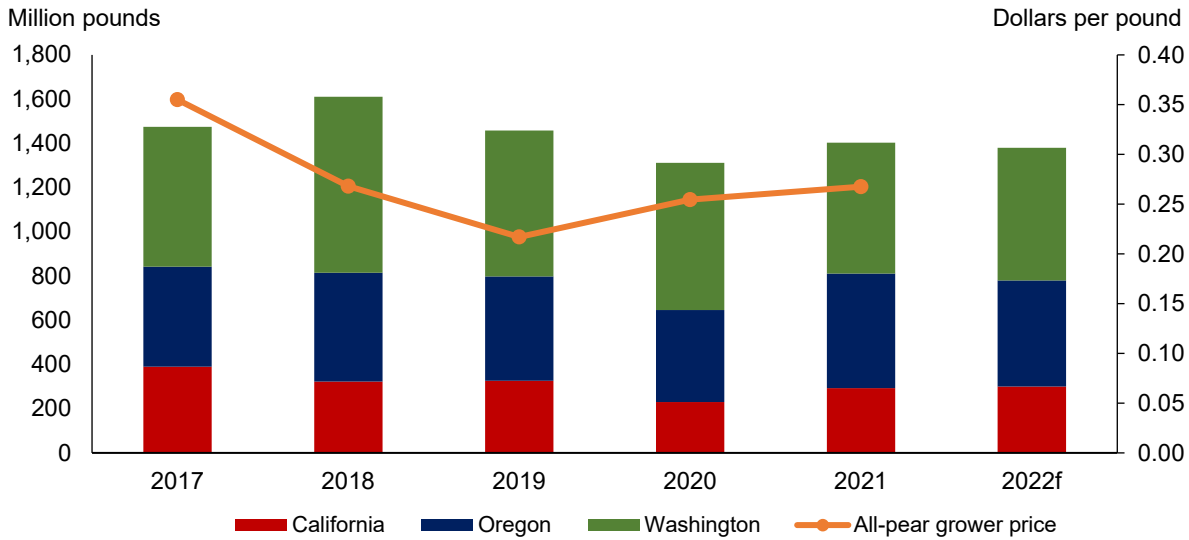
Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts Summary*, 2021 and *Crop Production* (August 2022).

### U.S. pear crop forecast down with losses in Oregon and gains in Washington and

**California:** USDA, NASS predicted the 2022/23 (July–June) pear harvest at 690,000 tons, down 2 percent from last year (figure 3). Oregon experienced cold and rainy spring weather and total production is expected to decline 7 percent compared with last year. A slight increase in production in Washington and California is expected this year. Washington, the largest growing State, experienced a cold wet, spring but growers believe it had little impact on the crop and production is expected to be up 1 percent from last year. In California, growing conditions have been optimal this year, with anticipation of a high-quality crop expected to be 2 percent higher than last year.

Figure 3

**U.S. pear crop in 2022 forecast down 2 percent from a year ago**



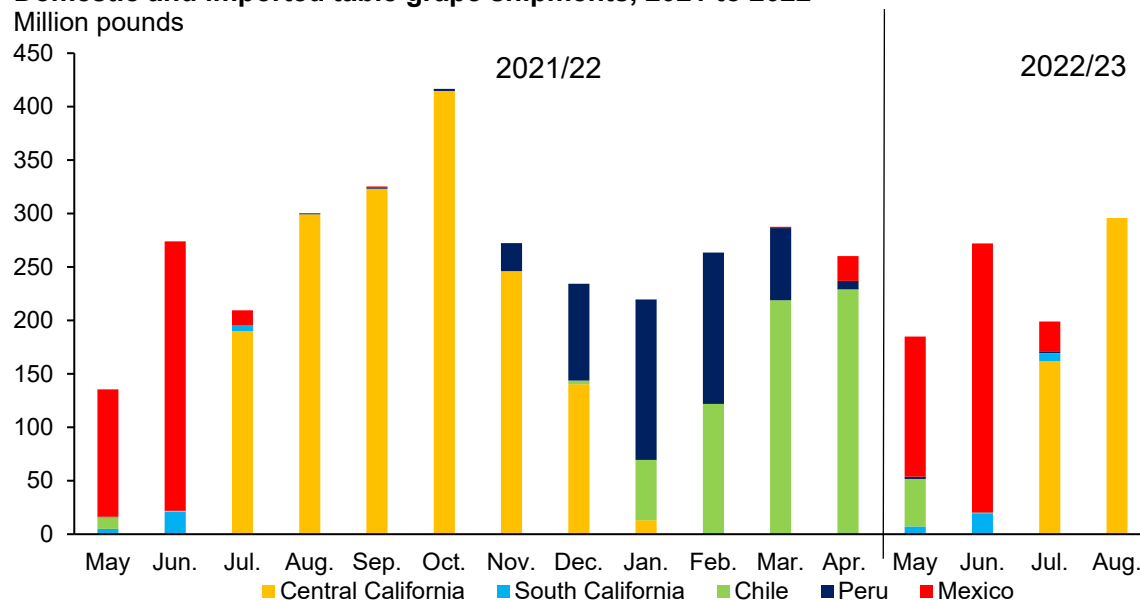
f = forecast.

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2021 Summary* and *Crop Production* (August 2022 issue).

**California table-type grape production forecast up despite drought conditions:** U.S. grape production for the 2022 season (May–April) is forecast at 5.99 million tons, down 1 percent from last year. In California, the largest growing State, wine-type grape production is forecast down 4 percent while table-type grapes for table grapes or juice are expected to be 1.10 million tons, up 5 percent from last year. In California, grape vineyards were affected by ongoing drought conditions.

From May to August 2022, shipments from the Coachella Valley in Southern California were up 9 percent compared with the same period last year (figure 4). Shipments from Central California (Kern County and San Joaquin Valley) from May through August 2022 were down 25 percent from the same period last year, but the harvest will continue into the winter months. USDA, *NASS Crop Production*, August 2022 report stated frost damage in San Joaquin County affected yields. In May to July 2022, import shipments from Mexico, the main competitor to California, were up 7 percent from the same period a year ago. Shipments from Chile and Peru were up from May to July 2022, 282 percent and 381 percent, respectively.

