



Economic  
Research  
Service

Situation and  
Outlook

FTS-361

March 31, 2016

# Fruit and Tree Nuts Outlook

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## U.S. Citrus Crop Continues to Decline in 2015/16

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The next release is  
June 30, 2016

Approved by the  
World Agricultural  
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The current U.S. citrus crop forecast for 2015/16 is at 7.95 million tons, down more than 12 percent from the 2014/15 final utilized total of 9.02 million tons, and down almost 16 percent from 2013/14. This forecast is 4 percent lower than the initial USDA National Agricultural Statistics Service (NASS) forecast in October 2015. The U.S. all-orange production forecast is at 5.36 million tons, down 16 percent from the 2014/15 final utilization. Other major citrus crops are also expected to be reduced in 2015/16, except for tangerine and mandarin production.

Florida's 2015/16 all-orange crop is forecast at 3.2 million tons, down 27 percent from last season. With lower juice yields projected and the decline in Florida's orange crop, a majority of which is destined for processing, USDA's Economic Research Service (ERS) forecasts orange juice production to decline 25 percent to reach 458 million single-strength equivalent gallons. Despite larger beginning stocks, these anticipated declines in orange juice production, along with reduced imports, would be enough to drive down overall supplies in the United States in 2015/16.

In contrast, the March issue of the NASS *Crop Production* report forecasts the 2015/16 California all-orange production at 2.1 million tons—a 7-percent increase from last season. The navel crop is estimated at 1.68 million tons, up 6 percent from last season while the Valencia crop is up 11 percent. Despite the projected increase in the navel orange crop, slow movement to market assisted in keeping early-season prices above last season.

Total U.S. grapefruit production is projected down 7 percent to 807,000 tons in 2015/16, from 870,000 tons in 2014/15. So far, 2015/16 prices have been consistently higher than in 2014/15, likely a reflection of declining domestic production.

The U.S. lemon crop is anticipated down 4 percent to 864,000 tons from the 2014/15 final utilized total of 900,000 tons. Both Arizona and California have seen a decrease in production this season. Fresh lemon grower prices in 2015/16 are holding strong thus far.

Total production of U.S. tangerines/mandarins is estimated at 907,000 tons, and if realized, will be the largest harvest on record. Production gains in California are making up for declining production in Florida.

# Price Outlook

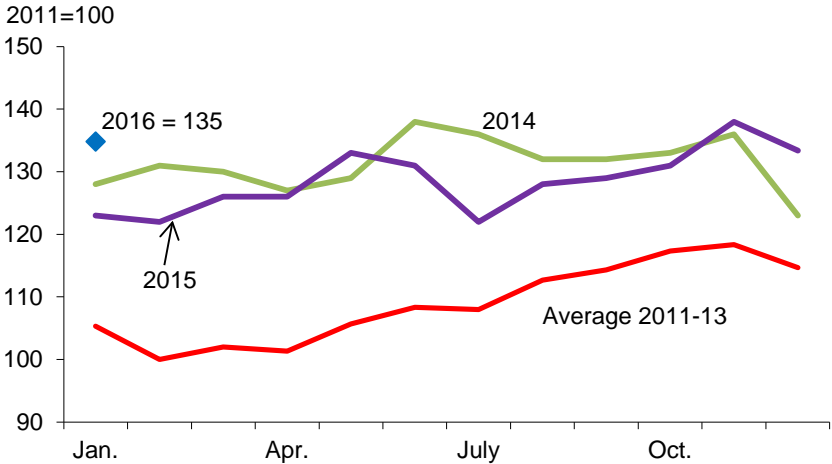
## Grower Price Index for Fruit and Nuts Starts Strong in 2016

Grower prices in 2016 began the year fairly strong, denoted by the higher grower price index for fruit and nuts in January. At 135 (2011=100), the index was up from both the January 2015 index of 123 and January 2014 index of 128 and above the 2011-13 average index for the month (fig. 1). Higher prices for apples, strawberries, pears, grapefruit, and lemons more than offset the lower orange prices, boosting the overall index (table 1).

Reduced apple and pear supplies following smaller harvests last year kept grower prices strong throughout last fall and into early 2016. Year-over-year gains in fresh apple prices were notable beginning in October 2015, likely as lingering 2014/15 storage apple supplies were finally cleared out over the summer. In the fresh pear market, average grower prices remained above year-ago levels since the start of the 2015/16 season in July, also showing month-to-month increases that led monthly prices to reach record levels from August through January. Price increases for apples soared to as much as 43 percent above year-ago levels in December 2015 and January 2016, with the average price of \$0.453 per pound in January being a historical high by far for the month. Passed the season's half-way mark, fresh-apple holdings as of March 1, 2016 were 22 percent below the same time last year, according to the U.S. Apple Association. In addition to overall reduction in supplies, limited stocks of large-size fruit due to above-average temperatures and dry conditions in Washington State last summer will continue to hold fresh-apple prices strong for the remainder of the season. Similarly, tighter pear supplies well past the peak marketing season will keep fresh pear prices strong through the next few months.

Strawberry demand outweighed supplies as rainy and cold weather hampered winter supplies in Florida and early-season production in California. Reduced import volumes from Mexico, also a major source of winter strawberries for the United

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



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

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

Commodity	Average 2011-13		December		January		Year-to-year change*	
	December	January	2014	2015	2015	2016	December	January
	-----Dollars per box-----						Percent	
Citrus fruit: <sup>1/</sup>								
Grapefruit, all	7.86	7.06	8.92	10.79	7.03	10.05	21.0	43.0
Grapefruit, fresh	10.91	10.43	12.49	15.14	10.90	15.20	21.2	39.4
Lemons, all	16.47	10.68	21.15	24.02	18.53	22.77	13.6	22.9
Lemons, fresh	22.26	17.25	34.69	36.13	32.84	33.63	4.2	2.4
Oranges, all	7.97	7.85	9.43	9.71	9.35	9.30	3.0	-0.5
Oranges, fresh	12.74	11.48	18.80	19.02	17.26	16.98	1.2	-1.6
	-----Dollars per pound-----							
Noncitrus fruit:								
Apples, fresh <sup>2/</sup>	0.341	0.278	0.318	0.454	0.316	0.453	42.8	43.4
Grapes, fresh <sup>2/</sup>	0.595	--	0.840	1.035	--	--	23.2	--
Peaches, fresh <sup>2/</sup>	--	--	--	--	--	--	--	--
Pears, fresh <sup>2/</sup>	0.292	0.241	0.351	0.407	0.363	0.424	16.0	16.8
Strawberries, fresh	2.230	1.840	2.090	1.930	1.350	1.950	-7.7	44.4

\* Previous 3-year average price for noncitrus fruit calculated for the years 2010-12 because no monthly prices were reported for these commodities after the first quarter of 2013 and through the first quarter of 2014.

-- Insufficient number of reports to establish an estimate.

<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).

Prices as sold for other States.

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

States, further depressed supplies in the market early this year, contributing to the significant price boost in January. Despite some recent rain storms, harvest in California is picking up and will dominate the U.S. market this spring, leading to seasonal weakening in prices. Reduced acreage, however, could result in lower overall production, which will likely keep prices this spring and into the summer relatively strong compared with last year.

In the citrus market, grapefruit and lemon prices have held strong relative to previous-year levels through most of last fall and into early 2016 due to strong demand and diminished supplies. Citrus supplies remain low in Florida as State-wide production continues to be negatively impacted by long-run disease pressures, particularly from citrus greening, and because of some wet and cold temperatures this winter that have slowed harvest thus far. Reduced grapefruit supplies in California also aided higher fresh grapefruit prices to date. As the largest source for U.S. fresh-market oranges, however, increased supplies from California have pushed down fresh orange prices, with the January average price falling almost 2 percent from the same time a year ago.

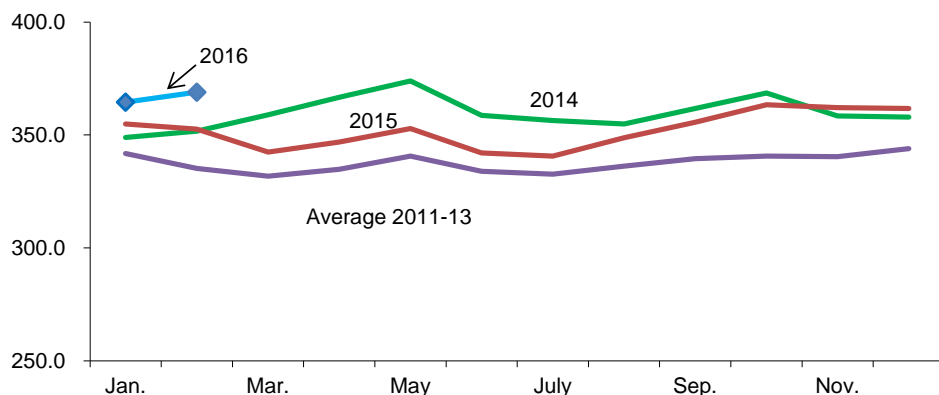
### ***Consumer Price Index for Fresh Fruit Also Strong Into 2016***

The Consumer Price Index (CPI) for fresh fruit in January 2016, at 364.5 (1982-84=100), rose 3 percent from the January 2015 CPI (fig. 2). This was the highest January CPI for fresh fruit since 1989. The index continued to show year-over-year gains in February, up 5 percent from the February 2015 CPI and strengthening to 369.0, also the highest February fresh-fruit CPI since 1989. Boosting the CPI during the first 2 months of 2016 were higher U.S. retail prices for lemons, Red Delicious apples, strawberries and Thompson seedless grapes, based on data from the U.S. Department of Labor, Bureau of Labor Statistics (BLS) (table 2).

Tighter apple supplies in the U.S. market are driving up apple prices to consumers. The January and February CPI for apples, as reported by BLS, also showed

Figure 2  
Consumer Price Index for fresh fruit

1982-84=100



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

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

Commodity	Unit	2015		2016		2015-16 change	
		January	February	January	February	January	February
		--- Dollars ---		--- Dollars ---		--- Percent ---	
Fresh:							
Navel oranges	Pound	1.195	1.185	1.196	1.194	0.1	0.8
Grapefruit	Pound	1.037	1.026	1.021	0.985	-1.5	-4.0
Lemons	Pound	1.860	1.868	1.956	1.922	5.2	2.9
Red Delicious apples	Pound	1.345	1.350	1.450	1.441	7.8	6.7
Bananas	Pound	0.583	0.591	0.581	0.573	-0.3	-3.0
Peaches	Pound	--	--	--	--	--	--
Strawberries <sup>1/</sup>	12-oz. pint	2.454	2.090	2.920	3.149	19.0	50.7
Thompson seedless grapes	Pound	3.209	3.006	3.535	3.614	10.2	20.2
Processed:							
Orange juice, concentrate <sup>2/</sup>	16-fl. oz.	2.732	2.734	2.731	2.752	0.0	0.7
Wine	liter	12.912	12.370	12.180	12.233	-5.7	-1.1

-- Insufficient marketing to establish price.

<sup>1/</sup> Dry pint.

<sup>2/</sup> Data converted from 12-fluid-ounce containers.

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

increases from the previous year, indicative that, in addition to the Red Delicious variety, other apple varieties are experiencing strong prices.

Reduced fresh-grape imports from Chile, which dominate the U.S. winter market for fresh grapes, are providing a boost to fresh-grape retail prices. From December 2015 to January 2016, imports from Chile dropped 22 percent in volume relative to the same period the previous year. USDA's Agricultural Marketing Service (AMS) data show cumulative grape shipments from Chile to the United States through early March 2016 continue to be down significantly, and advertised retail prices in March (through the first 3 weeks) averaging \$0.25 to \$0.35 per pound more than the same time last year for white, red, and black seedless grapes.

Strawberry supplies remained tight through February—a month when strawberry retail sales typically spike because of Valentine's Day. Transport of produce supplies, in general, was disrupted by a major snow storm that swept across many

eastern States in February. The overall lack of supplies boosted strawberry prices above year-ago levels and led to further strengthening from January to February. BLS data show the average retail price in the United States increased from \$2.92 per 12-ounce pint in January to \$3.15 in February. AMS data on national advertised retail prices show a different pattern, with prices averaging \$2.85 per 1-pound package in January and actually declining to \$2.63 in February and \$2.28 during the first two weeks in March. Weakening of prices in March likely stemmed from increased late-season supplies from Florida and Mexico coinciding with some early-season California production. Presently, winter strawberry supplies from Florida and Mexico have already ended while California supplies are expected to continue to build up for the spring and summer markets, suggesting further seasonal price declines in the next few months, barring any adverse weather affecting production. As with January and February, however, there is potential for strawberry prices to continue higher relative to a year ago in the coming months as California supplies may be constrained by a marked reduction in acreage.

Banana retail prices fell below a year ago in January and February on increased imports. The year begun with higher January import volumes from Ecuador and Costa Rica, but those from Guatemala, Honduras, and Colombia lagged. More recent data from AMS indicate that shipment volumes from these other major suppliers are making a rebound, with increased volumes thus far through early March, supporting the lower prices.

### ***Lower 2015/16 Total Citrus Harvest Anticipated***

The current U.S. citrus crop forecast for 2015/16 is at 7.95 million tons, down more than 12 percent from the 2014/15 final utilized total of 9.02 million tons, and down almost 16 percent from 2013/14 (table 3). This forecast is 4 percent lower than the initial NASS forecast of 8.30 million tons in October 2015. The U.S. all-orange production forecast is now 5.36 million tons, down 16 percent from the 2014/15 final utilization and down 7 percent from the initial forecast for this season. Other major citrus crops are also expected to be reduced in 2015/16, except for tangerine and mandarin production.

Grapefruit production experienced another year of decline in 2015/16, dropping to 807,000 tons, 7 percent below last season and 23 percent smaller than the 2013/14 level of 1.05 million tons. Increased production is expected for mandarins/tangerines, with an 8 percent gain relative to 2014/15 and a near 24-percent increase in comparison to 2013/14. Lemon production is forecasted to decrease by 4 percent relative to the previous season, but will be slightly above (close to 5 percent) the production levels of 2013/14. The lemon and tangerine crop production levels have been upwardly revised from the initial forecast in October.

### ***California Orange Production Increased Slightly During 2015/16***

The March issue of the NASS *Crop Production* report forecasts the 2015/16 California all-orange production at 52.5 million boxes (2.1 million tons) —a 7-percent increase over last year. The forecast is unchanged from the initial forecast back in October 2015. The navel crop is estimated at 1.68 million tons, up 6 percent from last year. Survey data from NASS's Pacific Regional Office September release of the *2015/16 California Navel Orange Objective Measurement* report showed that the estimated average fruit set per tree in the Central Valley is 412, up from 333 in 2014/15 and higher than the previous 5-year average of 336. The estimated average number of trees per acre is expected to marginally increase from 134 to 135. However, acreage is forecasted to decline to 122,000 acres from the 124,000 acres in 2014/15. Early rains in February slowed the harvesting of all citrus in California, including oranges.

In early March, NASS's Pacific Regional Office released the *2015/16 California Valencia Orange Objective Measurement* report. According to the report, Valencia orange-bearing acreage declined to 32,000 acres, from 34,000 acres the prior season; however, average trees per acre remained steady at 123. After several years of drought in many areas, adequate rainfall this growing season benefitted fruit set while fruit size is reported to be just average. The average fruit set per tree increased 28 percent to 696 fruit per tree and was well above the previous 5-year average of 607. More fruit on the trees and average fruit size provides the basis for the forecast increased production. However, high winds and low humidity in Ventura County, the State's fourth largest citrus-producing county, caused Valencia orange trees to lose oranges. These adverse conditions may lead to a downward revision of production numbers later in the season.

Table 3--Citrus: Utilized production, 2013/14, 2014/15 and forecast for 2015/16<sup>1</sup>

Crop and State	Utilized		Forecast for	Utilized		Forecast for
	2013/14	2014/15	2015/16 as of 03-2016	2013/14	2014/15	2015/16 as of 03-2016
	---- 1,000 boxes <sup>2</sup> ----			----1,000 tons ----		
Oranges:						
Early/mid-season and navel:						
California	38,700	39,500	42,000	1,548	1,580	1,680
Florida <sup>3</sup>	53,300	47,400	36,000	2,399	2,133	1,620
Texas	1,401	1,170	1,130	60	50	48
Total <sup>4</sup>	93,401	88,070	79,130	4,007	3,763	3,348
Valencia:						
California	10,800	9,500	10,500	432	380	420
Florida	51,400	49,400	35,000	2,313	2,223	1,575
Texas	376	282	280	16	12	12
Total	62,576	59,182	45,780	2,761	2,615	2,007
All oranges	155,977	147,252	124,910	6,768	6,378	5,355
Grapefruit:						
California	3,850	3,800	3,700	154	152	148
Florida	15,650	12,900	10,700	665	548	455
Texas	5,700	4,250	5,100	228	170	204
All grapefruit	25,200	20,950	19,500	1,047	870	807
Tangerines and mandarins:						
Arizona	150	170	--	6	7	--
California	14,700	18,200	21,000	588	728	840
Florida	2,900	2,270	1,400	138	108	67
All tangerines and mandarins	17,750	20,640	22,400	732	843	907
Lemons:						
Arizona	1,800	2,000	1,600	72	80	64
California	18,800	20,500	20,000	752	820	800
All lemons	20,600	22,500	21,600	824	900	864
Tangelos						
Florida	880	680	400	40	31	18
All citrus <sup>4</sup>	220,407	212,022	188,810	9,411	9,021	7,951

-- = Discontinued.

