

2018 Production & Utilization Analysis

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Introduction

The 2018 edition of the U.S. Apple Association (USApple) *Production and Utilization Analysis* provides an overview of the production and utilization of U.S. apple crops for recent years and forecasts for the 2018 crop marketing season. The source for much of the production information, including the 2018 forecast, is the U.S. Department of Agriculture (USDA). Varietal data and related commentary have been prepared by USApple. Data on the European crop is provided courtesy of the World Apple and Pear Association (WAPA) from Prognosfruit, the European counterpart to USApple's Outlook and Marketing Conference. The utilization information contained in this book is a mixture of USDA-published data and USApple forecasts, based on reports from apple processors and other reporting organizations.

USApple is grateful to all who contributed information for this report, including the USDA, the World Apple and Pear Association, the Canadian Horticultural Council, the Ontario Ministry of Agriculture and Rural Affairs, the Federation des Producteurs de Pommes du Quebec, the New Brunswick Apple Marketing Board, the Nova Scotia Fruit Growers Association, The Food Institute and Agrarmarkt Informations-GmbH. USApple would also like to express appreciation to Agnes Perez, USDA Economic Research Service (ERS), for her assistance in gathering and analyzing data on processed apple products, as well as to Katy Looft, Agricultural Economist with USDA's Agricultural Marketing Service (AMS) Fruit and Vegetable Division for her work on the Apple Compendium.

Finally, USApple would like to express thanks and appreciation to Bayer CropScience for their continued support of this important industry publication.



2017 Crop: U.S. Production and Utilization Summary

Highlights of production and utilization of the 2017 apple crop follow. Tables appearing throughout this publication provide detailed information on the 2017 crop, including comparisons to crops from previous 5-year and 10-year periods.

U.S. Apple Production: Volume and Value

The 2017 crop, at 271.6 million bushels, was the fourth largest apple crop since the U.S. Department of Agriculture (USDA) began reporting statistics on commercial apple production. The record crop of 281.3 million bushels was produced in 2014. Historical crop data are found **Table 1**, and **Figures 1 and 2**.

Apple production of 178.6 million bushels in Washington State in 2017 was 2 percent above the 174.3 million bushels produced in 2016 and 9 percent above the average production of 163.3 million bushels for the previous five years (**Table 7**). In California, production of 5.4 million bushels in 2017 was 12 percent below the state's 2016 production, and 6 percent below the five-year average production in the state. Michigan 2017 apple production was 20.0 million bushels, 34 percent less than the state's 2016 production and 22 percent below the five-year average of 25.7 million bushels. In New York, production of 31.0 million bushels in 2017 was 10 percent greater than 2016 production and equal to the five-year average production. In 2017, Pennsylvania apple production of 12.6 million bushels was 19 percent greater than that of 2016 and 6 percent above the five-year average.

Production in the West, at 189 million bushels, accounted for 70 percent of total national production in 2017, and was 9 percent above the five-year average for the region. The crop in the rest of the country, at 82 million bushels, accounted for 30 percent of the total crop in 2017, and was 5 percent below the five-year average. **Tables 5 and 6** detail regional production, by year, and include comparisons to the five-year average.

Fresh-market varieties represented 79 percent of the apples harvested from the 2017 national crop (**Table 10**), which is roughly 1 percentage point less than that of 2016. In 2015, fresh varieties made up 77 percent of the crop, 2 percent more than the share they held in 2014. Production of dual-purpose varieties held steady at 11 percent of total production in 2017, which was the same as the 11 percent share held in 2016.

Production of Red Delicious apples decreased by 14 percent to 55.9 million bushels from 2016 to 2017. The 2017 Golden Delicious crop, at 21.0 million bushels was 3 percent greater than the 20.3 million bushels produced in 2016 (**Table 8**).

2017 Crop Value

USDA figures on grower level prices for 2017 indicate that the season-average price to growers for all sales was 32.1 cents per pound, a 0.4 cent per pound increase from the average price of 31.7 cents per pound in 2016, but 4 percent less than the 33.6 cents per pound average of 2015 (**Table 2**).

Table 1: Historical U.S. Apple Production and Five-Year Averages (000 42-lb. Units)