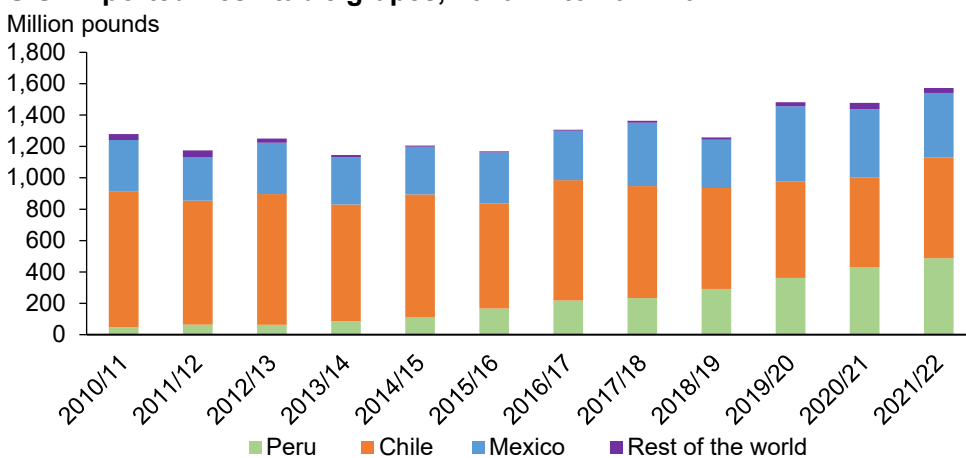
Figure 4  
**Domestic and imported table grape shipments, 2021 to 2022**  
 Million pounds



Note: Central California includes Kern County and San Joaquin Valley, South California includes Coachella Valley.  
 Source: USDA, Economic Research Service using USDA, Agricultural Marketing Service, *Market News*, Movement data and U.S. Department of Commerce, Bureau of Census data.

In the 2021/22 season, imported grapes reached a record high of 1.57 billion pounds and accounted for 56 percent of total supply (domestic and imported), up 2 percent from the previous season (figure 5). Imports from Peru reached 488 million pounds in 2021/22, a 13 percent increase from the previous season. In November 2021, USDA, FAS Global Agriculture Information Network, Peru Fresh Deciduous Fruit Annual Report stated increased costs and logistical issues likely led to overall high seasonal prices in 2021/22 and attracted more shipments from Peru.

Figure 5  
**U.S. imported fresh table grapes, 2010/11 to 2021/2022**  
 Million pounds



Note: U.S. fresh grape season is May to April.  
 Source: U.S. Department of Commerce, Bureau of the Census.



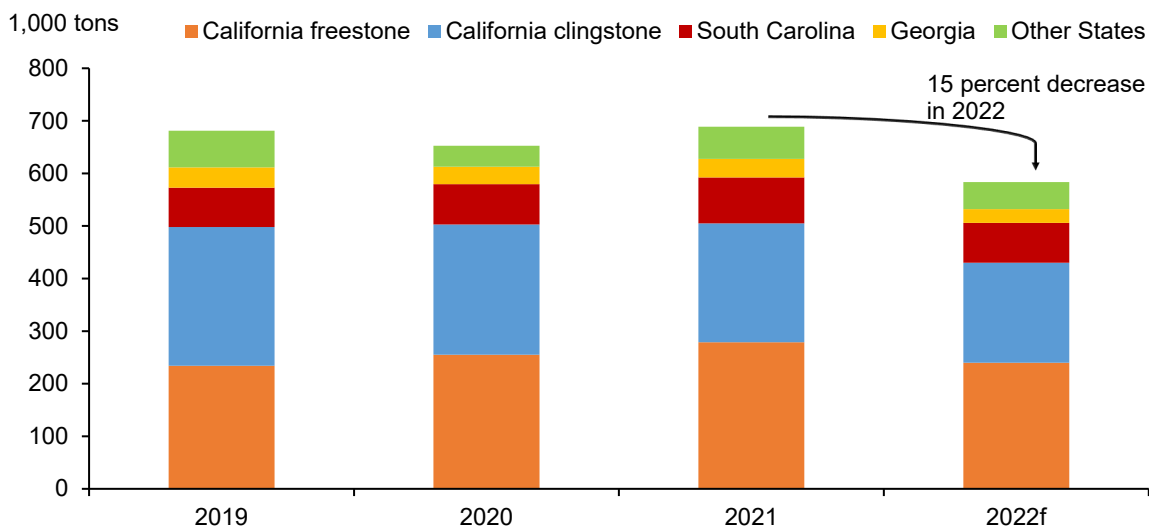
**U.S. peach production forecast down in 2022:** The 2022 U.S. total peach production is expected to be 583,500 tons, a 15 percent decrease from the previous year (including fresh-market freestone peaches and processing clingstone peaches). In California, the top peach producing State, production is forecast at 430,000 tons, down 15 percent from the previous year (figure 6). In California, frost events and hail lowered production and fruit quality. A freeze event in March affected yields in South Carolina, the second largest peach State, and Georgia, leading to production declines (down 13 percent and 26 percent, respectively) compared with the previous season. Production is also forecast to decline in Pennsylvania (down 39 percent), New Jersey (down 45 percent), and Washington (down 2 percent) compared with 2021. Only two of the eight USDA, NASS peach producing States surveyed are forecast to have a production increase in 2022; Colorado (up 9 percent) and Michigan (up 43 percent).

Lower domestic production and higher prices dampened U.S. fresh peach exports. Year-to-date export volume (fresh peaches and nectarines) through July 2022 declined 6 percent compared with the same time last year. Year-to-date import volume, primarily from Chile, was also down 3 percent. According to USDA, FAS, growers in Chile are replanting peach orchards with nectarines and other crops that have higher margins when compared with fresh peaches.

The USDA, NASS forecast for California clingstone peaches, mainly for processing, is 190,000 tons, down 16 percent from 2021. The California League of Food Producers estimated the 2022 yield for clingstone peaches at 13.7 tons per acre, a 10 percent decline from 2021. In March 2022, the Canning Cling Peach Association, the cooperative bargaining association in the cling peach industry, reported its ratified 2022 base price agreement with processors at \$603 per ton, a \$85 per ton increase from last year. However, due to the impact of weather on fruit quality, the California Canning Peach Association announced modified sales terms with the three largest peach processors in July. The changes adjust peach grading and payment discounts to help growers maximize tonnage deliveries during a tough growing season.