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

<sup>2</sup>Net pounds per box: oranges in California (CA)-80 (75 prior to the 2010-2011 crop year), Florida (FL)-90,

Texas (TX)-85; grapefruit in CA-80 (67 prior to the 2010-11 crop year), FL-85, TX-80; lemons-80 (76 prior to the 2010-11 crop year); tangelos-90; tangerines and mandarins in AZ and CA-80 (75 prior to the 2010-11 crop year), FL-95.

<sup>3</sup>Includes Temples. <sup>4</sup>Totals may not be equivalent to the sum of the categories due to rounding.

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

Despite the forecasted increase in the navel orange crop, November-January prices in 2015/16 have averaged \$19.17 per 80-pound box, up slightly from \$19.07 during the same period in 2014/15. Prices in November remained above last season at \$21.20 per 80-pound box (table 4). This price is up 5 percent from the previous November, and the highest price received for fresh California oranges since at least 1980 for that month. Prices declined in December, but remained almost 1 percent higher than the previous year's price. Slow movement to market assisted in keeping prices up, particularly as citrus fruit can be stored on tree. According to AMS, movement of fresh oranges has been sluggish, with shipments through mid-March down 8 percent from the same period last year. Nevertheless, the projected increase in production this season, coupled with current high volume of fresh orange imports, should result in downward pressure on prices. Prices in January 2016 already dipped 5 percent below the same period last year.

Table 4--Fresh oranges: Average equivalent on-tree prices received by California growers, 2010/11-2015/16

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars/box <sup>1</sup> -----					
November	15.31	15.52	15.20	18.17	20.14	21.20
December	13.75	13.53	12.90	15.97	19.24	19.40
January	12.35	11.73	11.50	21.77	17.84	16.90
February	9.65	11.13	10.10	23.67	16.74	
March	8.90	10.84	10.13	23.41	16.14	
April	9.22	13.81	11.45	23.90	16.60	
May	10.63	15.47	14.05	23.70	16.90	
June	11.81	14.92	15.31	20.74	15.85	
July	9.85	11.03	11.90	18.17	14.20	
August	10.75	10.23	12.30	17.67	16.34	
September	11.45	12.53	14.80	18.27	20.04	
October	11.15	12.13	15.30	15.77	21.24	
Nov.-January average	13.80	13.59	13.20	18.64	19.07	19.17

<sup>1</sup>75-lb box prior to 2010/11; 80-lb box thereafter.

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

Historically, the bulk of U.S. fresh orange exports occur in the spring. The slower movement to market does not appear to be affecting exports. Fresh orange exports season to date (November through January) are up 4 percent from the same time last season. After declining for three consecutive years, exported volume rebounded in 2014/15 to 572,014 tons—a 4-percent increase from the 2013/14 season. Canada and South Korea accounted for more than half of the total export volume. On the other hand, U.S. imports of fresh oranges experienced uninterrupted growth since 2011/12. This trend accelerated in the most recent months (November through January), with a 37 percent increase in volume imported since the same period of the last season. Imports from Mexico have increased faster than those from other major suppliers like Chile and South Africa.

### ***Florida Orange Production Continues To Decline***

Florida's 2015/16 all-orange crop is forecast at 3.2 million tons, down 27 percent from last season's 4.4 million tons. Currently, the non-Valencia orange production is forecast at 1.6 million tons, down 24 percent from the 2014/15 level, and nearly 32 percent below the 2.4-million-ton 2013/14 harvest. The non-Valencia crop has been revised slightly downward since the October 2015 initial production forecast of 1.8 million tons. The Valencia crop has faced similar downward revisions from the initial estimate of 1.8 million tons, and is currently estimated at 1.6 million tons. According to the Florida Citrus Administrative Committee (FCAC)'s March 20 *Utilization Report*, all early- and mid-season oranges, as well as navels, were already fully harvested. Harvest of Valencia oranges is also faster than previous seasons, with only 60.4 percent of fruit still on tree compared with 93.2 percent for the same period last season.

With lower juice yields projected and the decline in Florida's orange crop, a majority of which is destined for processing, ERS forecasts orange juice production to decline 25 percent to reach 458 million single-strength equivalent (sse) gallons



(table 5). Despite larger beginning stocks, these anticipated declines in orange juice production and imports would be enough to drive down overall supplies in the United States in 2015/16. ERS forecasts orange juice imports to decrease to 414 million sse gallons. If realized, this would represent a 9-percent drop from a season ago. Already, year-over-year declines in imports have been reported in 3 out of the 4 months of this marketing season. Despite the decline in production, orange juice exports this season are projected to increase 49 percent, and reach 165 million sse gallons. Within the context of reducing ending stocks and decreasing imports, domestic consumption is projected to decrease to 759 million sse gallons. Per capita consumption is forecast to drop to 2.35 gallons per person for the 2015/16 season. The projected decrease in consumption in 2015/16 is attributed to a declining domestic market and supply-side factors.

The Florida Department of Citrus's (FDOC) Nielsen retail sales data continues to exhibit a downward trend in orange juice sales through February. This is confirmed by comparing not-from-concentrate (NFC) orange juice peak sales during the month of January for the last 4 years (fig. 3). On the other hand, price per gallon has recently increased to \$7.60 in February of 2015/16—up 2 percent since November

Table 5 --United States: Orange juice supply and utilization, 1986/87 to present

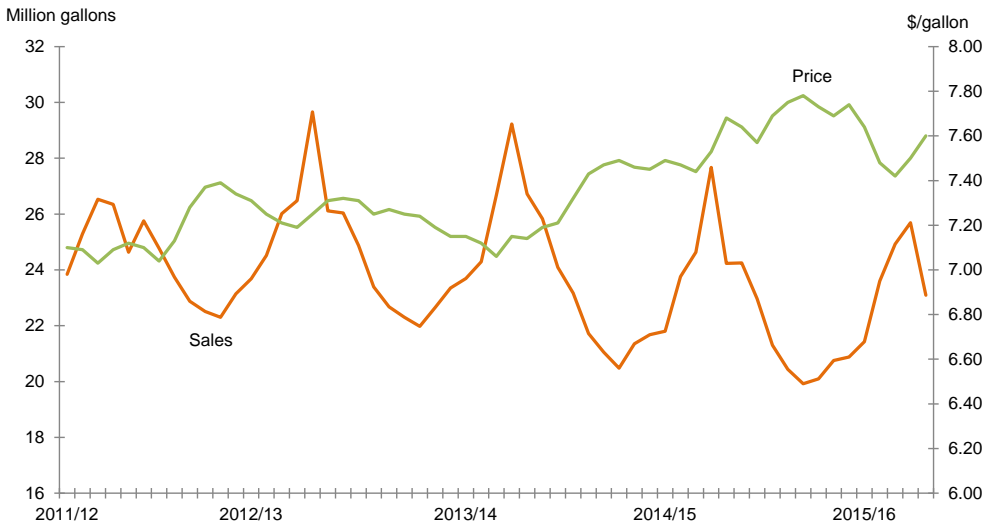
Season <sup>1</sup>	Beginning stocks	Production	Imports	Supply	Exports	Domestic consumption	Ending stocks	Per capita consumption
	-----Million SSE gallons <sup>2</sup> -----							Gallons
1986/87	202	773	396	1,371	72	1,099	200	4.55
1987/88	200	899	296	1,394	89	1,095	210	4.49
1988/89	210	961	272	1,443	72	1,140	231	4.63
1989/90	231	646	350	1,227	89	914	223	3.68
1990/91	223	868	320	1,411	94	1,161	156	4.61
1991/92	156	921	286	1,363	107	1,086	170	4.26
1992/93	170	1,207	324	1,701	114	1,337	249	5.18
1993/94	249	1,133	405	1,787	107	1,320	360	5.04
1994/95	360	1,257	198	1,815	117	1,264	434	4.77
1995/96	434	1,271	261	1,967	119	1,425	423	5.32
1996/97	423	1,437	256	2,116	148	1,397	571	5.15
1997/98	571	1,555	281	2,407	150	1,720	537	6.27
1998/99	537	1,236	350	2,124	147	1,447	530	5.21
1999/00	530	1,493	339	2,362	146	1,571	645	5.59
2000/01	645	1,387	258	2,291	123	1,470	698	5.18
2001/02	698	1,433	189	2,321	181	1,452	688	5.06
2002/03	688	1,250	291	2,229	103	1,419	707	4.90
2003/04	707	1,467	222	2,395	123	1,451	822	4.96
2004/05	822	970	358	2,149	119	1,407	623	4.77
2005/06	623	986	299	1,909	138	1,312	459	4.41
2006/07	459	889	399	1,747	123	1,248	376	4.15
2007/08	376	1,156	404	1,935	136	1,152	647	3.80
2008/09	647	1,060	317	2,025	125	1,221	679	3.99
2009/10	679	840	328	1,848	147	1,143	557	3.70
2010/11	557	919	265	1,742	210	1,140	391	3.67
2011/12	391	959	223	1,574	154	971	449	3.10
2012/13	449	847	421	1,717	159	1,024	534	3.25
2013/14	534	663	418	1,615	158	974	483	3.07
2014/15	483	610	458	1,551	111	937	502	2.93
2015/16F	502	458	414	1,374	165	759	450	2.35

F= forecast. <sup>1</sup>Season begins in October of the first year shown as of 1998/99, prior-year season begins in December.

<sup>2</sup>SSE = single-strength equivalent.

Source: USDA, Economic Research Service.

Figure 3  
**Monthly NFC orange juice retail sales and price, 2011/12-2015/16**



NFC = Not from concentrate.  
 Source: Florida Department of Citrus, www.fdocgrower.com.

Table 6--Processing oranges: Average equivalent on-tree prices received by Florida growers, 2010/11-2015/16

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars per 90-lb box -----					
October	--	--	--	--	--	3.60
November	5.96	8.10	5.38	7.08	5.05	4.60
December	6.77	8.60	5.82	7.90	6.90	6.30
January	6.89	8.80	6.00	8.20	7.75	7.21
February	7.20	9.60	6.17	8.20	8.16	
March	9.16	10.90	8.40	10.35	10.30	
April	9.50	11.20	8.60	10.75	10.50	
May	9.70	11.10	8.70	10.95	10.60	
June	10.10	--	8.80	11.45	10.60	
<b>Oct.-January average</b>	<b>6.54</b>	<b>8.50</b>	<b>5.73</b>	<b>7.73</b>	<b>6.57</b>	<b>5.43</b>

-- = Insufficient data to establish price.

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

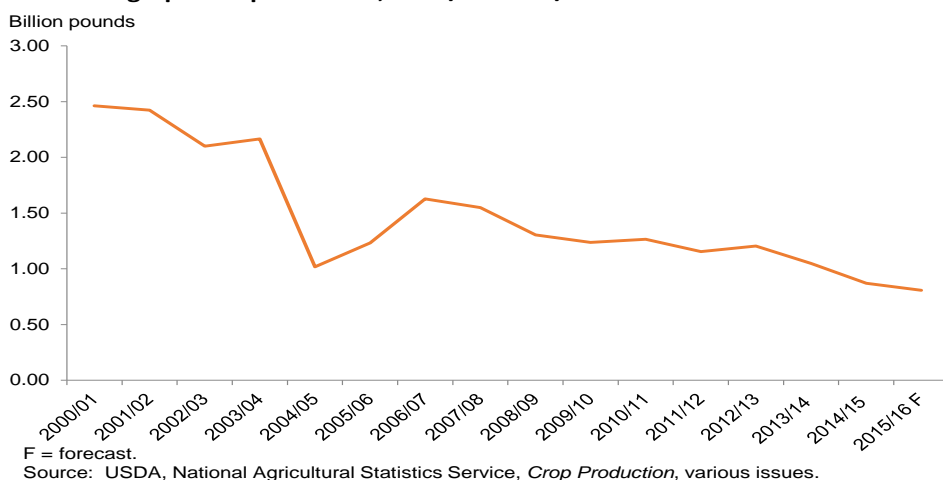
of last year. Prices for the season so far are averaging \$7.53 per gallon, compared with \$7.63 per gallon last year.

Grower prices for Florida processing oranges averaged \$5.43 per box this season through January, 17 percent lower than the same period in 2014/15 (table 6). Despite starting off the season with very weak prices per box, each month has gained some ground, and prices are now more in line with previous seasons.

### ***Forecasted Decline in Grapefruit Production for 2015/16***

Total U.S. grapefruit production is projected down 7 percent to 807,000 tons (or approximately 1.61 billion pounds) in 2015/16, from 870,000 tons (or 1.74 billion pounds) in 2014/15 (fig. 4). The current estimate is also down from the initial October forecast of 823,000 tons, with downward revisions for California and Florida.

Figure 4  
**Total U.S. grapefruit production, 2000/01-2015/16**



The season average U.S. grower price for fresh grapefruit through January 2016 was \$15.80 per box, 22 percent above the same period last season (table 7). Prices in 2015/16 (October through January) have been consistently higher than those for the same months during the last four previous seasons. These higher prices are likely a reflection of decreasing domestic production.

The FCAC’s utilization report through mid-March shows that 6 percent of the Florida grapefruit crop is waiting to be harvested, compared to 19 percent remaining on tree for the same period last year. However, movement of fresh grapefruit reported by AMS is down 22 percent through the mid-March when compared to the same period last year, which supports the current high prices.

The lower overall grapefruit production, reflecting mostly losses from Florida production, is expected to reduce grapefruit juice production in 2015/16. Currently, ERS forecasts a 6-percent decline in grapefruit juice production to reach 43 million sse gallons (table 8). ERS also anticipates that juice imports will decline slightly to 280,000 gallons sse. With beginning stocks down 32 percent this season, overall supply is anticipated down 18 percent to 68 million sse gallons. Season-to-date exports have been substantially lower, and the decline in supplies lends to a forecasted decrease in exports to 8 million sse gallons, down 35 percent when compared with last season. This decline in exports will allow some building up in ending stocks from the relatively low volume in 2014/15. ERS forecasts grapefruit juice ending stocks in 2015/16 at 27 million sse gallons, up from last season’s 25 million sse gallons.

Total consumption is expected down to 33 million sse gallons, representing about 0.1 gallons of grapefruit juice per person. Retail sales are currently down 5 percent, with juice prices unchanged over the same period, according to FDOC’s February Nielsen sales report. As the season continues and fruit moves to processors, increasing domestic availability could place downward pressure on prices, which could bolster consumption.

Table 7--Fresh grapefruit: Average equivalent on-tree prices received by U.S. growers, 2010/11-2015/16

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars/box <sup>1</sup> -----					
October	8.08	10.44	16.28	7.96	15.42	--
November	15.26	10.09	11.40	12.63	12.99	17.05
December	10.91	10.14	9.87	12.73	12.49	15.14
January	10.56	10.03	10.70	13.07	10.90	15.20
February	9.50	10.29	9.16	11.73	10.43	
March	10.31	11.64	7.73	11.89	10.33	
April	11.05	12.67	9.11	10.85	9.93	
May	10.45	13.49	8.26	8.70	--	
Oct.-Jan. average	11.20	10.18	12.06	11.89	12.95	15.80

<sup>1</sup>The net weight of a grapefruit box for Florida=85 lbs, for Arizona and California=80 lbs (67 prior to the 2010-11 crop year), and for Texas=80 lbs.