YEAR	PRODUCTION	YEAR	PRODUCTION	YEAR	PRODUCTION
1944	121,266	1969	162,372	1994	273,821
1945	66,686	1970	152,305	1995	252,024
1946	118,901	1971	151,693	1996	247,188
1947	112,892	1972	140,032	1997	245,805
1948	89,330	1973	148,539	1998	277,295
1949	134,002	1974	155,539	1999	253,112
1950	124,477	1975	179,285	2000	209,360
1951	111,369	1976	154,126	2001	248,586
1952	94,415	1977	158,871	2002	231,069
1953	95,368	1978	180,879	2003	209,360
1954	111,765	1979	193,882	2004	248,586
1955	106,234	1980	210,200	2005	231,069.0476
1956	101,315	1981	184,610	2006	233,890
1957	119,258	1982	193,381	2007	216,414
1958	127,485	1983	199,357	2008	229,364
1959	126,847	1984	198,405	2009	231,069
1960	108,705	1985	188,440	2010	220,990
1961	126,725	1986	187,119	2011	224,405
1962	125,794	1987	255,764	2012	214,102
1963	126,420	1988	217,143	2013	248,371
1964	150,461	1989	236,114	2014	281,286
1965	146,197	1990	229,924	2015	239,002
1966	137,178	1991	231,112	2016	270,893
1967	128,428	1992	251,531	2017	271,571
1968	130,215	1993	254,400	2018 F	272,671
FIVE-YEAR AVERAGES					
1944-48	101,815	1969-73	150,988	1994-98	259,227
1929-53	111,926	1974-78	165,740	1999-03	230,297
1954-58	113,211	1979-83	196,286	2004-08	231,865
1959-63	122,898	1984-88	209,374	2009-13	227,788
1964-68	138,496	1989-93	240,616	2014-18	267,085
TOP TEN APPLE PRODUCTION YEARS					
YEAR	PRODUCTION	YEAR	PRODUCTION		
2014	281,286	2016	270,893		
1998	277,295	1987	255,764		
1994	273,821	1993	254,400		
2018 F	272,671	1999	253,112		
2017	271,571	1995	252,024		

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various years and *Crop Production*, Aug 10, 2018.
F=Forecast

2017 Crop: U.S. Production and Utilization Summary

The season-average price for fresh-market apples was 40.6 cents per pound in 2017 which is just slightly above the 40.5 cents per pound average of 2016, and 8 percent less than the 2015 average price of 44.1 cents per pound.

At \$248 per ton, the average value of processing apples in 2017 was 15 percent more than the \$215 per ton value in 2016, and 23 percent more than the 2015 price of \$201 per ton. The average juice-apple price of \$188 per ton in 2017 was up 14 percent from the 2016 average of \$165 per ton and 39 percent above that of 2015 when average juice-apple prices were \$135 per ton.

Total farm-gate revenue set a record at \$3.55 billion in 2017, and was 3 percent higher than in 2016 when total revenue was \$3.46 billion. The total value of fresh apple production increased by 1 percent to \$3.13 billion in 2017 from \$3.11 billion in 2016. The value of processing apple production increased by 19 percent from \$349 million in 2016 to \$415 million for the 2017 crop. **Table 2** includes the season-average apple prices received by U.S. growers from 2014 through 2017, while **Table 3** includes historical data on prices for various uses.

U.S. Utilization

USDA's preliminary estimate for total U.S. per-capita utilization of apples and apple products in 2017 was 48.4 pounds which is equal to 2.1 pounds more per person than it was in 2016. Per capita consumption of fresh apples stood at 18.9 pounds, which is 108 percent of the 5 year average (**Table 4**). The total amount of apples processed in 2017 was 75.8 million bushels compared to 74.1 million bushels in 2016, and 71.2 million bushels in 2015 (**Table 13**). **Table 12** provides a summary of how the crop was utilized by production region.

Table 2: Season-Average Apple Prices Received by U.S. Growers, 2014-2017 Crop Years

	2014	2015	2016	2017
All sales (cents per pound)	25.70	33.60	31.70	32.10
Fresh consumption (cents per pound)	32.70	44.10	40.50	40.60
All processing (dollars per ton)	178.00	201.00	215.00	248.00
Canned (dollars per ton)	202.00	241.00	244.00	289.00
Juice and cider (dollars per ton)	122.00	135.00	165.00	188.00
Frozen (dollars per ton)	234.00	243.00	244.00	317.00
Dried (dollars per ton)	152.00	186.00	202.00	236.00
Fresh slices (dollars per ton)	425.00	409.00	388.00	426.00
Value of Fresh Production (000)	\$2,577,739	\$3,041,358	\$3,111,321	\$3,134,662
Value of Processing Production (000)	\$293,006	\$308,737	\$348,696	\$415,021
Total Farm-Gate Value of Production¹ (000)	\$2,870,745	\$3,350,095	\$3,460,017	\$3,549,683

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

¹ Total revenue to growers from fresh and processing sales.