Figure 6

**U.S. peach production forecast to decrease in 2022**



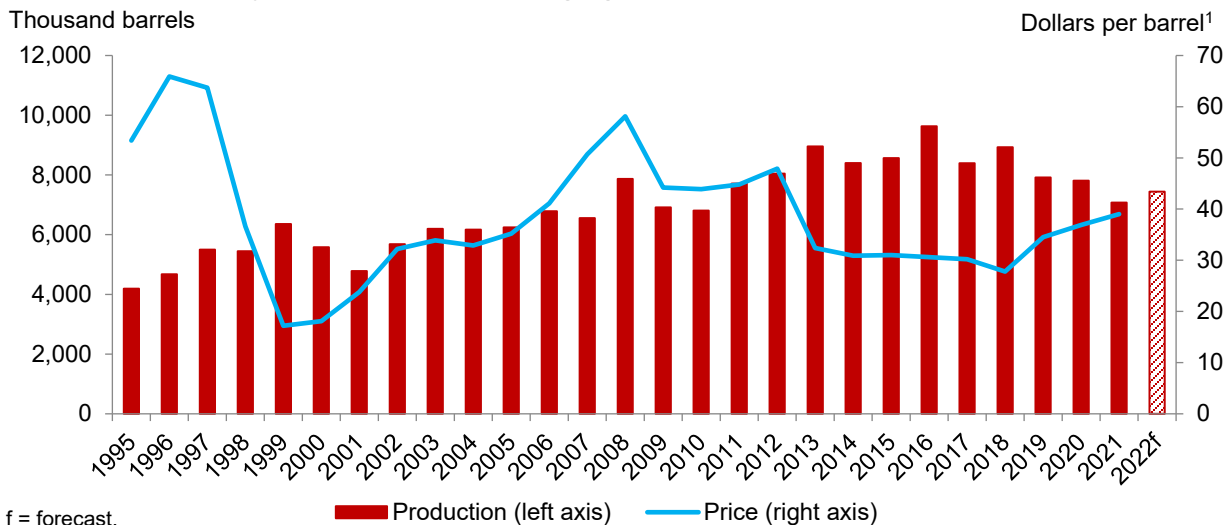
f = forecast.

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts 2021 Summary and Crop Production* (August 2022 issue).

**USDA, NASS forecast cranberry production to rise:** The USDA, NASS August forecast cranberry total production for the 2022 season at 7.44 million barrels, up 5 percent from the 2021 crop year (figure 7). In Wisconsin, the largest growing State, production is forecast at 4.3 million barrels, up 3 percent from last year. Increases are expected in all States but most prominent in Massachusetts, where production is forecast at 2 million barrels, an 11 percent increase from last year. Early in the growing season, Wisconsin and Massachusetts growers reported the crop experienced cold, wet weather and hail. The planting season started the first of week of June but was delayed due to rain. Warmer temperatures and better weather conditions helped cranberry plants and berries to develop. The Cranberry Marketing Committee as of September estimated a higher total U.S. production for 2022 of 8.3 million barrels. Although production is expected to rise, low beginning stocks may keep prices stable for cranberry growers during the 2022/23 marketing season (September–August). In addition, volume-control measures under the Federal Marketing Order for cranberries help manage the supply market for a more balanced market for U.S. cranberries since 2017/18.

Figure 7

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



f = forecast.

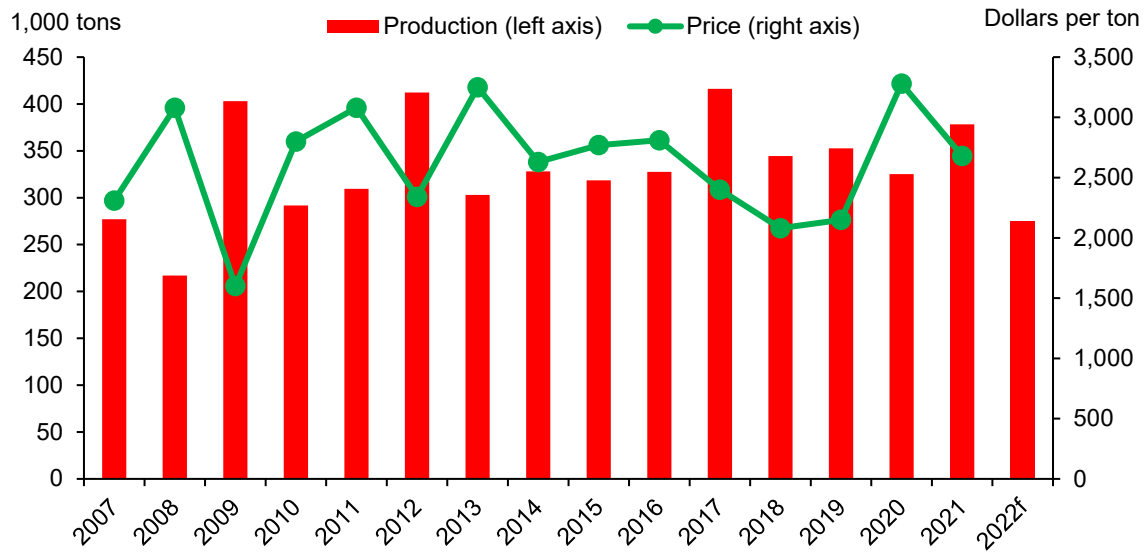
<sup>1</sup> 1 barrel = 100 pounds.

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various issues and *Crop Production* (August 2022 issue).

**Sweet cherry forecast down while tart cherry production forecast to rise:** The 2022 USDA, NASS June forecast for the U.S. sweet cherry crop was 275,000 tons (550 million pounds), down 27 percent from a year ago. If realized, it will be the smallest U.S. sweet cherry crop since 2008 (figure 8). Production is expected to decline in all three surveyed States: Washington (-21 percent), California (-46 percent), and Oregon (-20 percent). For Washington and Oregon, sweet cherry production forecast is down from 2021 due to cold weather that affected pollination and fruit set. California, which accounted for one quarter of sweet cherry production in 2021, is forecast down due in part to frosts in February and March. California had a record production year in 2021, lower production in 2022 reflects the alternate-bearing tendency of the trees. A decline in domestic production will put upward pressure on prices in 2022.

Figure 8

**U.S sweet cherry total production<sup>1</sup> and fresh-market grower price, 2007–2022<sup>f</sup>**



f = forecast.

<sup>1</sup>States included in production total are California, Oregon, Washington.

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruit and Nuts Summary*, various issues and *Crop Production* (June 2022 issue).