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

Table 8--Grapefruit juice: Supply and utilization 1991/92-2015/16

Year <sup>1</sup>	Supply				Utilization			
	Production	Imports	Beginning	Total	Ending	Exports	Consumption	
			stocks				stocks	Total
----- Million SSE gallons <sup>2</sup> -----								Gallons
1991/92	119.5	4.2	41.6	165.3	38.6	23.2	103.5	0.40
1992/93	186.3	1.9	38.6	226.8	70.5	22.0	134.3	0.52
1993/94	168.5	0.9	70.5	239.8	59.4	17.4	163.0	0.62
1994/95	190.8	0.9	59.4	251.1	72.0	22.1	157.0	0.59
1995/96	171.5	0.5	72.0	244.0	66.2	26.8	151.0	0.56
1996/97	192.0	0.2	66.2	258.3	86.3	21.3	150.8	0.55
1997/98	166.0	0.2	86.3	252.5	67.8	18.1	166.6	0.60
1998/99	170.9	1.3	67.8	240.0	54.3	24.3	161.3	0.58
1999/2000	203.4	5.0	54.3	262.7	81.9	32.9	147.8	0.52
2000/01	183.3	0.9	81.9	266.2	74.8	39.0	152.3	0.53
2001/02	179.4	0.3	74.8	254.5	83.6	36.3	134.7	0.47
2002/03	140.5	0.4	83.6	224.5	71.7	38.3	114.4	0.39
2003/04	146.7	0.5	71.7	218.9	65.5	42.3	111.1	0.38
2004/05	49.0	11.5	65.5	125.9	35.5	23.9	66.5	0.22
2005/06	80.8	5.6	35.5	121.9	42.0	18.7	61.2	0.21
2006/07	121.4	0.9	42.0	164.4	57.9	20.2	86.3	0.29
2007/08	109.2	0.3	57.9	167.4	59.8	16.1	91.6	0.30
2008/09	83.6	0.5	59.8	143.9	47.8	15.6	80.5	0.26
2009/10	76.9	0.6	47.8	125.3	44.8	12.8	67.7	0.22
2010/11	83.9	0.4	44.7	128.9	36.6	15.9	76.4	0.24
2011/12	77.0	0.5	36.6	114.1	40.1	15.1	58.9	0.19
2012/13	75.0	0.8	40.1	115.9	37.9	14.6	63.4	0.20
2013/14	64.7	0.2	37.9	102.8	40.4	12.0	50.4	0.16
2014/15	46.9	0.3	36.0	83.1	24.6	10.8	47.7	0.15
2015/16 F	42.9	0.3	24.6	67.8	27.0	8.0	32.8	0.10

F = forecast. <sup>1</sup>Marketing season October-September. <sup>2</sup>SSE = single-strength equivalent.

Source: USDA, Economic Research Service.

Table 9--Processing grapefruit: Average equivalent on-tree prices received by Florida growers, 2010/11-2015/16

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars per 85-lb box -----					
October	--	3.00	-0.47	--	-0.04	--
November	2.06	3.82	-0.19	1.36	-0.01	1.82
December	2.43	3.59	0.40	2.27	0.03	2.74
January	2.90	3.91	3.23	2.58	1.65	4.27
February	3.33	4.34	3.55	2.95	1.35	
March	3.06	4.41	3.47	2.91	2.34	
April	2.78	0.20	3.25	2.48	2.70	
May	3.48	--	--	--	--	
Oct.-Jan. average	2.46	3.58	0.74	2.07	0.41	2.94

-- = Insufficient data to establish price.

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

Florida grower prices for processing grapefruit are up from last season, which was characterized by lower and even negative prices (table 9). Prices in November through January 2016 averaged \$2.94 per 85-lb box—with prices reaching \$4.27 in January, very strong relative to previous years for the month. Prices typically strengthen during the latter half of the year as supplies decline seasonally. Despite the higher processing grapefruit grower prices, FDOC reported that season-to-date grapefruit juice retail sales were lower and retail prices averaging only 0.2 percent above last season.

U.S. exports of fresh grapefruit have been declining for the last four seasons, with 151,515 tons exported in the 2014/15 season, down 37 percent from 2011/12. This downward trend continued in November through January of 2015/16—down by 8 percent when compared to the same period in the previous season. Japan and Canada continue to be the two major export markets for U.S. grapefruits, but exports to these two countries have been mostly declining since 2011/12. The early months of 2015/16 show a 45-percent increase in U.S. grapefruit imports relative to the same period last season. Mexico has been the most important supplier; however imports from South Africa have gained momentum in the past 2 years.

### ***Forecasted Lemon Production Drops Slightly for 2015/16 Season***

The U.S. lemon crop is anticipated down 4 percent to 864,000 tons from the 2014/15 final utilized total of 900,000 tons. Despite expected losses in production, the current lemon harvest remains 5 percent above the 2012/13 harvest (table 3). Both Arizona and California have seen a decrease in production this season. Production in Arizona is down 20 percent, while California output is down 3 percent. With domestic production lower, fresh lemon grower prices in 2015/16 are holding up to the strong levels achieved in 2014/15, season to date. The average price for the same season through January is \$29.90 per box, unchanged from the 2014/15 average over the same period (table 10). AMS reports that movement is up 50 percent this season through mid-March relative to last year, suggesting strong market demand that is also aiding grower prices. Supply increases in California going into the peak harvest period in the spring will likely weaken prices relative to earlier in the season, but prices are likely to remain strong compared with the previous season.

Table 10--Fresh lemons: Average equivalent on-tree prices received by U.S. growers, 2010/11-2015/16

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars per box <sup>1</sup> -----					
August	25.43	25.09	19.15	26.86	33.68	34.95
September	25.83	22.59	17.75	27.85	37.40	31.02
October	25.43	19.59	19.36	32.77	38.47	36.18
November	26.73	19.09	17.36	26.65	29.54	30.46
December	19.03	19.79	16.46	23.52	21.15	24.02
January	15.13	21.29	10.65	21.17	18.53	22.77
February	12.63	18.50	7.28	21.69	13.44	
March	12.93	17.89	7.35	20.59	16.14	
April	14.83	18.89	8.83	22.39	21.65	
May	16.13	21.29	14.77	24.54	31.76	
June	17.93	22.29	15.89	29.91	38.51	
July	22.43	20.59	18.35	40.40	37.34	
Aug.-Jan. average	22.93	21.24	16.79	26.47	29.80	29.90

<sup>1</sup>Beginning in 2010/11, boxes are 80 lb. Prior to 2010/11, box size was 76 lb.

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

Exports of fresh lemons expanded from 110,951 tons in 2011/12 to 141,945 tons in 2013/14. During the 2014/15 season, exports declined by 12 percent to around 112,841 tons. The numbers for the current season (November through January) reveal a 9-percent decline over the same period last season. Similar to oranges, the volume of lemons imported remains smaller than their exports. However, they have experienced a period of uninterrupted growth since 2011/12, and reached 90,987 tons in 2014/15 season. Increased imports from Mexico and Chile, important lemon suppliers for the U.S. market, are boosting import volumes season to date.

### ***Largest Tangerines Harvest on Record Forecasted for 2015/16 Season***

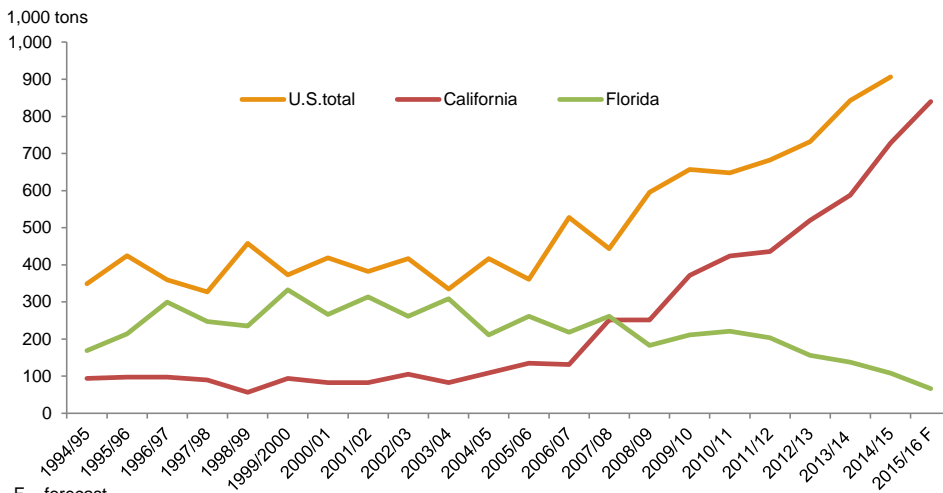
Total production of U.S. tangerines/mandarins is estimated at 907,000 tons, an 8-percent crop gain since the previous year and if realized, will be the largest harvest on record (fig. 5). Production gains out of California are making up for declining production in Florida. As of March's NASS *Crop Production* report, California's crop is estimated at 840,000 tons, up 15 percent from last season, resulting in yet another record harvest, if realized. Florida's tangerine production is expected down 61 percent year-over-year to total 67,000 tons—the lightest crop since 1990/91, if realized.

A boost in overall production will likely put downward pressure on grower prices this season (table 11). No national-level prices have been reported yet for the 2015/16 season. According to AMS, movement of Florida tangerines has slowed down significantly, with shipments through mid-March down 48 percent from the previous season. From October-January, prices in Florida have averaged \$25.26 per 95-lb box, up from \$17.55 over the same months during the 2014/15 season.

Volume of tangerines exported continues to fluctuate. The 2013/14 season registered a lower exported volume with 19,468 tons, which was followed by a 4 percent increase in the 2014/15 season. Tangerine imports have reached a record number during the 2014/15 season at 5,068 tons, mostly from Mexico and Peru.

During the present season, imports reached a significant number in January (1,390 tons), which is the second highest imported volume in a single month since November 2011. Sharply higher imports from Mexico have boosted overall import volumes for this season to date.

Figure 5  
U.S., California, and Florida total tangerine production, 1994/95-2015/16



F = forecast.  
Source: USDA, National Agricultural Statistics Service, *Crop Production*.

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

Month	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
	----- Dollars per box <sup>1</sup> -----					
October	11.90	9.55	16.55	--	--	--
November	34.53	21.99	26.36	31.48	--	--
December	30.30	26.88	28.26	31.37	--	--
January	21.41	19.18	23.18	25.17	18.55	--
February	18.51	21.95	24.84	30.53	--	--
March	15.99	26.82	28.52	31.26	--	--
April	18.66	--	--	--	--	--
May	--	--	--	--	--	--
Oct.-Jan. average	24.54	19.40	23.59	29.34	18.55	

-- = insufficient data to establish price. <sup>1</sup>The net weight of a tangerine box for Florida: 95 lbs, for Arizona and California: 80 lbs (75 prior to the 2010-11 crop year).

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

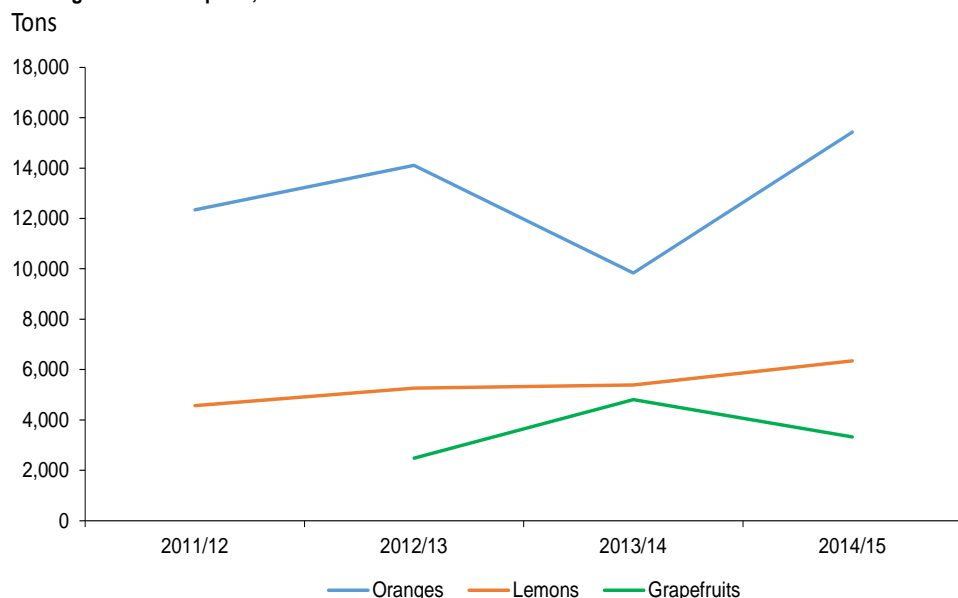
## Exports of Organic Citrus Trending Upward

Since 2011, USDA, Foreign Agricultural Service (FAS) has been tracking exports of three organic citrus products: oranges, lemons, and grapefruits. Imports of organic citrus are not tracked. In terms of exported volume, oranges are the leading product, and the 2014/15 season marked a record for exports of organic oranges, almost 15,432 tons. This represented a 57-percent increase relative to the 2013/14 season. However, most recent numbers (November through January) reveal a marked drop, with volume down 70 percent from the same months last season.

The exports of organic lemons have experienced continuous and robust growth since 2011/12, with a season average growth of 12 percent. More recent numbers reveal a slowdown in growth, with 1,456 tons exported in November through January in the current season in comparison to 3,097 tons in 2014/15.

The export markets for organic grapefruits have experienced some volatility in the past three seasons. Exports totaled 2,248 tons in 2012/13, and went up to 4,362 tons in the following season, but decreased 31 percent in the last season (fig. 6). The most recent export numbers indicate a recovery with 2,072 tons already exported in the first three months of the 2015/16 season.

Figure 6  
U.S. organic Citrus exports, 2011/12-2014/15



Source: USDA, Foreign Agricultural Service, Global Agricultural Trade System.



## ***Shortage of Winter Strawberry Supplies Boost Prices***

In early 2016, movement of California strawberry supplies were sluggish, with accumulated volume for the season through early March down 41 percent from a year ago, based on weekly shipment data from AMS. Unlike last year's unusually warm and dry weather, a return to more normal weather this winter inhibited premature crop growth across California's production districts, avoiding overlapping seasons. Cool, wet conditions from the El Niño weather pattern last fall also brought some relief to the water scarcity issues affecting California agriculture, which had been one of the major reasons for strawberry acreage cutbacks in the State. The same cool, wet conditions have significantly diminished winter supplies from Florida. The volume of strawberries arriving from Mexico was also reduced. Those reductions contributed to an overall lack of supplies thus far this winter, keeping strawberry prices relatively strong.

**California strawberry acreage reduced:** Influenced by rising production costs and regulatory restraints, total strawberry acreage in California for 2016 is reported at 32,515 acres, down from 38,100 acres in 2015, according to the California Strawberry Commission's report, *2016 California Acreage Survey*. Eighty-five percent of this acreage was planted in fall 2015, with the aim of producing for the winter, spring, and summer of 2016. Fall 2015 planted acreage was reduced in all production districts (Orange County/San Diego, Oxnard, Santa Maria, Watsonville/Salinas, San Joaquin), resulting in an overall decline of 12 percent from the previous year. California's projected planted acreage for this summer, for production during fall 2016, is anticipated to be down 27 percent from last year, reflecting significant declines in the Oxnard and Santa Maria growing districts. Together, these two districts comprise a majority of the State's summer plantings; a lesser amount of acreage is planted in the Watsonville/Salinas district.

**Projected lower production in 2016 to boost prices:** With the anticipated significant decrease in California acreage and yield-per-acre assumption using the 2011-15 average, ERS projects the State's strawberry production to reach 2.3 billion pounds in 2016, down 15 percent compared to a year ago, more so if yields take a hit from less-optimal-than-normal weather for the remainder of the season. As the dominant strawberry-producing State, this projected decline in California, along with reduced winter supplies from Florida, point to an overall smaller U.S. crop in 2016, likely keeping grower prices strong through the summer and potentially translating to higher prices to consumers. While remaining above last year, prices are likely to weaken in the next few months as California supplies continue to build up for the spring and summer markets, barring any unexpected weather problems.

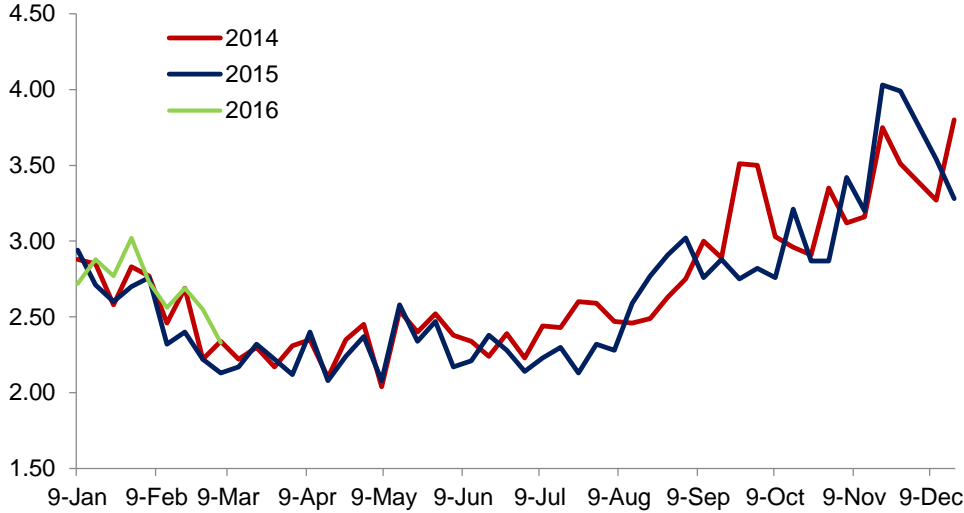
Due to low supplies, U.S. strawberry grower prices strengthened in January to an average \$1.95 per pound, increasing from \$1.93 per pound in December 2015 and 44 percent above the January 2015 average. In February, strawberry shipping-point prices were averaging more than twice the values reported in February 2015 in Central Florida, and over 30 percent higher in the Oxnard, CA growing district.

Strawberry retail prices averaged \$2.92 per 12-ounce dry pint in January, up from \$2.45 in January 2015, based on BLS data. Advertised retail prices for strawberries

at major national supermarkets in the United States were also running above a year ago through early March, with increases ranging from \$0.17 to \$0.33 per 1-lb package from the same time last year (fig. 7). In addition to the lower volumes harvested in California and Florida during the first 2 months of 2016, February supplies were dampened by a major snowstorm that swept through many eastern States, slowing movement of produce, in general, to many of these markets. Advertised retail prices averaged \$2.63 per 1-lb package in February, up from \$2.43 in February 2015.

**Fresh and frozen per capita use likely to decline:** Most strawberries produced in the United States are for fresh use with the domestic market serving as the principal outlet. Over the last 3 years, net domestic production (U.S. production minus exports) averaged 87 percent of all fresh strawberries consumed in the United States each year. Despite annual supply fluctuations, demand for fresh strawberries has generally been on an upward track, fueled by population growth, greater awareness associated with health and diet, and increased year-round availability. U.S. fresh strawberry per capita use has achieved record levels each year since 2002, reaching a peak of 7.99 pounds per person in 2013 (table 12). The last 2 years, however, have seen fresh per capita use declining slightly from this peak. Declines in domestic production in 2015 and flat production coupled with reduced imports during 2014 drove down supply availability during both years, keeping retail fresh strawberry prices at or near record levels and averaging over \$2.20 per 12-ounce pint annually. For a third straight year, per capita use may potentially remain below the 2013 high, if the projected overall reduced crop materializes, limiting availability and keeping strawberry prices high for consumers (fig 8).

Figure 7  
**U.S. retail advertised prices for strawberries averaging higher this winter**  
 \$ per 1-pound package



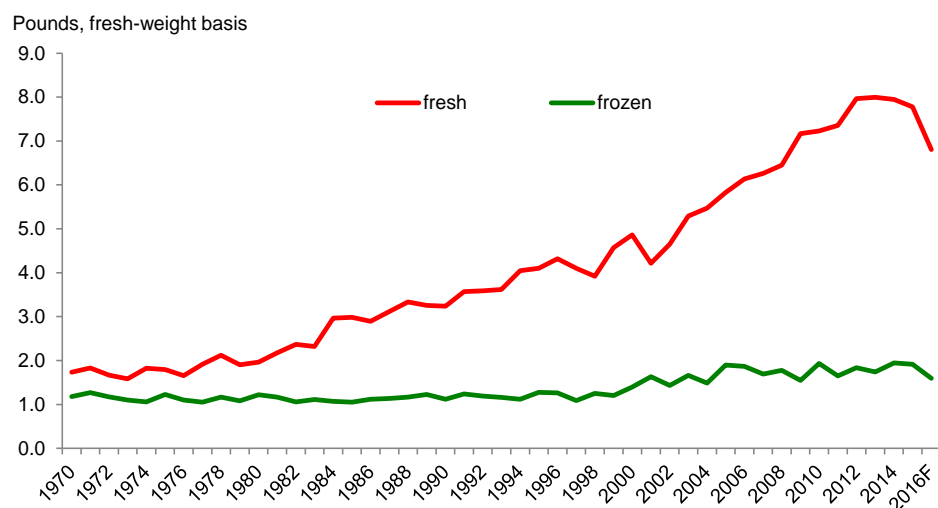
Source: USDA, Agricultural Marketing Service, *National Fruit and Vegetable Retail Report*.

Table 12--Fresh strawberries: Supply and utilization in the United States, 1980 to 2015

Year	Supply			Utilization		
	Utilized production	Imports	Total supply	Exports	Consumption	
					Total	Per capita
	----- Million pounds -----				Pounds	
1980	482.1	12.7	494.8	47.1	447.7	1.97
1981	537.5	6.7	544.2	44.4	499.8	2.17
1982	589.6	4.5	594.1	44.0	550.1	2.37
1983	585.4	5.1	590.5	46.4	544.1	2.32
1984	748.2	8.8	757.0	56.3	700.7	2.96
1985	754.1	9.6	763.7	51.5	712.2	2.99
1986	734.8	13.0	747.8	51.5	696.3	2.89
1987	780.4	33.2	813.6	57.1	756.5	3.12
1988	855.5	39.4	894.9	78.0	816.9	3.33
1989	861.6	36.0	897.6	93.0	804.7	3.25
1990	863.6	32.2	895.8	85.7	810.1	3.24
1991	968.2	31.5	999.7	95.2	904.4	3.57
1992	999.7	23.8	1,023.5	102.3	921.2	3.59
1993	1,010.8	31.4	1,042.2	102.1	940.1	3.62
1994	1,147.7	43.7	1,191.4	126.4	1,065.0	4.05
1995	1,145.6	58.8	1,204.4	111.4	1,093.1	4.10
1996	1,212.6	67.3	1,279.9	116.0	1,163.9	4.32
1997	1,201.8	31.9	1,233.7	115.8	1,117.9	4.10
1998	1,132.2	58.1	1,190.3	109.3	1,081.1	3.92
1999	1,305.2	94.8	1,400.0	124.3	1,275.7	4.57
2000	1,433.3	76.2	1,509.5	136.5	1,373.0	4.86
2001	1,259.7	70.7	1,330.4	128.1	1,202.3	4.21
2002	1,406.3	89.9	1,496.2	156.9	1,339.3	4.65
2003	1,642.4	90.3	1,732.7	194.8	1,537.9	5.29
2004	1,694.4	94.4	1,788.8	182.6	1,606.3	5.48
2005	1,811.0	122.7	1,933.7	207.6	1,726.1	5.83
2006	1,910.9	153.4	2,064.3	229.1	1,835.2	6.14
2007	1,973.3	157.7	2,131.0	240.3	1,890.7	6.26
2008	2,091.1	143.0	2,234.1	269.2	1,964.9	6.45
2009	2,288.0	187.2	2,475.2	271.8	2,203.3	7.17
2010	2,319.6	198.3	2,517.9	279.8	2,238.1	7.23
2011	2,332.4	243.5	2,575.9	279.6	2,296.4	7.36
2012	2,455.2	351.3	2,806.5	301.6	2,504.8	7.97
2013	2,508.5	330.6	2,839.1	306.3	2,532.7	7.99
2014	2,454.3	355.9	2,810.2	273.7	2,536.6	7.95
2015 <sup>1</sup>	2,459.3	314.2	2,773.5	273.6	2,499.8	7.78

<sup>1</sup> Preliminary.  
Source: USDA, Economic Research Service.

Figure 8  
U.S. strawberry per capita use likely to slip in 2016



F = forecast.  
Source: USDA, Economic Research Service.

Table 13--Frozen strawberries: Supply and utilization in the United States, 1980 to 2015

Year	Industry pack <sup>2</sup>	Imports	Beginning stocks	Total supply	Ending stocks <sup>3</sup>	Exports	Consumption	
							Total	Per capita product weight
							<i>Pounds</i>	
----- Million pounds-----								
1980	253.1	83.5	132.5	469.1	151.9	4.4	312.8	1.37
1981	210.6	60.1	151.9	422.6	115.2	6.6	300.8	1.31
1982	272.7	34.9	115.2	422.8	139.9	7.1	275.8	1.19
1983	292.7	42.6	139.9	475.2	176.6	5.9	292.7	1.25
1984	231.4	50.9	176.6	458.9	166.0	8.0	284.9	1.21
1985	229.2	59.7	166.0	454.9	167.1	6.6	281.2	1.18
1986	237.6	52.5	167.1	457.2	146.6	8.5	302.1	1.26
1987	334.4	75.3	146.6	556.3	236.0	10.8	309.5	1.27
1988	274.6	64.3	236.0	574.9	235.2	17.8	321.9	1.31
1989	238.2	55.0	235.2	528.4	167.2	20.5	340.7	1.38
1990	305.9	72.1	167.2	545.2	198.3	32.8	314.1	1.26
1991	330.2	70.5	198.3	599.1	219.9	26.1	353.1	1.39
1992	268.5	58.2	219.9	546.6	173.8	30.0	342.8	1.34
1993	365.7	54.5	173.8	594.0	214.1	40.4	339.5	1.31
1994	369.0	55.2	214.1	638.3	244.7	63.1	330.4	1.26
1995	371.1	73.5	244.7	689.4	255.1	53.1	381.2	1.43
1996	330.1	56.9	255.1	642.1	212.0	46.9	383.2	1.42
1997	328.2	61.0	212.0	601.1	220.5	47.3	333.3	1.22
1998	373.8	54.2	220.5	648.6	201.4	59.6	387.6	1.40
1999	419.8	89.8	201.4	711.0	277.7	55.6	377.7	1.35
2000	439.7	78.0	277.7	795.4	310.5	42.8	442.2	1.57
2001	422.4	76.0	310.5	808.8	243.7	42.9	522.2	1.83
2002	415.9	112.7	243.7	772.2	263.7	45.4	463.1	1.61
2003	429.1	120.1	263.7	812.9	247.2	22.9	542.8	1.87
2004	433.6	125.7	247.2	806.4	293.6	22.0	490.9	1.67
2005	416.5	161.6	293.6	871.7	218.8	22.2	630.7	2.13
2006	458.5	181.5	218.8	858.8	202.5	28.1	628.2	2.10
2007	502.2	182.2	202.5	886.8	280.2	32.0	574.6	1.90
2008	424.9	173.8	280.2	878.9	235.2	35.0	608.6	2.00
2009	482.4	170.3	235.2	887.9	322.5	32.1	533.4	1.74
2010	459.0	188.0	322.5	969.5	263.1	34.3	672.1	2.17
2011	458.3	193.1	263.1	914.6	291.7	45.1	577.7	1.85
2012	497.9	215.6	291.7	1005.2	303.0	53.5	648.7	2.06
2013	460.0	199.3	303.0	962.3	279.1	62.9	620.3	1.96
2014	465.3	224.2	279.1	968.6	206.8	63.3	698.4	2.19
2015 <sup>1</sup>	473.2	298.9	206.8	979.0	235.9	50.2	692.9	2.16

<sup>1</sup>Preliminary.<sup>2</sup>After 2002, estimates from the Processing Strawberry Advisory Board of California. Previous estimates from the American Frozen Food Institute. <sup>3</sup>Stock data from USDA, National Agricultural Statistics Service, *Cold Storage Summary*. Source: USDA, Economic Research Service.

NASS reported strawberry production for the processing sector rose 10 percent in 2015 from the previous year, while fresh-use production was relatively flat. At the same time that processing volume rose, all-processing use grower prices increased to an average \$44 per hundredweight, 3 percent above the 2014 average price. Strong processor demand in 2015 helped propel higher prices as frozen strawberry inventories at the beginning of year dropped to a 7-year low. The Processing Strawberry Advisory Board of California reported the U.S. frozen strawberry pack in 2015 was up almost 2 percent from the previous year to 473.2 million pounds, product-weight equivalent. As beginning inventories dropped 26 percent from the previous year, increased production and higher imports enabled overall frozen strawberry supplies in 2015 to increase 1 percent to 979 million pounds—the second highest on record after 1,005.2 million pounds in 2012 (table 13). Because overall supplies only rose slightly, domestic disappearance fell short of the previous year in 2015 despite lower exports as more supplies were diverted to storage. At 235.9 million pounds, frozen inventories at the end of last year, while below the previous 5-year average of 268.7 million pounds, increased 14 percent from the 206.8 million pounds in 2014. This suggests processors are trying to build back

frozen supplies likely in anticipation of the continued reduced strawberry acreage in California for the 2016 season, which may potentially diminish the crop and limit demand.

Though still consistent with the previous 5-year average, exports during 2015 slowed likely on the strong U.S. dollar and higher prices for processing-use strawberries. Total export volume for the year dropped from the record 63.3 million pounds in 2014 to 50.2 million pounds, product weight equivalent. Exports declined to Canada, Mexico, and Japan—top three international markets for U.S. frozen strawberries. Similar to the fresh strawberry market, the domestic market is also the primary outlet for U.S. frozen strawberries. Only about one-tenth of the U.S. frozen strawberry pack goes to international markets.

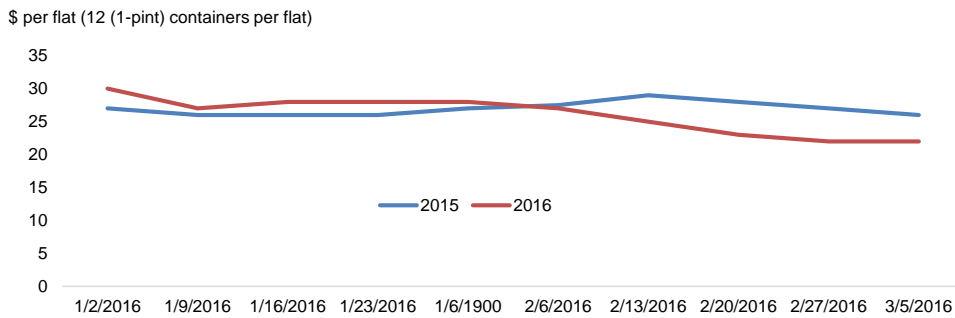
### ***Blueberry Imports Gain Momentum This Winter, Easing Prices***

As the U.S. blueberry market shifted to Southern Hemisphere supplies, prices averaged higher early this winter compared to last year's prices, the result of reduced supplies from Chile, the major import source for this fruit in the United States. A warm winter (June-August) and cold, rainy spring (September-November) in Chile were to blame for the sluggish start to the country's 2015/16 blueberry season. Supply volumes through the first half of the Chilean shipping season were significantly lower than last season. Harvesting was delayed by about 2 weeks and different variety crop maturity was erratic, leading to supply gaps. In November and December 2015, volumes were each down 6 percent and 35 percent, respectively, year over year, based on AMS data. By mid-January, however, Chilean supplies began to gain momentum, closing the gap in accumulated shipments for the season compared with the previous season. Thus far, Chile's 2015/16 accumulated shipments to the United States through early-March 2016 have volumes 11 percent above the same time last year, easing prices (fig. 9).

Imports from Chile typically start to trickle into the U.S. market during the fall, making market presence during the off-season for domestic production. Supplies from Chile typically peak around the winter months of January and February and finish in April. Those from other Southern Hemisphere countries such as Argentina, Uruguay and Peru occur mostly in the fall at much lesser volumes. Imports from Mexico also enter the U.S. market during the winter, but extend throughout the spring, overlapping with early domestic production. Imports from Canada, on the other hand, coincide with the summer U.S. harvest. Like other minor Southern Hemisphere suppliers, import volumes from Mexico are dwarfed by those from Chile. Helping fill gaps in the market early this winter, import supplies from Mexico increased over last year on higher domestic prices (particularly in January) and the strong U.S. dollar.