Between January and May 2022, the United States imported 21.7 million pounds of fresh cherries, more than double the amount imported during the same period last year. In 2021, the United States exported over 162 million pounds of fresh cherries, which was 17 percent above 2020 but 9 percent below 2019. In the past 5 years, the United States exported about 92 percent of its annual fresh sweet cherry volume between May and July. For the 2022 season, U.S. fresh sweet cherry export volumes between May and July totaled 77.8 million pounds, 48 percent below last season and the lowest fresh sweet cherry export volume during that period since 2002.

The USDA, NASS forecast for the 2022 tart cherry crop is 229.2 million pounds, up 33 percent from the previous year. Most of tart cherry production is destined for processing. In the last two seasons, Michigan, the largest tart cherry producing State, experienced production loss due to frost and freezing temperatures. Although this season started cool, there were no major freeze events in Michigan nor in Wisconsin. The 2022 production forecast is up in Michigan (65 percent) and Wisconsin (27 percent), but down in Utah (18 percent) and other USDA, NASS-surveyed States (Washington and New York combined, down 8 percent). In July 2022, the Cherry Industry Administrative Board reported crop quality in Michigan as excellent. USDA, NASS frozen tart cherry stocks as of August 31, 2022, were up 30 percent compared with the same month last year.

# Citrus Fruit Outlook

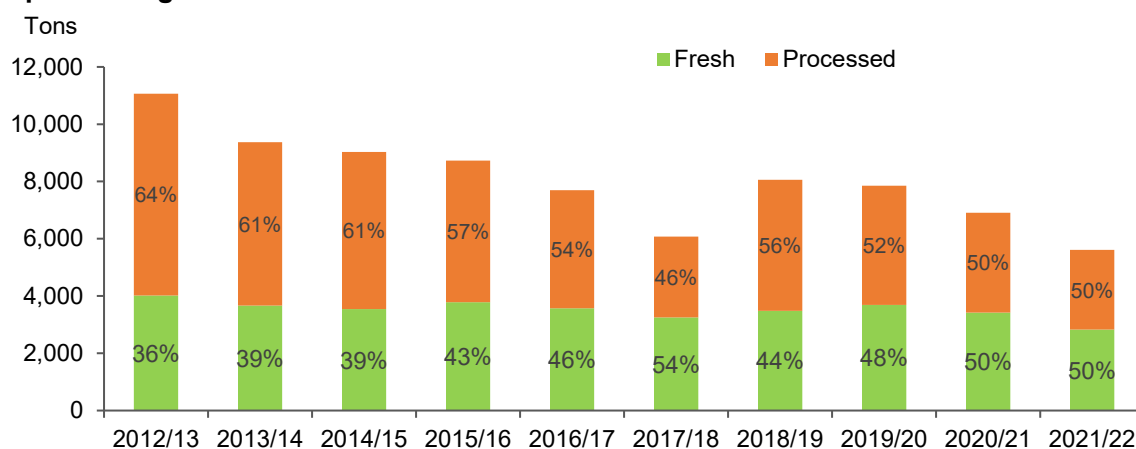
## Total U.S. Citrus Production Reaches Historic Low

USDA, NASS final estimates for the 2021/22 citrus season show U.S. citrus production reached 5.6 million tons, down 19 percent from 2020/21 (table 3). Total production is below levels forecasted at the outset of the season (October 2021), mostly due to a lower than anticipated Valencia orange crop in Florida, and smaller navel orange and tangerine crops in California. The orange and grapefruit crops in Texas were less than half of what was anticipated at the outset of the season due to drought and lingering effects from the 2021 winter freeze. There were reductions in both the processing and fresh orange crops, with 59 percent of the total U.S. orange crop going to processing. Total citrus volume in 2021/22 is the lowest observed in at least half a century (figure 9).

Total citrus production in Florida decreased to 2.02 million tons in 2021/22, down 22 percent from the previous season. Texas growers also experienced declines in production reaching a record low of 76,000 tons (down 45 percent from last year). While California's lemon and Valencia orange crops increased over last season, that State still experienced a decrease in total citrus production of 16 percent (664,000 tons) due to smaller navel orange, tangerine, and grapefruit crops. Arizona experienced a modest increase in lemon production over last season but is still at only about half of what it was 2 years previously.

Figure 9

### Total citrus production down in 2021/22 but evenly split between fresh and processing markets



Source: USDA, National Agricultural Statistics Service, *Citrus Fruits Summary*, various issues.

**Table 3--Citrus: Utilized production, 2019–20 to 2021–22<sup>1</sup>**

Crop and State	Utilized			Utilized		
	2019–20	2020–21	2021–22	2019–20	2020–21	2021–22
Oranges:	---- 1,000 boxes <sup>2</sup> ----			----1,000 tons ----		
Early/midseason and navel:						
California	43,300	41,300	31,800	1,732	1,652	1,272
Florida <sup>3</sup>	29,650	22,700	18,250	1,334	1,022	821
Texas	1,150	1,000	170	49	43	7
<b>Total<sup>4</sup></b>	<b>74,100</b>	<b>65,000</b>	<b>50,220</b>	<b>3,115</b>	<b>2,716</b>	<b>2,100</b>
Valencia:						
California	10,800	7,700	8,600	432	308	344
Florida	37,750	30,250	22,800	1,699	1,361	1,026
Texas	190	50	30	8	2	1
<b>Total</b>	<b>48,740</b>	<b>38,000</b>	<b>31,430</b>	<b>2,139</b>	<b>1,671</b>	<b>1,371</b>
<b>All oranges</b>	<b>122,840</b>	<b>103,000</b>	<b>81,650</b>	<b>5,254</b>	<b>4,387</b>	<b>3,472</b>
Grapefruit:						
California	4,700	4,200	4,100	188	168	164
Florida	4,850	4,100	3,330	206	174	142
Texas	4,400	2,400	1,700	176	96	68
<b>All grapefruit</b>	<b>13,950</b>	<b>10,700</b>	<b>9,130</b>	<b>570</b>	<b>438</b>	<b>374</b>
Tangerines and mandarins:						
California	22,400	28,800	17,400	896	1,152	696
Florida <sup>4</sup>	1,020	890	750	48	42	36
<b>All tangerines and mandarins</b>	<b>23,420</b>	<b>29,690</b>	<b>18,150</b>	<b>944</b>	<b>1,194</b>	<b>732</b>
Lemons:						
Arizona	1,800	750	950	72	30	38
California	25,300	21,400	24,900	1,012	856	996
<b>All lemons</b>	<b>27,100</b>	<b>22,150</b>	<b>25,850</b>	<b>1,084</b>	<b>886</b>	<b>1,034</b>
<b>All citrus<sup>5</sup></b>	<b>187,310</b>	<b>165,540</b>	<b>134,780</b>	<b>7,853</b>	<b>6,906</b>	<b>5,611</b>

<sup>1</sup> The crop year begins with bloom of the first year shown and ends with completion of harvest the following year.