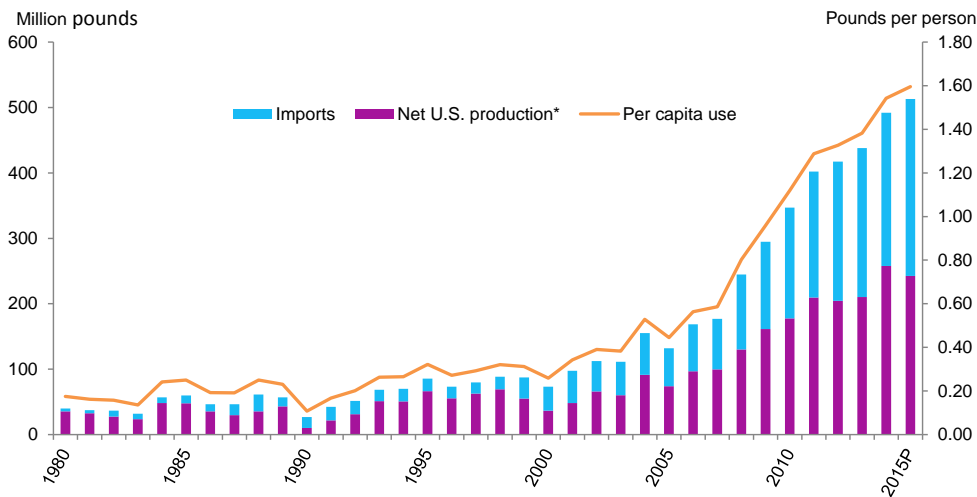
Fresh blueberry demand in the United States continues to grow with generally expanding domestic production and imports over the last 10 years (fig. 10). Import growth during 2015 has aided in meeting demand, with fresh blueberry per capita use projected at 1.60 pounds, surpassing the 2014 high despite a reduced fresh-market crop. Overall U.S. production was down in 2015 due to smaller crops in major producing States (i.e. Georgia, Michigan, and New Jersey), based on estimates from the North American Blueberry Council.

Figure 9  
**Weekly free-on-board shipping-point prices for Chilean blueberries <sup>1</sup>**



<sup>1</sup>Nonorganic blueberries, port of entry in Los Angeles, CA area.  
 Source: USDA, Agricultural Marketing Service, Market News portal.

Figure 10  
**U.S. fresh blueberry demand increasing**



P = Preliminary. \*Domestic production (minus exports. For 2015, based on production estimates from the North American Blueberry Council.  
 Source: USDA, Economic Research Service.

**Early domestic production low:** Cold weather in late-March has delayed blueberry harvest in Florida, causing tight early-season supplies. Domestic production kicks off with the Florida crop, which typically has market presence until Georgia enters the market in mid- to late-April, followed by other major producing States that come into production through the summer. Harvest in Florida’s northern growing areas is expected to commence in early April, likely with hardly any overlap with early supplies from Georgia (where a February freeze delayed the crop), keeping early-spring prices high.

***U.S. Avocado Supplies Likely To Increase***

Annual fluctuations in U.S. avocado production mirror changes in California’s output which make up around 85 percent of the domestic crop. A good bloom in spring 2015 and late summer and fall rainy conditions brought on by the El Niño weather pattern gave some relief to the lingering water scarcity problems in

California, improving the prospects for increased avocado production in the State for the 2015/16 season. The California Avocado Commission (CAC) indicated that the State's 2015/16 avocado pack volume is projected to be 40 percent above the previous season, for a total of 392.5 million pounds (or 196,000 tons). The revised final pack volume for 2014/15 was 279 million pounds (or 140,000 tons), down from the pre-season and mid-season estimates of 327.0 million pounds (or 164,000 tons) and 283.3 million pounds (142,000 tons), respectively. Downward adjustments to the 2014/15 estimate mostly reflect the impact of water scarcity on bearing acreage, yields, and fruit size.

Historically, CAC pack statistics track very closely NASS data on California avocado production. Though smaller than the recent bumper crop years of 2005/06, 2009/10, and 2011/12, when production, as reported by NASS, averaged over 250,000 tons, this season's anticipated production is well above the previous 5-year average of non-bumper-crop years. NASS did not report production in 2012/13 but CAC indicated that year was also a bumper crop year for California avocados, with approximately 250,000 tons (or 500 million pounds). The July 2015 NASS release of the *Noncitrus Fruit and Nuts 2014 Summary* reported production in California for the 2014/15 season at 164,000 tons, similar to the CAC pre-season estimate. Whether the NASS 2014/15 estimate will also be adjusted down remains to be seen in the July 2016 release of the *Noncitrus Fruit and Nuts 2015 Summary*.

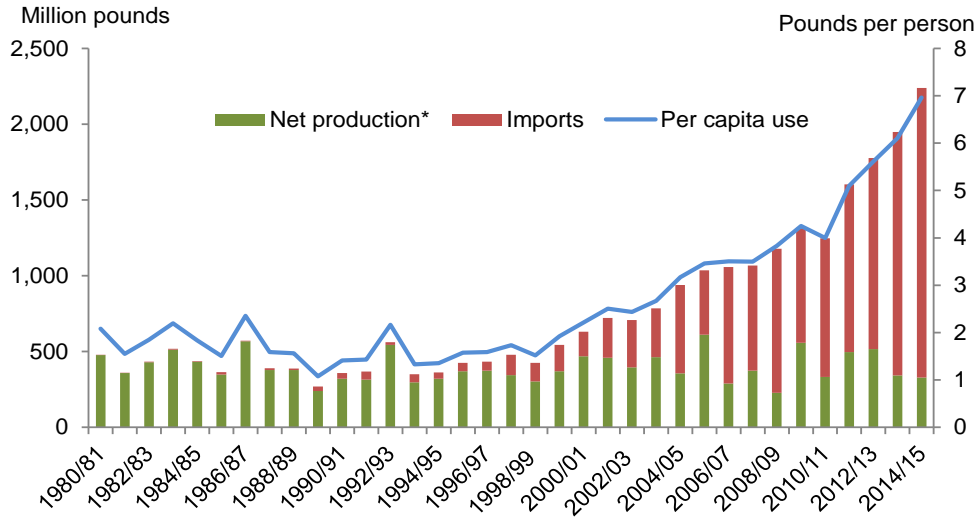
**Ample supplies to lead to favorable prices for U.S. consumers:** Domestic per capita use for fresh avocados reached the 6-lb mark for the first time in 2013/14, nearly double the amount a decade ago and almost four times as much as in the 1990s (fig. 11). This level of use has been maintained since then as imports continued to ascend, capturing three-quarters of the U.S. fresh avocado market in recent years, up from a 40-percent share during the early 2000s. Strong demand for avocados in the United States will likely be met by abundant supplies during the 2015/16 season given the anticipated increased production in California and projected higher exports from Mexico. This will provide for ample volume this spring and summer, likely translating to favorable prices for consumers. Meanwhile, increased imports so far this winter have already put some downward pressure on consumer prices. From January through early March, U.S. advertised retail prices for conventional-type Hass avocados have averaged \$1.04 each, down from a \$1.10 average for the same period last year, based on AMS data. For the same period, however, organic Hass avocado prices have remained above year-ago levels, averaging \$1.62 each this year compared with \$1.42 last year.

Though also gaining in share over the last several years, U.S. fresh avocado exports account for less than 10 percent of domestic production. With a reduced crop and the strong U.S. dollar, U.S. avocado exports declined in volume and value in 2014/15 from the previous season. Exports were down to the top two markets—Canada and Japan—the destinations for about three-quarters of total U.S. export volume and more than 60 percent of total value. Though the strong U.S. dollar will continue to make U.S. exports less attractive to global markets, the anticipated larger U.S. avocado crop in 2015/16 should help the industry promote U.S. avocado exports for the season.

**Increased supplies from Mexico in 2015/16:** Aided in part by another year of increased production, Mexico's Hass avocado exports to the United States are expected to continue to increase in 2015/16 (July-June). In combination with

relatively favorable weather in the last couple of years, Mexico’s implementation of phytosanitary pest control programs continue to help boost the country’s avocado production. FAS forecasts Mexico’s 2015/16 production to increase to 1.64 million metric tons (3.6 billion pounds), up 8 percent from 2014/15. Good international demand and year-round market access to all 50 U.S. States continue to stimulate increasing exports of avocados from Mexico. The United States is Mexico’s primary market for avocados, receiving over three-quarters of total export volume. Increased planted acreage in and outside Michoacan, Mexico’s major avocado-producing State, indicate production will continue to expand in the coming years as the country continues to meet the growing demand for avocados in the U.S. market and globally.

Figure 11  
**Avocado imports grow to meet increasing U.S. demand**



\*Domestic production minus exports.  
 Source: USDA, Economic Research Service.



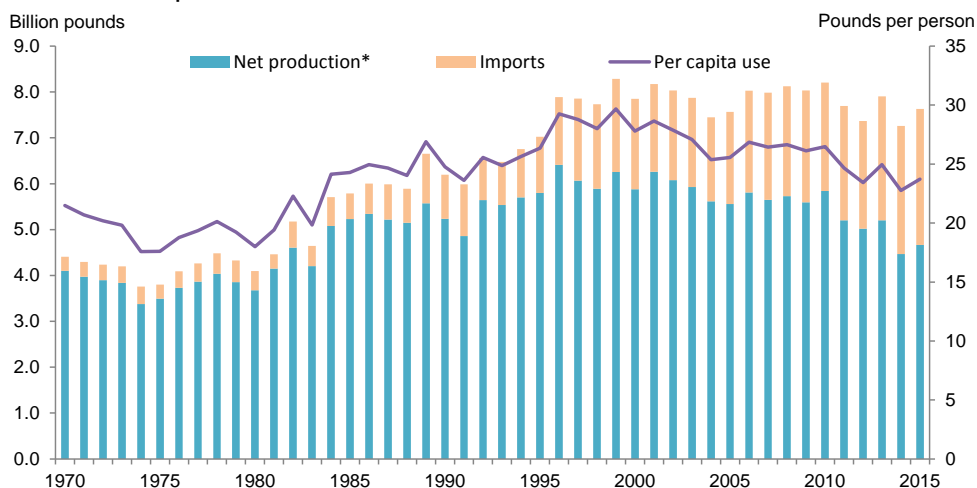
# Melons

## Melons Per Capita Use Up in 2015

In 2015, estimated domestic disappearance (also known as net domestic use, which is a proxy for consumption) of melons totaled 7.63 billion pounds, increasing 5 percent from the previous year. This total disappearance estimate translated to 23.7 pounds per person, a slight uptick from the 22.8 pounds in 2014—the fifth lowest estimate since the 1980’s (fig. 12). Historically, U.S. per capita use for melons has been on a general decline since a 1999 peak of 29.7 pounds per person. The increase in per capita use in 2015 brings the estimate to just about even with the previous 5-year average. Higher average yields and harvested acres for watermelons mostly contributed to the 3-percent boost in total U.S. melon production in 2015 compared with the year before. This production increase, together with record-high imports across all melons, drove overall domestic supplies higher last year. Imports continue to gain market share for melons in the United States, increasing to a new high in 2015 at approximately 3.0 billion pounds—39 percent of the total melon supplies for domestic use that year. This share is up from the 33-percent average share of the previous 5 years and significantly higher than the 27-percent average share during the period 2000-2009.

**Watermelons:** Relative to 2014, total domestic disappearance (total supply minus exports) in 2015 increased 7 percent to 4.73 billion pounds and per capita use rose 6 percent to 14.7 pounds (table 14). Moderate gains in average yields per acre and area harvested pushed U.S. watermelon production to 3.51 billion pounds in 2015, up 6 percent from the previous year. However, though higher than in 2014, production last year was the second smallest crop in the past 15 years. Production declines in California and Maryland were more than offset by increases in Florida, Georgia, North and South Carolina, Texas, and Arizona, among the major watermelon States. For a fourth consecutive year, imports set a new high totaling

Figure 12  
All melons: Per capita use in the United States



\* Domestic production minus exports.  
Source: USDA, Economic Research Service.

Table 14--U.S. watermelons: Supply and utilization, 1970s average-2015

Year	Supply			Utilization		Per capita use	Trade shares of:	
	Production <sup>1</sup>	Imports <sup>2</sup>	Total	Exports <sup>2</sup>	Domestic		Use imported	Supply exported
	----- Million pounds -----					--- Pounds ---	----- Percent -----	
Average								
1970s	2,564.7	165.8	2,730.4	91.4	2,639.1	12.3	6.3	3.4
1980s	2,842.0	238.6	3,080.5	61.4	3,019.1	12.7	7.8	2.0
1990s	3,766.4	342.0	4,108.4	216.7	3,891.8	14.7	8.6	5.2
Annual								
2000	3,749.4	446.0	4,195.4	293.3	3,902.1	13.8	11.4	7.0
2001	4,047.8	483.5	4,531.3	249.4	4,281.9	15.0	11.3	5.5
2002	3,958.5	451.3	4,409.8	364.5	4,045.4	14.0	11.2	8.3
2003	3,832.7	489.2	4,321.9	383.7	3,938.3	13.5	12.4	8.9
2004	3,688.0	546.9	4,234.9	424.0	3,810.9	13.0	14.4	10.0
2005	3,702.3	659.8	4,362.1	349.9	4,012.2	13.5	16.4	8.0
2006	3,986.5	830.5	4,817.0	297.4	4,519.6	15.1	18.4	6.2
2007	3,734.9	902.7	4,637.6	286.0	4,351.6	14.4	20.7	6.2
2008	3,994.0	1,057.1	5,051.1	307.1	4,744.0	15.6	22.3	6.1
2009	3,893.1	1,002.6	4,895.7	307.9	4,587.8	14.9	21.9	6.3
2010	4,170.1	989.9	5,160.0	296.1	4,863.9	15.7	20.4	5.7
2011	3,612.7	1,044.3	4,657.0	343.2	4,313.8	13.8	24.2	7.4
2012	3,615.3	1,092.6	4,707.9	344.1	4,363.7	13.9	25.0	7.3
2013	3,610.2	1,302.9	4,913.1	332.9	4,580.2	14.5	28.4	6.8
2014	3,326.3	1,442.6	4,768.9	338.1	4,430.8	13.9	32.6	7.1
2015	3,510.4	1,554.3	5,064.7	331.6	4,733.1	14.7	32.8	6.5

<sup>1</sup> Source: USDA, National Agricultural Statistics Service. Production data were estimated by ERS for 1982-91 based on available State data adjusted to the national level. Includes all uses. <sup>2</sup> Source: U.S. Dept. of Commerce, U.S. Census Bureau. Source: USDA, Economic Research Service.

1.55 billion pounds, valued at \$323 million—also a record. Shipments from Mexico, which accounted for nearly 90 percent of the total import volume, rose 9 percent in 2015 from the previous year, accompanied by larger gains from minor import suppliers such as Nicaragua, Panama, and Costa Rica. In contrast, imports were down slightly from Guatemala and Honduras, the second and third largest sources for U.S. watermelon imports.

Despite the larger crop, U.S. watermelon export volume declined to 332 million pounds in 2015, down 2 percent from the previous year, with the value also falling slightly to \$81.8 million. Sharp declines in sales to Japan and Mexico mostly contributed to the lower export volume last year. Canada, Japan, and Mexico are the leading global markets for U.S. watermelons, with Canada taking nearly all of the total volume exported. While down from 2014, both volume and value of exports last year were fairly unchanged from their respective previous 5-year averages.

Preparations are underway for the 2016 U.S. watermelon season to begin this spring while imports help meet domestic winter demand. AMS data show continued growth in imports in 2016, with the cumulative volume through mid-March up 16 percent from the same time a year ago. Seedless watermelons account for more than half of total import volume thus far (mostly from Mexico) and are up 25 percent from the same time last year. Of this volume, gains from Mexico are joined by rebounding supplies from Guatemala and Honduras. Despite the overall increase in imports to date, U.S. advertised retail prices for watermelons, particularly the red flesh seedless miniature type, averaged relatively unchanged from last year for January through mid-March, at \$3.47 each, as February and March prices came in stronger than those from last year, based on AMS data. Prices for the regular seedless type were also strong in March, averaging \$4.49 each for the first three weeks, about \$0.40 more than the same time last year. Seasonal supply increases into the spring could temper these recent price gains.

**Cantaloupe:** Domestic disappearance (or domestic use) of cantaloupe in 2015 was estimated up 3 percent from the previous year to 2.2 billion pounds (table 15). On a per capita basis, domestic use was up 2 percent from the 2014 estimate of almost 7 pounds which was a 30-year low (in 1981, per capita use was estimated at 6.1 pounds). From 2009 to 2013, per capita use averaged 8.4 pounds, 20-22 percent higher than the past 2 years. Harvested acres fell 11 percent in 2015 from the previous year, the lowest on record since 2000. However, gains by the same magnitude on average yield per acre mitigated the impact on the 2015 U.S. cantaloupe crop that totaled 1.34 billion pounds, only down 2 percent from 2014 but still the smallest crop since the 1.33-billion crop size harvested in 1981. Five out of the nine States for which NASS reports annual production had output declines in 2015, namely Arizona, Indiana, Maryland, South Carolina, and Texas. Together, these five States produced over 30 percent of last year's crop. Despite continued limited water supplies and reduced harvested acreage in California in 2015, State-wide production rose 2 percent to 825 million pounds, accounting for 62 percent of the total crop. Producing at a much smaller scale, production gains in Colorado, Georgia, and Pennsylvania were larger than those in California, mostly due to better yields achieved in 2015 than the previous year.

As domestic production fell, higher imports and lower exports resulted in increased overall supplies for domestic consumption. Import volume increased 5 percent in 2015 from the year before to 940 million pounds, about even from the previous 5-year average. Import volume was up, reflecting increased shipments from Guatemala, the No.1 supplier of U.S. cantaloupe imports, accounting for almost 60 percent of total import volume. Valued at \$37.5 million, exports fell 24 percent to 122.7 million pounds in 2015—the lowest volume since the 118.1 million pounds reported in 1995. Seventy-eight percent of the exports went to Canada and 21 percent to Mexico; volumes shipped were down to both these markets on the smaller U.S. crop and strong U.S. dollar.

Table 15--U.S. cantaloupes: Supply and utilization, 1970s average-2015

Year	Supply			Utilization		Trade shares of:		
	Production <sup>1</sup>	Imports <sup>2</sup>	Total	Exports <sup>2,3</sup>	Domestic	Per capita use	Use imported	Supply exported
	----- Million pounds -----					--- Pounds ---	----- Percent -----	
Average								
1970s	1,163.7	166.3	1,330.0	46.7	1,283.3	6.0	13.0	3.5
1980s	1,716.7	257.3	1,974.0	87.7	1,886.4	7.9	13.3	4.5
1990s	1,953.1	691.9	2,644.9	117.6	2,527.3	9.5	26.8	4.4
Annual								
2000	2,177.4	1,119.2	3,296.6	155.5	3,141.0	11.1	35.6	4.7
2001	2,261.3	1,070.1	3,331.4	146.0	3,185.4	11.2	33.6	4.4
2002	2,244.3	1,108.6	3,352.9	156.1	3,196.8	11.1	34.7	4.7
2003	2,206.9	1,079.2	3,286.1	147.3	3,138.8	10.8	34.4	4.5
2004	2,129.8	910.8	3,040.6	160.7	2,879.9	9.8	31.6	5.3
2005	2,046.5	952.0	2,998.5	162.2	2,836.3	9.6	33.6	5.4
2006	1,949.8	962.8	2,912.6	146.4	2,766.1	9.3	34.8	5.0
2007	2,042.6	1,008.2	3,050.8	157.9	2,893.0	9.6	34.9	5.2
2008	1,929.4	931.0	2,860.4	157.7	2,702.7	8.9	34.4	5.5
2009	1,905.9	1,045.0	2,950.9	169.9	2,781.0	9.0	37.6	5.8
2010	1,880.8	949.2	2,830.0	186.1	2,643.9	8.5	35.9	6.6
2011	1,869.2	1,033.1	2,902.3	202.4	2,699.9	8.6	38.3	7.0
2012	1,670.6	841.7	2,512.3	150.1	2,362.1	7.5	35.6	6.0
2013	1,817.3	948.9	2,766.2	146.6	2,619.5	8.3	36.2	5.3
2014	1,361.2	902.0	2,263.2	161.5	2,101.7	6.6	42.9	7.1
2015	1,340.2	940.1	2,280.3	122.7	2,157.6	6.7	43.6	5.4

<sup>1</sup>Source: USDA, National Agricultural Statistics Service. Production data were estimated by ERS for 1982-91 based on available State data adjusted to the national level. Includes all uses. <sup>2</sup>Source: U.S. Dept. of Commerce, U.S. Census Bureau. <sup>3</sup>Exports for 1978-89 adjusted using Canadian import data.

Source: USDA, Economic Research Service.

From January through February 2016, U.S. advertised retail prices for cantaloupes averaged \$2.53 each, about 6 cents higher than the same period last year. From a high of \$2.79 around mid-January, prices have generally fallen and as of mid-March were at \$2.21 each, compared with \$2.36 a year ago. AMS shipment data indicate continued higher imports into 2016, with volumes this season through February up 27 percent from the same period a year ago on gains from Guatemala, Honduras, and Costa Rica.

**Honeydew:** Though average yield per acre improved slightly from the previous year, the decline in area harvested was enough to pull U.S. honeydew production down 5 percent to 355.0 million pounds in 2015. Both harvested area and domestic production have kept up with the general trend of declining acreage and output since 2000. Harvested acreage in 2015 matched the 33-year low of 13,600 acres in 2012, with California encompassing around three-quarters of the total area. Virtually all of the acreage reduction in 2015 was in Arizona where there were 1,200 fewer acres harvested, resulting in significantly reduced production in the State. Meanwhile, while California and Texas both experienced expanded harvested acreage last year, flat to lower yields limited production increases in both these States. The decline in domestic production forced total domestic supplies down 2 percent despite record-high imports in 2015 (table 16). Imports (mostly from Mexico) have gradually shown increasing presence in the U.S. honeydew market while exports remain a small but stable outlet for U.S. honeydews.

U.S. honeydew melon imports in 2016 were running nearly 30 percent ahead of last year through February but strong demand has advertised retail prices averaging \$3.23 each during the first two months of the year, 17 cents higher than in the same 2 months in 2015. As with other melons, U.S. honeydews come in season around late spring, with peak harvest in the summer months.

Table 16--U.S. honeydew melons: Supply and utilization, 1970s average-2015

Year	Supply			Utilization			Trade shares of:	
	Production <sup>1</sup>	Imports <sup>2</sup>	Total	Exports <sup>2</sup>	Domestic	Per capita use	Use imported	Supply exported
	----- Million pounds -----			---- Pounds ----			----- Percent -----	
Average								
1970s	251.4	18.7	270.0	25.1	245.0	1.1	7.7	9.7
1980s	437.1	61.7	498.7	23.5	475.3	2.0	12.4	4.8
1990s	455.7	143.1	598.7	48.0	550.7	2.1	25.8	8.2
Annual								
2000	511.6	174.1	685.7	46.8	638.9	2.3	27.3	6.8
2001	472.0	139.9	611.9	48.6	563.2	2.0	24.8	8.0
2002	506.5	171.5	678.0	47.3	630.6	2.2	27.2	7.0
2003	507.5	163.9	671.4	39.4	632.1	2.2	25.9	5.9
2004	478.1	165.6	643.7	42.2	601.5	2.0	27.5	6.6
2005	424.3	175.7	600.0	45.6	554.4	1.9	31.7	7.6
2006	422.1	187.3	609.4	46.2	563.2	1.9	33.3	7.6
2007	414.4	180.8	595.2	42.3	552.9	1.8	32.7	7.1
2008	369.0	191.5	560.5	46.3	514.2	1.7	37.2	8.3
2009	365.7	171.8	537.5	40.2	497.4	1.6	34.5	7.5
2010	370.4	188.8	559.2	43.1	516.1	1.7	36.6	7.7
2011	362.8	180.0	542.8	42.6	500.1	1.6	36.0	7.9
2012	328.6	180.1	508.7	43.3	465.4	1.5	38.7	8.5
2013	360.5	195.4	555.9	47.6	508.3	1.6	38.4	8.6
2014	373.9	193.6	567.5	40.6	526.8	1.7	36.7	7.2
2015	355.0	203.7	558.6	38.4	520.3	1.6	39.1	6.9

<sup>1</sup> Source: USDA, National Agricultural Statistics Service. <sup>2</sup> Source: U.S. Dept. of Commerce, U.S. Census Bureau. Honeydews do not have a separate HS code. From 1970-79, trade was estimated as 50 percent of the category called "other melons." From 1980-91, shipment data were used to estimate the distribution of the "other melon" category (ranged from 42 to 59 percent). Exports were not adjusted due to data limitations. Source: USDA, Economic Research Service.

### ***Almond Production Down in 2015/16 Season***

California's almond production for the 2015/16 season is forecast at 1.80 billion pounds, down 4 percent from the 2014/15 harvest total and 11 percent below the record 2011/12 crop of 2.03 billion pounds. Lower projected yields more than offset the increase in bearing acreage to bring this season's crop size below the past 4 years, if realized. Despite reduced production, domestic supplies remain high on large carry-in stocks and slow demand, putting downward pressure on prices.

According to data from the Almond Board of California, total shipments (domestic plus exports) were 6 percent behind last season through the end of February. Domestic shipments declined by 6 percent and exports shipments were also down by the same magnitude. Of all the almond sales thus far, more than half of the almonds destined for the domestic market have not yet been delivered and over one-third of all the almonds bound for international markets are still waiting to be shipped. Exports play a key role for California almonds, with close to 70 percent of total U.S. almond supply serving international markets. Though U.S. almond exports were up to most markets in Western Europe and Japan, August-February exports were down to several international markets, including North American neighbors—Canada and Mexico—and several important Asian markets, including China, India, and South Korea. The strong U.S. dollar is likely partly behind these reduced exports. To date, uncommitted inventory is up 26 percent from the same time in 2014/15, compared with only a less-than-1-percent rise for the same period last season, further supporting sluggishness in the markets.

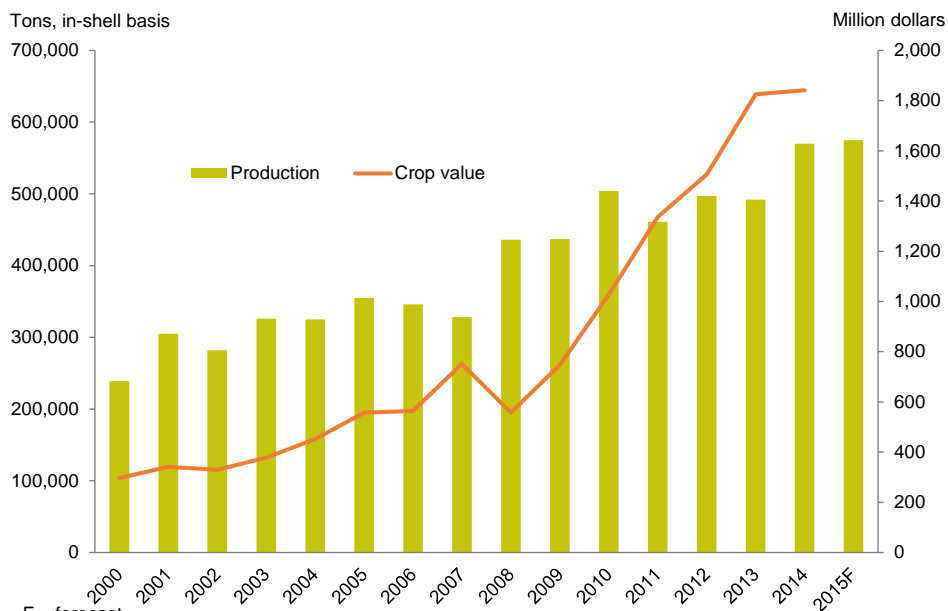
Because of the slow movement to domestic and international markets, BLS price data indicate a weakening of 2015/16 almond grower prices when the producer price index (PPI) for almonds, which held strong during the first 3 months of the season (August-October) dropped an average 5 percentage points below the previous year in November and December 2015. Initial estimates on the 2015/16 season-average grower price for California almonds are not available at this time because of the suspension of the NASS report, *Noncitrus Fruit and Nuts 2015 Preliminary Summary*. The first estimate for the season will be available in July 2016 when NASS releases the *Noncitrus Fruit and Nuts 2015 Summary report*.

### ***Walnut Production Forecast To Reach A Record High in 2015/16***

Unlike California's reduced almond crop, the State's walnut crop for the 2015/16 season is slightly bigger than the last crop. As of October 2015, the NASS forecast for the 2015 harvest stood at 575,000 tons, in-shell basis, up just 1 percent from the record-large crop harvested in 2014. If realized, this will surpass the 2014 crop and be the largest walnut crop on record (fig. 13).

Data from the Walnut Marketing Board show shipments up 15 percent from August 2015 through February 2016 compared with the same time last year on increased sales to international markets. Shipments to domestic markets were down thus far, declining 7 percent for in-shell walnuts and down 2 percent for shelled, which make up 86 percent of total domestic shipments to date. Both exports of in-shell and shelled walnuts are up thus far. Of the key export markets for U.S. walnuts, in-shell

Figure 13  
**California walnut production only up slightly but at a record high**



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

volumes were strong to Turkey, Germany, Italy, and Vietnam but were down to Hong Kong, South Korea, and China. Shelled volumes had notable increases to most markets in Europe, the Middle East and Africa, to Canada, to some markets in Asia, including China, Malaysia, and Thailand, but declined to Japan and South Korea.

NASS will not release the 2015/16 season-average grower price for California walnuts until July 6, but the average PPI for walnuts from September-December 2015, as reported by BLS, showed a significant dip from the same time the previous year, a good gauge that the combined effects of the record-breaking crop and higher-than-average carry-in stocks are likely dampening grower prices this season. Prices at terminal markets, based on AMS data, also reflect the downward pressure on walnut prices for this season. Prices for conventional California English walnuts at the San Francisco and Los Angeles Terminal Markets averaged about \$132 per 50-lb sack, Hartley sub-variety, size jumbo, through December 2015, compared with \$135 for the same period the previous season.

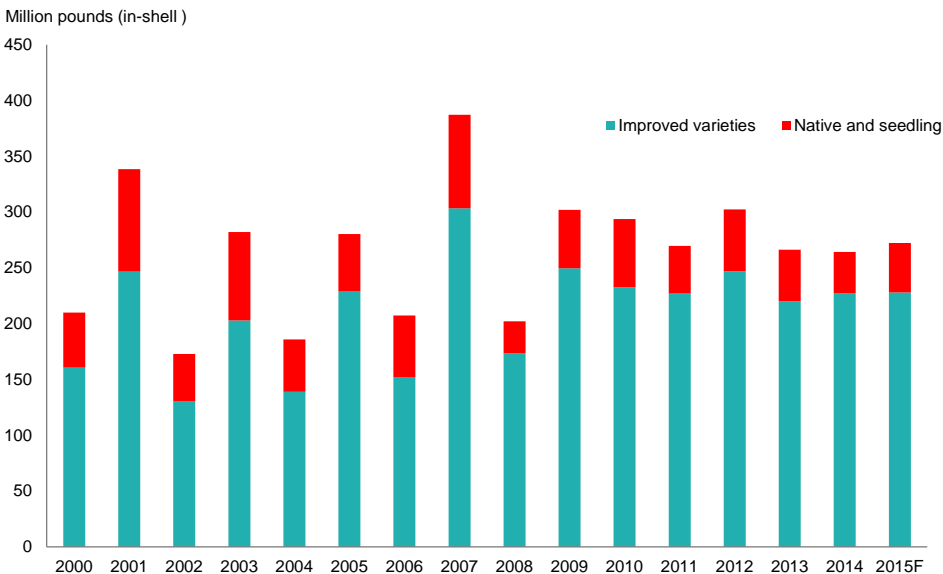
During the 2014/15 season, ending stocks rose to a record 74 million pounds, up sharply from the previous season despite record-high exports, suggesting weakened demand in the domestic market. Due to upward adjustments to ending stocks over the course of the season, U.S. walnut per capita use in 2014/15 has been revised down to an estimated 0.40 pounds, marking a drop from the 2013/14 estimate of 0.49 pounds. This, in combination with record-setting production in 2014/15, lowered walnut grower prices to an average \$3,230 per ton for the season, down from \$3,710 in 2013/14.

## U.S. Pecan Production Forecast Up in 2015

U.S. pecan production for 2015 is forecast at 272.3 million pounds, utilized in-shell basis, 3 percent higher than the previous year but 10 percent smaller than the last “on cycle” crop in the trees’ alternate bearing pattern in 2012 (fig. 14). Much of the expected increase in production for the 2015/16 season will come from the native and seedling varieties, which account for 16 percent of the 2015 crop. Production from improved varieties, which make up the majority of the crop, is anticipated to be relatively unchanged from the previous year.

Georgia, New Mexico, and Texas remain the top three producing States and together account for 77 percent of the 2015 pecan crop. Georgia and Texas produce both improved varieties and native seedling pecans, while New Mexico produces only new improved varieties. Larger crop size is expected in many pecan States but significant declines are anticipated in five States, including Texas. Despite a slightly larger crop, a 31-percent decline in carry-in stocks this season potentially reduces overall domestic supplies that should drive up prices. As with California almonds, these higher prices along with the strong U.S. dollar are dampening demand in some of the leading export markets for U.S. pecans, particularly in Hong Kong and Vietnam for in-shell exports and Mexico and Germany for shelled exports. Overall, this season’s accumulated exports (both in-shell and shelled) through December 2015 are down 19 percent from the same period in 2014/15. In-shell pecans comprise over three quarters of the total export volume and relative to the same period in 2014/15 are down 24 percent. Year-to-date shelled export volume is up 3 percent on increased shipments to Canada, most of the EU market, China, and South Korea. Over the last few years, exports have gained share of the market for U.S. pecans, increasing from an average 14 percent share of total domestic supplies from 2000/01-2005/06 to 30 percent during 2010/11-2014/15.