<sup>2</sup> Net pounds per box: oranges in California (CA)-80 (75 prior to the 2010–11 crop year), Florida (FL)-90, Texas (TX)-85; grapefruit in CA-80 (67 prior to the 2010–11 crop year), FL-85, TX-80; lemons-80 (76 prior to the 2010–11 crop year); tangerines and mandarins in CA-80 (75 prior to the 2010–11 crop year), FL-95.

<sup>3</sup> Includes Temples. Beginning in 2016–17, Temples included in tangerines and mandarins for Florida.

<sup>4</sup> Beginning in 2016–17, tangelos are included in tangerines and mandarins for Florida.

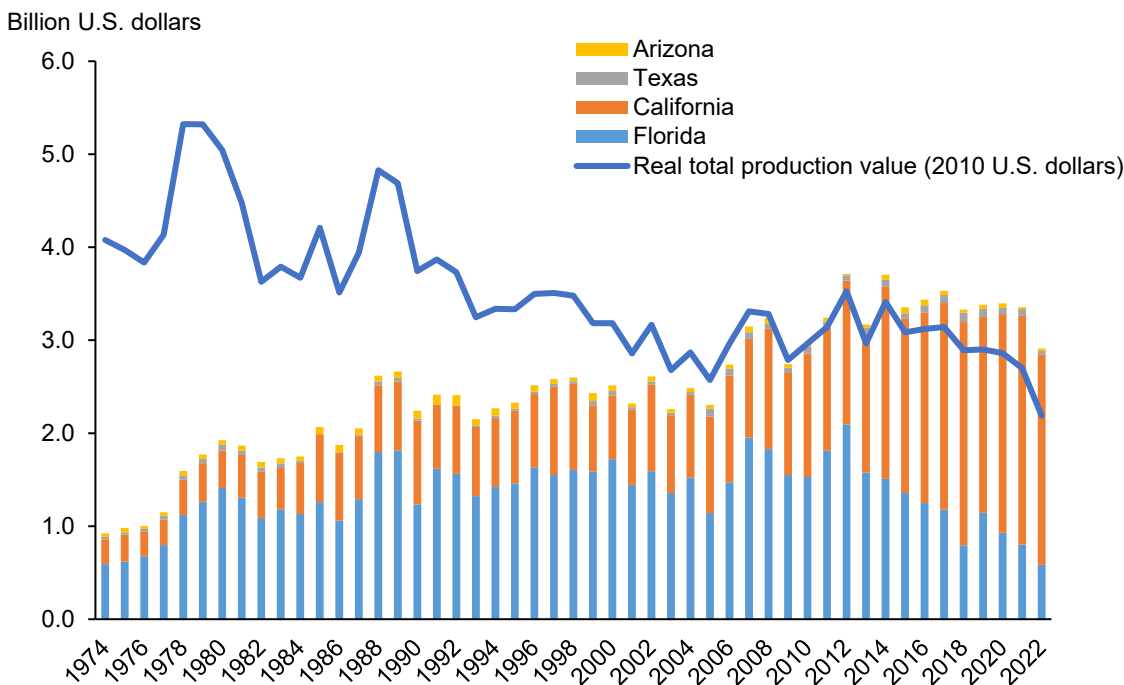
<sup>5</sup> Totals may not be equivalent to the sum of the categories due to rounding.

Source: USDA, National Agricultural Statistics Service, *Citrus Fruits 2022 Summary* (September 2022).

The U.S. citrus crop was valued at \$2.9 billion in 2021/22. This amounts to a 13 percent decrease in value of production from 2020/21, the largest drop observed since the 2008/09 season. The drop in real value this season (production value adjusted for inflation), however, is greater. This is the largest drop in real total citrus production value in more than 30 years (figure 10).

Figure 10

**Production Value of U.S. Citrus Industry has decline in real terms since 2012**



Source: USDA, Economic Research Service using USDA, National Agricultural Statistics Service, *Citrus Fruits Summary* (various issues).

**U.S. citrus fresh-market crop down in 2021/22:** U.S. citrus production for the fresh market was estimated at 2.82 million tons in 2021/22, down 17 percent from the previous season, with smaller fresh-market crops of oranges (down 11 percent), grapefruit (down 27 percent), lemons (down 6 percent), and tangerines (down 35 percent). Representing just over half of all U.S. citrus production for the fresh market, the fresh-market orange crop decreased from the previous season to 1.44 million tons due to smaller crops in California, Florida, and Texas. With a supply contraction and robust demand, prices increased. Overall, the average equivalent-on-tree price for a box of fresh oranges increased from \$20.74 in 2020/21 to \$25.54 in 2021/22, due to higher prices during December through July. This observed trend in higher domestic prices was accompanied by lower exports, down by 27 percent season-to-date. Exports to South Korea, Canada, and Hong Kong (the top three export markets for U.S. oranges) were all down by 24, 22, and 38 percent respectively.

U.S. imports of fresh oranges in 2021/22 (November through July) were up 30 percent, from the same period last year. Mexico was the largest supplier of fresh market oranges this season accounting for 52 percent of imports, followed by Chile (18 percent) and Morocco (14 percent). In contrast there was a small drop (2 percent) in the quantity of fresh oranges coming from

South Africa. In November 2021 to July 2022, Morocco was the third largest supplier of fresh oranges to the United States, a place held the last several seasons by South Africa. This 600 percent increase in the quantity of oranges imported from Morocco comes on the heels of a large crop from that country and a 40 percent bump in its citrus exports.

**California leads in grapefruit production in 2021/22:** The spot of top grapefruit producer has alternated between Florida, California, and Texas over the last decade; however, California leads the current season with 4.1 million boxes or 164,000 tons. Florida follows with 142,000 tons then Texas with 68,000. While all these States experienced decreased production over last year, the drop was largest for Texas (-29 percent) followed by Florida (-19 percent). The decrease in Texas production may be attributed to prolonged drought in the Rio Grande Valley and lingering effects from Winter Storm Uri in February 2021. Lower production quantities in Florida compared with last season can be attributed to the ongoing effects of citrus greening disease with grapefruit-bearing acreage decreasing in Florida by an additional 15 percent year over last. Although California led the country in grapefruit production this season, output levels were still 100,000 boxes (2 percent) below those of last year. Lower per acre yields this season may be attributed to ongoing drought in Southern California.