Figure 14  
**Pecan production in the United States comprised mostly of improved varieties**



F = forecast.

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

# Trade Summary Tables

Table 17--U.S. exports of selected fruit and tree nut products

Commodity	Marketing season	Season to date (through January)		Year-to-date change
		2015	2016	
----- 1,000 pounds -----				
<i>Percent</i>				
<b>Fresh market:</b>				
Oranges	November-October	298,222	292,789	-1.8
Grapefruit	September-August	176,272	165,532	-6.1
Lemons	August-July	128,608	107,004	-16.8
Apples	August-July	1,094,798	897,375	-18.0
Grapes	May-April	852,825	721,122	-15.4
Pears	July-June	274,958	248,274	-9.7
Peaches (including nectarines)	January-December	1,227	120	-90.2
Strawberries	January-December	14,769	5,007	-66.1
Cherries	January-December	151	73	-51.8
Cantaloupe	January-December	1,627	1,781	9.5
Watermelon	January-December	1,816	913	-49.7
<b>Processed:</b>				
Orange juice, frozen concentrate	October-September	5,058	16,156	219.4
Orange juice, not-from-concentrate	October-September	28,894	16,221	-43.9
Grapefruit juice	October-September	3,254	3,136	-3.6
Apple juice and cider	August-July	4,887	4,753	-2.7
Wine	January-December	5,258	7,237	37.6
Raisins	August-July	142,769	127,108	-11.0
Canned pears	June-May	7,540	5,329	-29.3
Canned peaches	June-May	31,689	19,464	-38.6
Frozen straw berries	January-December	4,508	2,790	-38.1
<b>Tree nuts:</b>				
Almonds (shelled basis)	August-July	623,345	557,349	-10.6
Walnuts (shelled basis)	September-August	198,074	255,554	29.0
Pecans (shelled basis)	October-September	43,911	39,664	-9.7
Pistachios (shelled basis)	September-August	65,928	35,542	-46.1

<sup>1</sup>Single-strength equivalent.

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

Table 18--U.S. imports of selected fruit and tree nut products

Commodity	Marketing season	Season to date (through January)		Year-to-date change
		2015	2016	
----- 1,000 pounds -----				
<i>Percent</i>				
<b>Fresh market:</b>				
Oranges	November-October	24,554	33,681	37.2
Tangerines (including clementines)	October-September	173,036	181,183	4.7
Lemons	August-July	112,999	125,933	11.4
Limes	January-December	89,997	101,887	13.2
Apples	August-July	94,428	72,946	-22.7
Grapes	May-April	578,186	605,484	4.7
Pears	July-June	37,356	36,198	-3.1
Peaches (including nectarines)	January-December	29,555	23,587	-20.2
Cantaloupe	January-December	144,071	127,237	-11.7
Watermelon	January-December	81,397	79,197	-2.7
Bananas	January-December	768,788	790,392	2.8
Mangoes	January-December	34,172	54,709	60.1
<b>Processed:</b>				
Orange juice, frozen concentrate	October-September	124,860	71,346	-42.9
Apple juice and cider	August-July	206,599	265,940	28.7
Wine	January-December	18,743	23,211	23.8
Canned pears	June-May	47,074	52,792	12.1
Canned peaches (including nectarines)	June-May	151,355	178,994	18.3
Canned pineapple	January-December	56,833	69,386	22.1
Frozen straw berries	January-December	20,779	20,690	-0.4
<b>Tree nuts:</b>				
Brazil nuts (shelled basis)	January-December	1,125	1,499	33.2
Cashew s (shelled basis)	January-December	20,535	22,403	9.1
Pine nuts (shelled basis)	January-December	17	11	-33.9
Pecans (shelled basis)	October-September	58,662	60,157	2.5

<sup>1</sup> Single-strength equivalent.

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



## Contacts and Links

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### Data

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### Related Websites

Fruit and Tree Nuts Outlook

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1378>

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March 31, 2016

## Fruit and Tree Nuts Outlook: Economic Insight

### U.S. Fresh-Market Apples

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Approved by the  
World Agricultural  
Outlook Board.

The United States is among the leading global producers, suppliers, and importers of fresh apples. While the domestic market continues to serve as the main outlet for U.S. fresh apples, export markets have grown in importance as domestic demand has remained almost flat since the 1980's. U.S. production has had some setbacks but recent production increases, and the potential for continued growth in the coming years, particularly in Washington, is fueling the need for more global integration of U.S. apples.

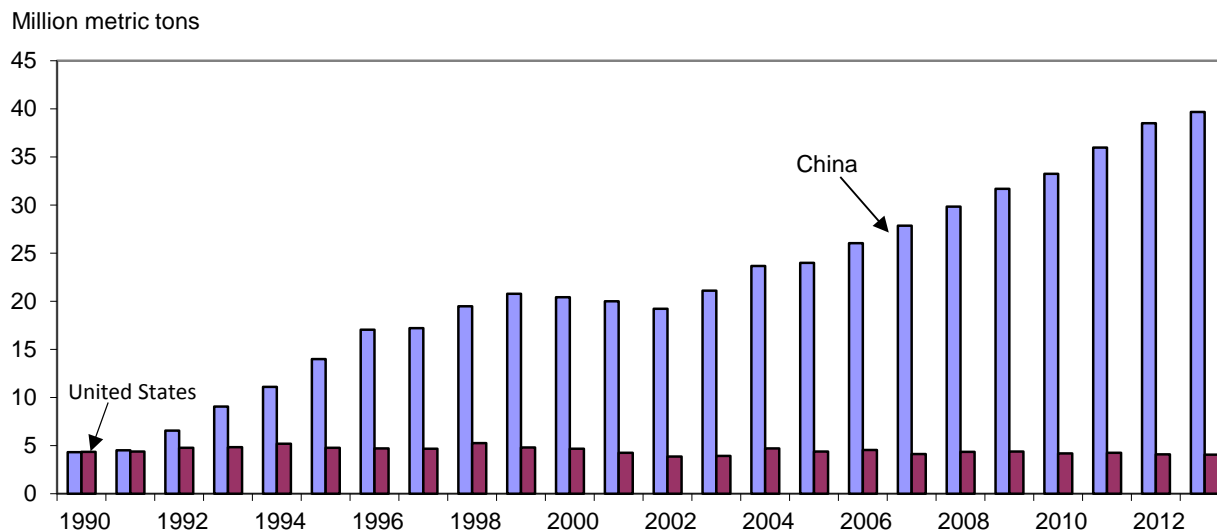
#### *China Leads in Global Apple Production, the United States is a Distant Second*

Over 90 countries around the world grow apples commercially and together produce around 80 million metric tons each year (United Nations, Food and Agriculture Organization (UN/FAO), 2016). However, nearly half of global output is produced in China, which leads the world in apple production mostly because of the country's vast production area. Second in rank is the United States where average yields are almost double the levels achieved in China but production capacity is dwarfed by a much smaller production area (fig. 1). China accounts for almost half of the world's apple production area, while the United States makes up about 3 percent. Area expansion in China has slowed over the past decade but per hectare yields have improved, aiding the country's production to continue to climb.

Apple yields in China have increased from significantly deficient levels relative to the rest of the world (ROW) average to levels averaging 6 percent higher during 2009 through 2013 (the most recent period with available data). The Chinese Government's focus on China's fruit industry has shifted from expansion in planted area toward quality improvement in an effort to enhance the country's competitiveness in global fruit markets and address rising production costs. Agricultural labor in China has become increasingly costly and sparse and as such, government incentives are underway to encourage replacing mature orchards with new higher density plantings and adopt other cost-reducing production practices (USDA, Foreign Agricultural Service, November 2015). China's apple production climbed from 20 million metric tons in 2000 to almost 40 million metric tons in 2013, approximately 10

Figure 1

### Apple production in China and the United States



Source: United Nations, Food and Agriculture Organization, FAOSTAT.

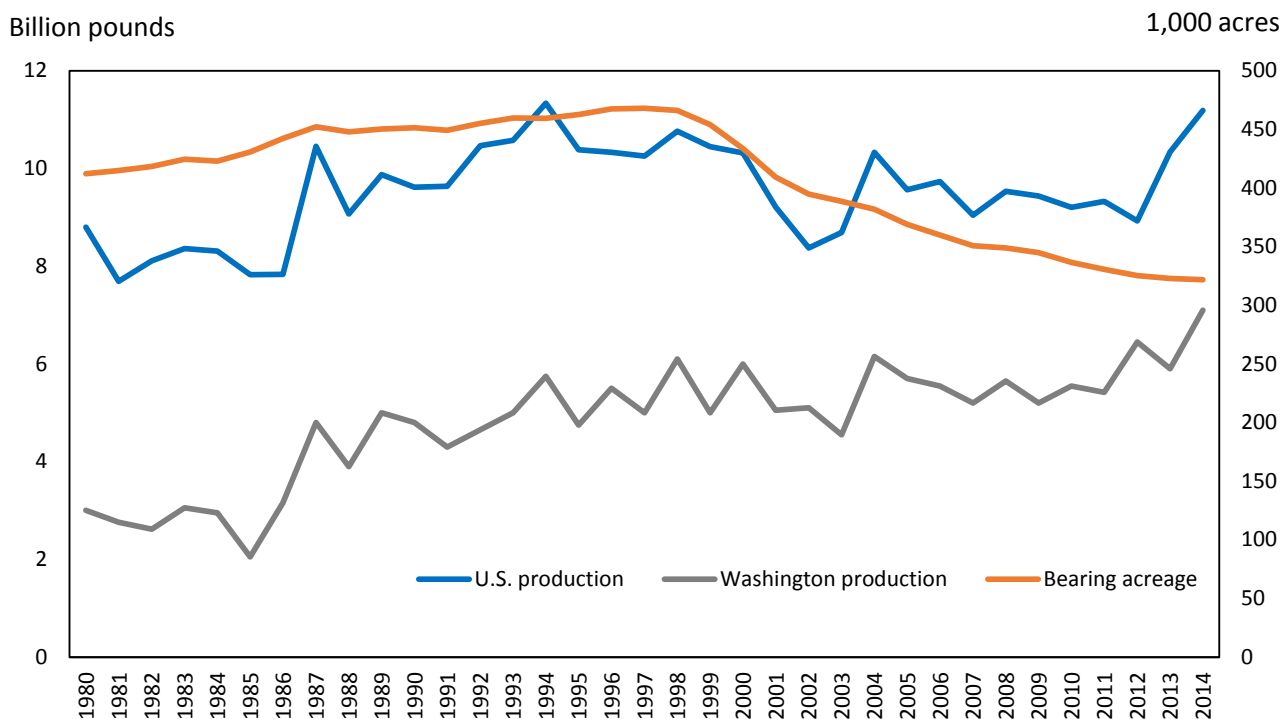
times the United States' 2013 production of about 4 million metric tons, or 6 percent of total world output. Rounding out the top five apple-producing countries are Turkey, Poland, and Italy, each producing between 3-4 percent of the world total.

### *Washington State Leads in U.S. Apple Production*

Commercial apple production is widespread in the United States, but Washington State produces close to 65 percent of the Nation's annual output. There were 148,000 apple-bearing acres in Washington in 2014, or 46 percent of the U.S. total. As the largest apple-producing State, Washington supplies about three-quarters of all U.S. apples sold in the fresh market. Although the majority of Washington's production is for fresh use, it also supplies the largest quantity to the processing sector since State volume is so large. New York, Michigan, Pennsylvania, California, and Virginia are also major apple-producing States, but a larger share of each of these States' crop is typically sold to processors. Together, these five States supplied nearly 30 percent of U.S. apple production, almost 20 percent of the fresh-market crop, and more than half of production for the processing sector, on average, during the years 2010-14.

The number of farms and planted acreage for apples in the United States has declined. There were 25,129 U.S. farms growing apples on a total of 384,287 acres in 2012, both figures down from the 2007 census by 2 percent and 4 percent, respectively (USDA, National Agricultural Statistics Service, 2012 Census of Agriculture). More than one-tenth of U.S. farms growing apples in 2012 were in Washington, accounting for nearly half of the total apple acreage. New York, Michigan, Pennsylvania, California, and Virginia, combined, made up 31 percent of the apple farms and 37 percent of the total apple acreage that year. In Washington, the total number of apple orchards has declined each census year since 1997 (when 4,207 farms were reported). Correspondingly, the State's total production area (bearing and nonbearing) fell from 204,674 acres in 1997 to 165,215 acres in 2007, but increased 5 percent to 174,152 acres in 2012. Despite declines in production area, trees per acre increased by planting smaller trees for easier harvest and to improve yields. On average across all varieties, plantings in Washington State increased from 262 trees per acres in 1993 to 434 trees per acre in 2006 and 562 trees per acre in 2011 (USDA-NASS, Washington Field Office, 2006 and 2011). Except for some annual fluctuations due to natural forces, annual production volumes in Washington has trended upwards in recent years, increasing to a record 7.3 billion pounds in 2014, driving the national-level production trend (fig. 2).

Figure 2  
**Apple utilized production and bearing acreage in the United States**



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

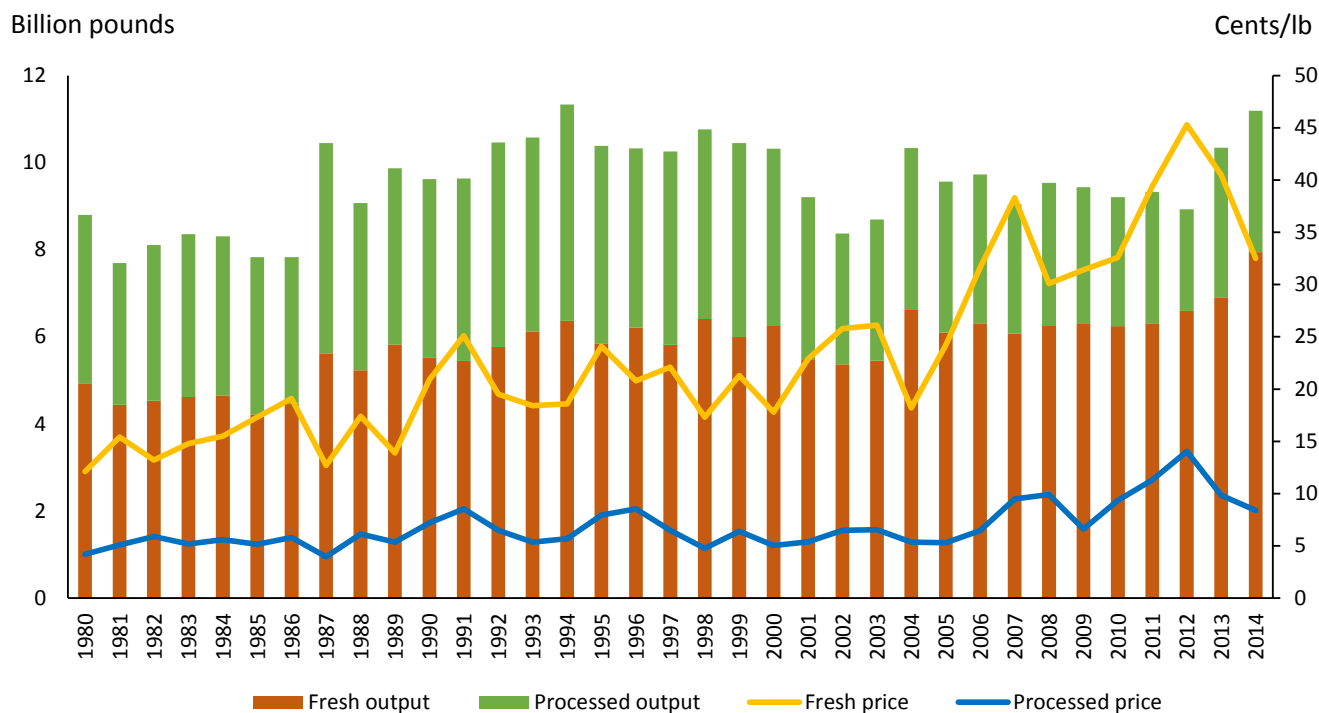
***Fresh-Market Apples: A Larger Piece of the Pie***

Apples are traditionally eaten as a fresh fruit, although uses extend over many processed forms, such as juice and cider, applesauce, frozen, dried, fresh slices (USDA/NASS began reporting production for this category in 2004), and other (includes vinegar, wine, and slices for pie-making). The gap between fresh-market production and processing production has widened. The share of fresh-market production to total utilized production averaged 69 percent during 2010-2014, up from around 57 percent during the 1980s and 1990s (fig. 3). Many growers are finding better profit opportunities in the fresh market, particularly since the late 1990s when increased competition from lower priced imports of Chinese apple juice concentrate led to economic difficulties in the U.S. industry. As juice imports grew, grower prices for juice apples declined which had ripple effects on the other apple processing sectors. In the United States, in recent years, over 40 percent of all the apples produced domestically for processing went to the juice sector, down slightly from a share of over 50 percent during the 1980s and 1990s.