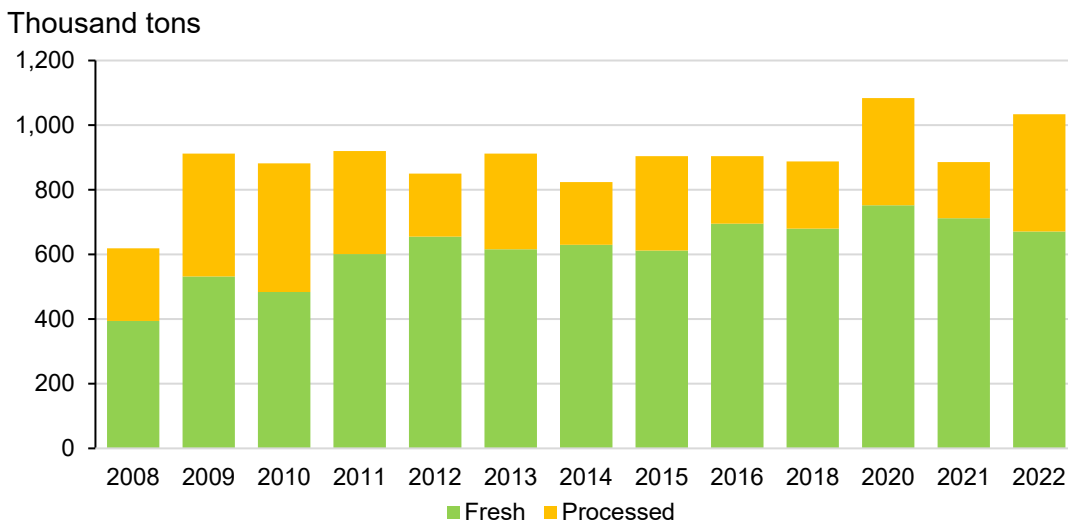
As might be expected given historically low domestic production levels this season, imports of fresh grapefruit from September through July 2021/22 were up by 27 percent from the same period last year while exports were down by 30 percent. This marks the highest import volume of fresh grapefruit in 20 years, while exports are at a 50-year low. Higher imports and lower exports this season failed to offset reductions in domestic availability due to low production; thus per capita grapefruit availability is estimated at an all-time low of 1.14 pounds. Despite the decrease in total supply this season, average prices rose only modestly with growers' on-tree equivalent price for fresh grapefruit at \$27.69 per box in 2021/22 compared to \$25.07 in 2020/21.

**U.S. lemon crop rebounds in 2021/22:** U.S. growers produced 1,034 thousand tons of lemons in 2021/22, exceeding last year's crop by 17 percent (148,000 tons) (figure 11). A relatively large share of lemons went to processing (35 percent), with the remainder going to the fresh market (671,000 tons). Arizona supplied 4 percent of the U.S. lemon crop this season (38,000 tons). This marks a slight bump in Arizona production over last year but is still well below the 2019/20 season (72,000 tons). Lemon production in Arizona (that State's main commercial citrus crop) trended downward over the last 20 years, with bearing acreage decreasing every



year since 2001. Current lemon acreage in Arizona is less than half of what it was in the early 2000s, with Yuma’s growing residential real estate market likely playing a role in attrition of lemon orchards. Bearing acreage and yields in California were up this season, with lemon growers producing 996,000 tons this season. This marks a near 50-year record since the extraordinary 2019/20 season produced 1 million tons. Fewer U.S. lemons went to the fresh market this season than in the past. While the reasons are unclear, fresh lemon imports reached a record high this season (383 million pounds). Approximately one quarter of all lemons consumed in the United States this season were imported. Perhaps unsurprising given the increase in imports, fresh lemon prices were down this season, with the average on-tree equivalent grower price of \$26.88 per box down by more than \$3.00 from last season (2020/21) (table 4). Imports were at a record high in August 2021/22. Argentina, Mexico, and Chile remain the main suppliers of lemons to the U.S. market. U.S. fresh lemon exports were up this season by 9 percent, with Canada, Japan, and South Korea remaining the three largest markets for U.S. lemons.

Figure 11  
**Share of lemons going to processing market reaches 10-year high in 2021/22**



Source: USDA, Economic Research Service using USDA, National Agricultural Statistics Service, *Citrus Fruits Summary* (various issues).

**Table 4--Fresh lemon grower prices, dollars per box, on-tree equivalent**

Month	2017/18	2018/19	2019/20	2020/21	2021/22
Aug.	--	60.82	32.09	29.44	34.84
Sep.	32.97	62.34	33.68	28.36	33.44
Oct.	31.76	44.09	34.46	29.25	30.61
Nov.	34.95	36.08	32.01	30.11	27.96
Dec.	37.74	31.78	28.60	29.33	28.60
Jan.	38.61	27.99	25.68	27.79	26.56
Feb.	37.11	24.25	23.05	27.55	26.73
Mar.	31.85	23.22	20.98	27.34	25.60
Apr.	30.05	23.62	21.29	26.64	21.14
May	29.95	24.02	23.59	28.84	21.84
Jun.	32.55	26.52	27.49	36.04	22.54
Jul.	44.15	29.32	30.29	37.74	22.74
<b>Average</b>	<b>34.70</b>	<b>34.50</b>	<b>27.77</b>	<b>29.87</b>	<b>26.88</b>

Source: USDA, Economic Research Service using USDA, National Agricultural Statistics Service, *Agricultural Prices* (various issues).