The price difference between fresh-market apples and processing apples has grown wider since the 1980s. On average, growers were paid 10 cents per pound to 20 cents per pound more for their fresh-market apples than for processing-use apples over the three decades leading up to the years 2010-2014, when the price gap ranged from 32 to 45 cents per pound. The annual farm value of the fresh-market apple crop averaged \$2.6 billion during 2010-2014, or almost 90 percent of the total crop value.

Figure 3

**Fresh and processing-use apple production and all-apple season-average grower price in the United States**



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

***Domestic Fresh-Apple Demand Almost Flat, Exports Remain Crucial***

While overall fresh-fruit demand in the United States has been increasing steadily over the past three decades, fresh-apple demand has remained almost stagnant, with consumption averaging between 16 and 19 pounds per person annually since the 1980s (table 1). The variety of fruit available for fresh consumption in the United States has escalated rapidly, especially during the 1990s, limiting the growth in demand for U.S. apples. Expansion of fruit production in Southern Hemisphere countries, particularly in Chile, enhanced the region’s export capability, bringing more choices to U.S. consumers during the winter season when most domestically grown fruit, except citrus, apples, and pears, are not in season. In addition, some once “exotic” or nontraditional fruit in U.S. markets are now more mainstream produce items (e.g., avocados and other tropical fruit) with year-round availability. The U.S. apple industry has continued to be proactive in its efforts to help boost demand, including shifts in varietal mix (e.g., from the traditional Red and Golden Delicious to Gala and Fuji), introduction of new products to target specific consumer preference attributes (e.g., fresh-cut apples for convenience), international market development events, promotional activities building on consumer awareness of the health benefits associated with eating apples, and more recently, a combination of varietal diversification and new strategies in supply management in the form of club varieties.

With almost flat domestic demand and increasing production, particularly in Washington, export markets have grown in importance to the U.S. apple industry (table 1). As exports steadily climbed to a record 2.3 billion pounds during the marketing year 2014/15 (August-July) (or average 1.96 billion pounds from 2010/11-2014/15), the export share of the fresh-market crop has more than doubled since the 1980s, averaging 29 percent during the marketing years 2010/11-2014/15. Next to Poland and China, the United States ranks as the world’s third largest exporter of apples, supplying about one-tenth of global export volume in 2013 (UN/FAO, 2016). In value terms, however, U.S. apple exports exceed those for China and Poland, leading the global ranking with over \$1.0 billion in recent years.

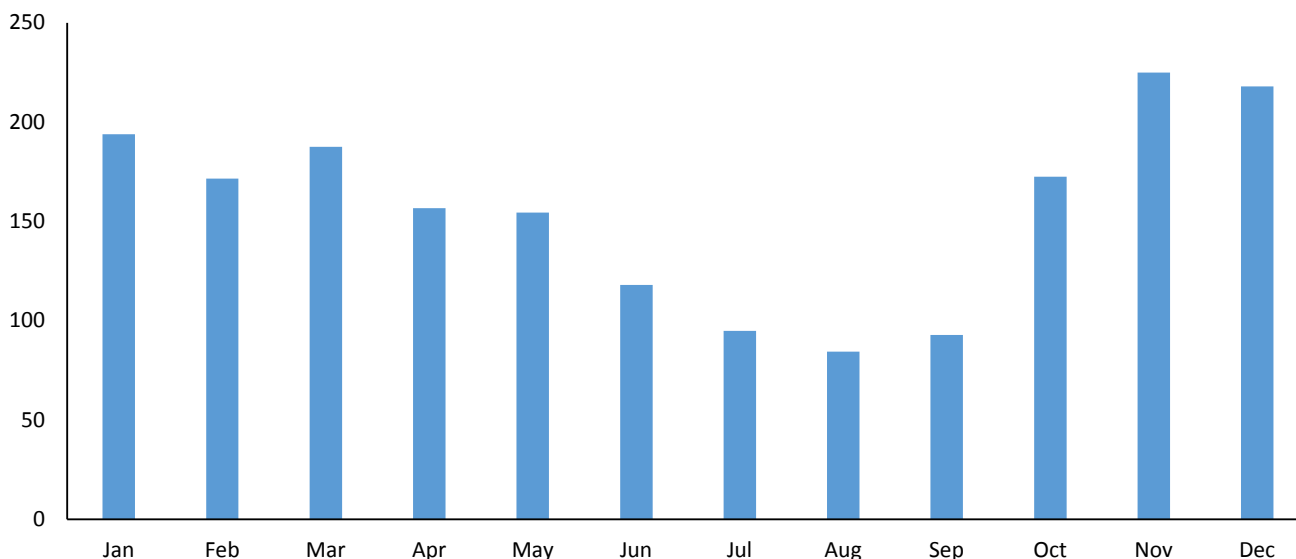
Table 1--Fresh apples: Supply and utilization

Period <sup>1</sup>	Supply			Utilization		Per capita use Pounds	Trade shares of	
	Production <sup>2</sup>	Imports <sup>3</sup>	Total	Exports <sup>3</sup>	Domestic		Use imported	Production exported
	----- Million pounds -----			-----			Percent	
Decade average:								
1980S	4,853.6	237.2	5,090.8	607.5	4,473.3	18.72	5	13
1990S	5,949.2	315.3	6,264.5	1,255.7	5,008.8	18.81	6	21
2000S	6,021.6	379.2	6,400.8	1,433.4	4,967.4	16.76	8	24
Recent seasons:								
2010/11	6,248.8	328.7	6,577.5	1,823.1	4,754.3	15.29	7	29
2011/12	6,312.9	381.1	6,694.0	1,854.9	4,839.0	15.44	8	29
2012/13	6,594.9	430.2	7,025.1	1,969.2	5,055.9	16.01	9	30
2013/14	6,895.3	470.0	7,365.3	1,858.5	5,506.8	17.32	9	27
2014/15	7,946.6	360.1	8,306.7	2,284.7	6,021.9	18.80	6	29

<sup>1</sup>Season beginning August. <sup>2</sup>Source: National Agricultural Statistics Service, USDA. <sup>3</sup>Source: U.S. Department of Commerce, U.S. Census Bureau. Source: USDA, Economic Research Service.

Figure 4  
U.S. average monthly volume of fresh apple exports, 2010-14

Million pounds



Source: Trade data from U.S. Department of Commerce, U.S. Census Bureau.

More than half of U.S. apple exports go to five countries—Mexico, Canada, India, Taiwan, and the United Arab Emirates. Mexico alone takes more than 25 percent of the total volume. U.S. apples move through international markets every month but more than 60 percent of total export volume for the marketing year occurs between October and the following March, partly coinciding with the fall harvest (fig. 4).

In marketing year 2015/16, projections show reduced U.S. production, resulting in higher domestic apple prices. Combined with the strong U.S. dollar that makes U.S. goods in general less attractive in the international market, results point to a potential slowdown in U.S. apple exports this season. In addition, preliminary anti-dumping duties on imports of U.S. apples in Mexico took effect in January 2016 and will remain enforced until a final determination is made (USDA/FAS, January 2016). These provisional duty payments could potentially deter future exports of U.S. apples to Mexico. However, export growth in other markets, including China, may help compensate for any losses to this major market.

A bright spot in U.S. apple exports is future sales prospects to China. China lifted its suspension on imports of Washington Red and Golden Delicious apples in October 2014 and in January 2015 the two countries signed an agreement allowing all U.S. grown apples to gain access to the Chinese market (USDA, FAS, October 2014 and January 2015). In 2010/11, a full marketing year prior to the suspension, U.S. fresh-apple exports to China totaled 18.9 million pounds valued at \$8.7 million. Upon resuming shipments in 2014/15, only a partial season but with expanded market access, U.S. exports to China totaled 32.3 million pounds, valued at \$16.9 million. This 2015/16 season will be the first full marketing year with expanded market to China and already, export volume this season through January is 98 percent higher than the same time in 2014/15. The U.S. apple industry estimates that within two years, exports to China will reach a value of nearly \$100 million per year.

### ***Imports Growing but Still Capture Less Than 10 Percent of the Domestic Market***

The United States is also a leading importer of fresh apples. Although still small relative to domestic production, imports are a growing presence in the U.S. market. The quantity of globally sourced fresh apples in the United States has increased significantly since the 1980s, from an average 237 million pounds in the 1980s to almost 400 million pounds over the last 5 years. Record imports were reported in 2003/04 at 472.7 million pounds. Import share of domestic fresh apple use has risen from a 5 percent average in the 1980s to around 8 percent over the last 5 years (table 1).

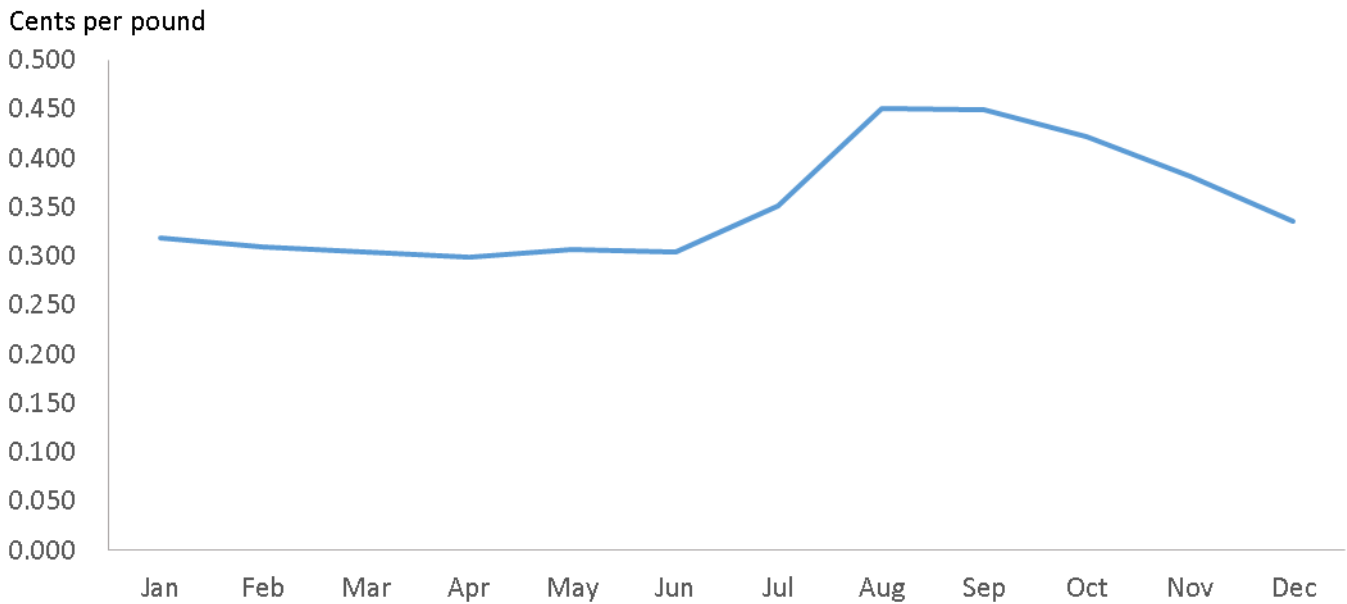
Chile has emerged as a strong supplier of fresh apples to the United States over the past decade as they successfully developed a more export-oriented apple industry and benefited from the growing demand in the Northern Hemisphere for off-season fruit. With counter seasonal production, Chile is by far the largest foreign source of fresh apples for the United States, accounting for over 60 percent of total import volume. Most of the remaining imports come from New Zealand, Canada, and Argentina.

The marketing season for U.S. apples runs from August through July. Harvesting occurs between August and November, but the ability to store apples for a long period and counterseasonal import availability permit more even distribution of supplies throughout the year, which mitigates seasonal price variability (fig. 5). Even as imports are concentrated in summer months, the combination of new varieties with later harvest dates and the increased use of more sophisticated storage technology have enabled the industry to move domestic apples more evenly across the marketing season (Plattner, et. al., 2014). Nonetheless, even in summer months when import volumes are increased, domestic production dominates fresh apples shipped throughout the year (fig. 6).

### ***Summary***

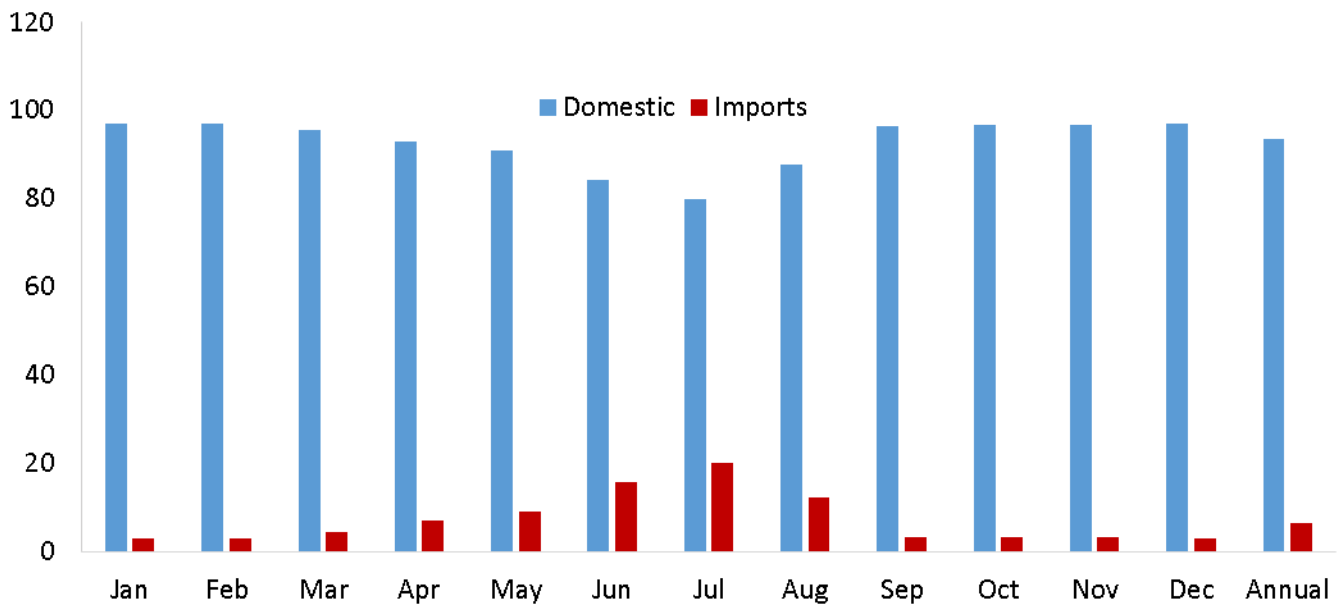
Apples are a versatile fruit—traditionally consumed as a fresh fruit but also consumed in many processed forms. Commercial apple production is widespread in the United States, but Washington produces well more than half of the Nation’s annual output and supplies about three-quarters of the fresh-market crop. The gap between domestic fresh-market production and processing production has widened since the 1980s in favor of the fresh-market crop, which had offered better profit opportunities to growers in terms of higher prices. However, amid rising overall fresh-fruit demand in the United States, an increasing selection of fruit available for consumption has limited the growth in demand for U.S. fresh apples, keeping domestic fresh apple per capita use almost flat for the past several years. Combined with increasing production, particularly in Washington, the U.S. apple industry has increasingly looked to export markets to remain profitable. Shifts in varietal mix were undertaken by the industry initially to target export market interests, along with market access and market development efforts. More recently, varietal diversification efforts are being integrated with new strategies in supply management in the form of club varieties. Future production is likely to continue to increase, particularly in Washington where high-density plantings have combined with increased planted acreage, and so the greater need to maintain and further enhance the global competitiveness of U.S. apples.

Figure 5  
Average monthly prices growers receive for fresh-market apples in the United States, 2010-14



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

Figure 6  
Average domestic and import share of total fresh-apple shipment volume in the United States, by month



<sup>1</sup>Share with respect to each month and annual total.

Source: USDA, Agricultural Marketing Service, *Fresh Fruit and Vegetable Shipments, by Commodities, States*



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