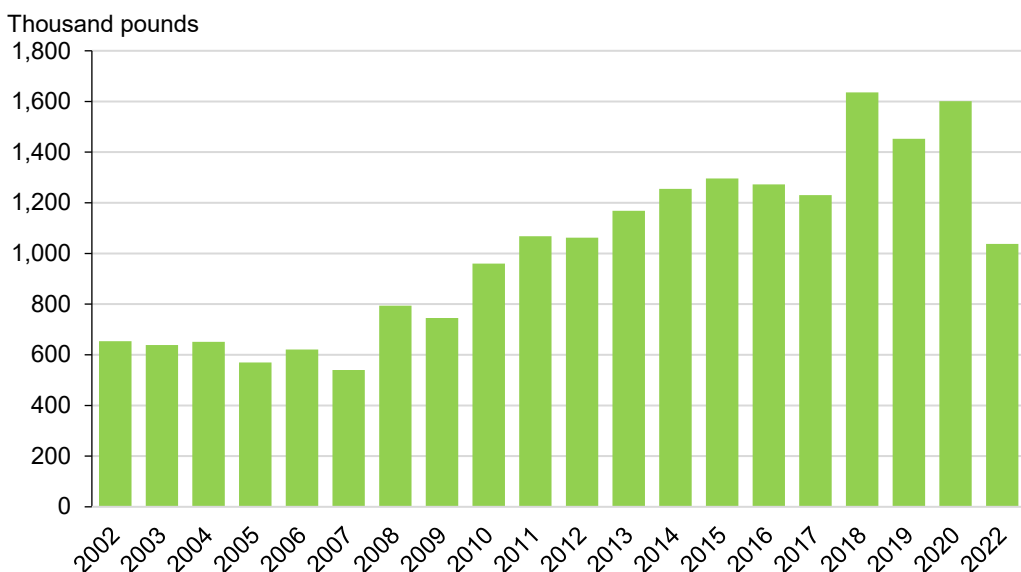
**U.S. tangerine crop dips to 10-year low in 2021/22:** Production of U.S. tangerines, mandarins, and tangelos (collectively referred to hereafter as tangerines) for the fresh market was at a 10-year low this season, a 35 percent decrease from 2020/21 (figure 12). This season's outcome bucks the trend of increasing production most years since 2007/08. About 95 percent of the U.S. tangerine crop is grown in California with the remainder coming from Florida. Both States experienced some declines in production this season, but the California crop was 40 percent smaller than last season. Bearing acreage in California was up by 2,000 acres this season, thus the decrease can be attributed to smaller yields. Tangerine production is concentrated in the Southern portion of California's San Joaquin Valley agricultural district which experienced exceptional drought conditions during the 2021/22 season.

Perhaps unsurprising given Americans' continued love for easy-peel mandarins, fresh tangerine imports in 2021/22 are at a record high and estimated to reach nearly 1 billion pounds by the end of this season (October 2022). Morocco is the top supplier of imported tangerines for the U.S market in 2021/22, followed by Peru and Chile. Exports of fresh tangerines are down 45 percent this season year-to-date, with the largest export markets remaining Canada, Mexico, and Japan. These markets together account for 75 percent of U.S. tangerine exports. Given

lower availability this season, per capita availability is estimated to be 5.86 pounds per person, down by almost 1 pound from last season (2020/21).

Figure 12

**U.S. tangerine crop drops to 10-year low in 2022**



Source: USDA, Economic Research Service using USDA, National Agricultural Statistics Service, *Citrus Fruits Summary* (various issues).

**Half of U.S. citrus went to processing in 2021/22:** Fifty percent of U.S. citrus in the 2021/22 season went to the processing market, nearly three-quarters of which was oranges. Florida produced 85 percent of all U.S oranges for processing while California and Texas produced the remainder. Florida, California, and Texas all had smaller orange crops for the processing market in 2021/22 compared with 2020/21. Florida’s production levels were 22 percent below last season, while California’s and Texas’s levels were down 41 percent and 67 percent respectively. A total of 222 million gallons of orange juice were produced in the United States in 2021/22, 30 percent below production from last season. This level sets a record low for U.S. orange juice production.

U.S. orange juice imports from October 2021 to July 2022 were up by 21 million gallons (6 percent) from the same period last season. However, this increase in orange juice imports failed to offset decreases in domestic production; thus per capita availability is projected at a record low of 2.12 gallons in the 2021/22 season. This per-capita availability estimate assumes juice movement remains at current levels with record low ending stocks of less than 300 million gallons. Brazil and Mexico remain the primary suppliers of orange juice to the U.S. market, accounting for 50 percent and 37 percent of orange juice imported. U.S. exports of orange juice

for 2021/22 are about level with last season (4.3 million gallons). Canada remains the primary export market for U.S.-produced orange juice, accounting for 66 percent of exports. The Dominican Republic and South Korea were the second and third largest purchasers of U.S. orange juice accounting for 12 and 3 percent of U.S. exports, respectively.

**U.S. grapefruit for processing is down in 2021/22:** 2021/22 is looking to be another record low season for U.S. grapefruit juice production, 18 million gallons. This is despite a relatively larger share of total U.S.-grown grapefruit (46 percent) going to processing in the current season. This decrease can be attributed to lower production levels in all major producing States, but especially Texas where growers have been struggling with drought and lingering effects from freezes.

U.S. import levels of grapefruit juice this season (3.3 million gallons) are up 67 percent from 2020/21. Primary suppliers of grapefruit juice to the United States were Mexico, South Africa, and Spain. This bump in imports will help offset declines in production contributing to a per-capita availability on level with last year (0.06 gallons). Grapefruit juice exports are up again this season (7 percent) from October 2021 to July 2022. The three top export markets for U.S. grapefruit juice from October to July 2021/22 were Canada, the Netherlands, and Japan. This is the second in a row year-over-year increase in U.S. grapefruit juice exports; however, exports are still below 2018/19 season levels. Most of the increase can be attributed to a 37 percent jump in grapefruit juice exports to Canada.

## U.S. Citrus Production for 2022/23 Likely Below 2021/22 Levels

USDA, NASS will release initial 2022/23 forecasts for all-citrus production in the United States in October 2022. However, an early forecast pegs navel orange production in California at 76 million 40-pound cartons, up 19 percent from the previous year, according to the 2022–23 California Navel Orange Objective Measurement Report released September 12 by the USDA, NASS Pacific Regional Office. This expected increase in production is likely due to a 47 percent higher fruit set per tree and despite a smaller average fruit size and slight decrease in bearing acreage. Given that California navel oranges account for a relatively large share of total U.S. citrus production, this larger anticipated crop may contribute to higher total citrus production levels in 2022/23.

The results of the first orange and grapefruit maturity tests for Florida's 2022/23 season were published by USDA, NASS on September 12. Sampled fruit included early oranges (including navel), mid-season oranges (mostly Valencia), and red and white seedless grapefruit. The survey shows that all oranges have lower unfinished juice per box and solids for 2022/23, compared with the same time last season. Unfinished juice refers to preprocessed juice content before pulp and other solids are removed. Grapefruit (both red and white seedless) have unfinished juice and solids slightly above 2021/22.

Citrus greening disease, also known as Huanglongbing (HLB), remains a threat to citrus grove health and productivity across all producing States. In Florida, where greening is rampant, total bearing acreage decreased by another 8 percent this season to 340,200 acres. In the other citrus-producing States greening is less prevalent yet can lead to higher production costs, especially as infected trees are removed and/or replaced. In 2021/22 there was a slight increase over last season in total bearing acreage of California citrus (3,000 acres or 1 percent), as increased bearing acreage of tangerines, lemons, and grapefruit offset continued losses of orange acreage. Texas experienced a 19-percent drop in total bearing acreage with attrition of both its grapefruit and orange acreage, while lemon acreage in Arizona (that State's primary citrus crop) decreased by an additional 3 percent. Despite continued challenges from greening and long-term trends toward attrition of Florida and Texas citrus acreage total production for the 2022/23 season is likely to be slightly above 2021/22 levels.

# Tree Nuts Outlook

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## Almond, Walnut, and Hazelnut Forecast to Decline

The 2022/23 season is underway for most tree nuts. Extreme heat and freezing temperatures in early 2022 affected the harvest of almonds and walnuts. As drought conditions persist, water availability is a top concern for tree nut growers in California. Hazelnut production in 2022 is forecast to decline from last year's record high production.

**Almond crop forecast down in 2022/23:** 2021/22 (August–July) almond production decreased slightly to 2.92 billion pounds from the record high production in 2020/21. California's bearing acreage increased from 2020; however average yield was 2,210 pounds per acre, a 280-pound decline from the previous year. In June 2021, extreme heat and ongoing drought conditions affected production. U.S. exports declined 7 percent compared with the 2020/21 season. Lower supply and a slight decline in imports likely put upward pressure on grower prices in 2021/22.

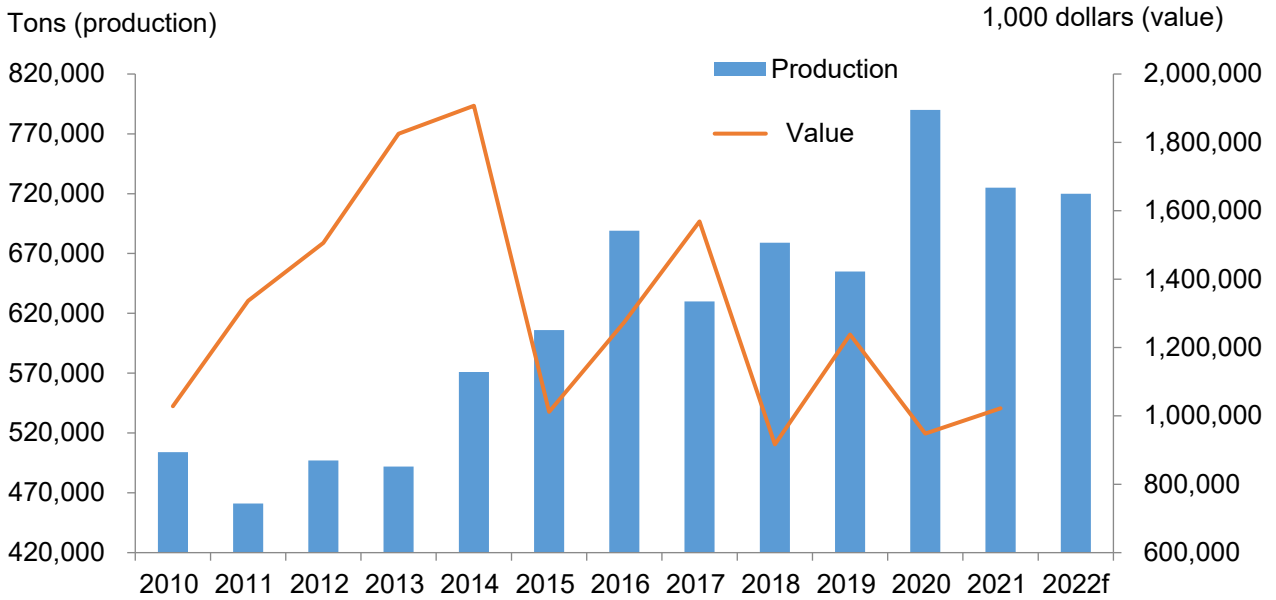
The 2022 *California Almond Objective Measurement Report*, released by USDA, NASS in July 2022, forecast a 2.6 billion pounds (shelled basis) for the 2022/23 season, down 7 percent from May's subjective forecast and 11 percent lower than last season's crop of 2.92 billion pounds (shelled basis). Growers reported the almond bloom began in early February with favorable weather. Freezing temperatures were observed in Northern California which slowed the bloom, and some frost damage was observed. In June, extreme heat, on-going drought and water availability affected the crop.

**Walnut production predicted to decline slightly in 2022/23:** The 2021/22 (September–August) walnut production was 725,000 tons, down 8 percent from record high production the previous season. California's drought conditions posed a challenge for growers in 2021/22. Low supply and low stocks likely increased grower prices to \$1,410 per ton compared to \$1,220 per ton the previous year, increasing the value of production in 2021/22 (figure 13).

The 2022 *California Walnut Objective Measurement Report*, released by USDA, NASS on September 1, forecast walnut production at 1.44 billion pounds (or 720,000 tons) on an in-shell basis, down 1 percent from last year's 725,000 tons. Growers reported hot and dry conditions in California in late 2021, resulting in reduced water allocations in many areas. In addition, in February 2022, the Sacramento Valley experienced freezing temperatures, with frost damage.

Figure 13

**Walnut production and value of utilized production, 2010–22**



f=forecast.

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

**Hazelnut production forecast to decline in 2022/23:** Utilized hazelnut production in Oregon for 2021 totaled 77,500 tons, up 25 percent from 2020. Bearing acreage was estimated at 61,000, up 2 percent from the previous year. Higher production and prices led to a 29 percent increase in the value of production from last season. In Oregon, 2021 was an up year of the alternate bearing cycle of hazelnuts, leading to record production and record bearing acres. The crop size was likely hurt by a July heat wave that lasted for a week in some areas of the growing region, resulting in a decline in nut size and lightweight nuts occurring more.

As of September 2022, USDA, NASS, Oregon Field Office Hazelnut *Objective Yield Survey* projected production of 68,000 tons, a 12 percent decline from 2021/22’s record high crop of 77,500 tons (July–June). Bearing acreage increased 7,000 acres to 68,000 acres in 2022 from last year.

## Suggested Citation

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