Table 3: Trends in Average Apple Prices Received by U.S. Growers, According to Type of Utilization

YEAR	ALL SALES (cents per pound)		FRESH (cents per pound)		ALL PROCESSING (dollars per ton)	
	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG
1998	12.2	13.8	17.3	19.7	94.60	112.30
1999	15.0	14.7	21.3	20.6	128.00	133.72
2000	12.8	15.1	17.8	21.1	101.00	136.52
2001	17.4	14.3	24.4	19.9	106.00	124.92
2002	23.2	16.1	30.1	22.2	198.00	125.52
2003	23.1	18.3	29.4	24.6	131.00	132.80
2004	13.5	18.0	18.1	24.0	107.00	128.60
2005	17.4	18.9	24.4	25.3	106.00	129.60
2006	22.7	20.0	31.6	26.7	129.00	134.20
2007	28.8	21.1	38.3	28.4	190.00	132.60
2008	23.2	21.1	30.1	28.5	198.00	146.00
2009	23.1	23.0	31.4	31.2	132.00	151.00
2010	25.1	24.6	32.6	32.8	187.00	167.20
2011	30.3	26.1	39.4	34.4	226.00	186.60
2012	37.1	27.8	45.3	35.8	281.00	204.80
2013	30.3	29.2	40.5	37.8	197.00	204.60
2014	25.7	29.7	32.7	38.1	178.00	213.80
2015	33.6	31.4	44.1	40.4	201.00	216.60
2016	31.7	31.7	40.5	40.6	215.00	214.40
2017	32.1	30.7	40.6	39.7	248.00	207.80

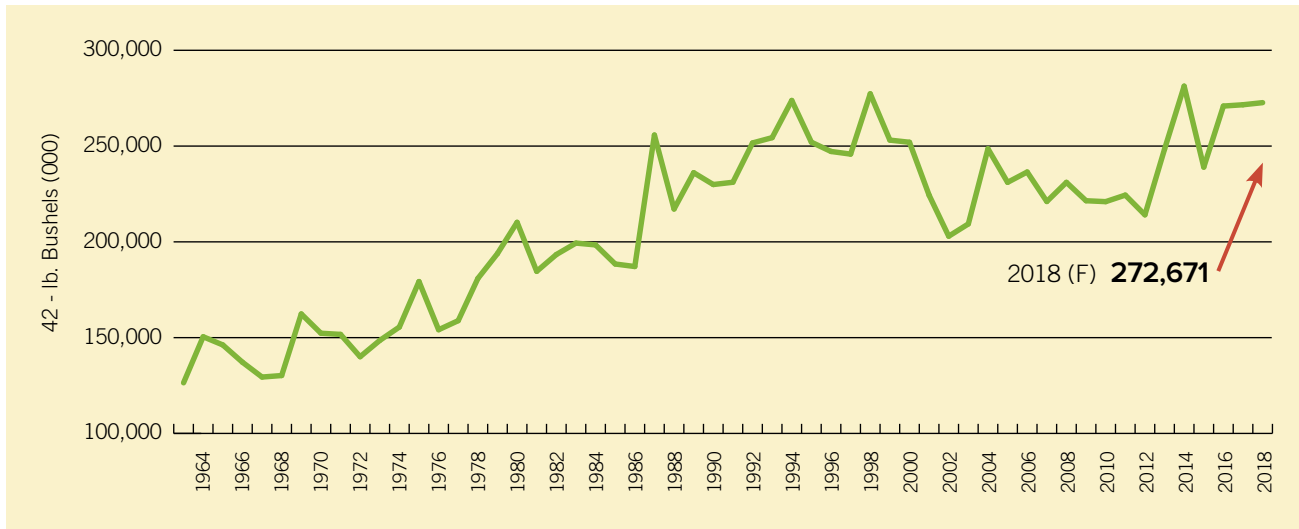
YEAR	PROCESSING UTILIZATION (all in dollars per ton)									
	CANNED		JUICE AND CIDER		FROZEN		DRIED		FRESH SLICES	
	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG	ANNUAL	5-YR AVG
1998	165.00	168.50	57.70	74.85	146.00	165.50	75.50	75.50		
1999	155.00	168.20	109.00	108.76	158.00	178.20	124.00	128.10		
2000	147.00	169.80	75.10	111.74	150.00	180.00	71.20	133.90		
2001	149.00	167.80	67.90	96.16	134.00	173.00	119.00	109.94		
2002	240.00	171.20	140.00	89.94	250.00	167.60	75.60	93.06		
2003	154.00	169.00	103.00	99.00	173.00	173.00	107.00	99.36		
2004	149.00	167.80	70.50	91.30	173.00	176.00	73.60	89.28		
2005	149.00	168.20	67.90	89.86	134.00	172.80	119.00	98.84		
2006	158.00	170.00	102.00	96.68	167.00	179.40	61.90	87.42		
2007	184.00	158.80	179.00	104.48	238.00	177.00	182.00	108.70	186.00	
2008	240.00	176.00	140.00	111.88	250.00	192.40	75.60	102.42	229.00	
2009	161.00	178.40	91.90	116.16	154.00	188.60	53.00	98.30	240.00	
2010	207.00	190.00	149.00	132.38	198.00	201.40	143.00	103.10	286.00	
2011	230.00	204.40	198.00	151.58	246.00	217.20	214.00	133.52	377.00	263.60
2012	395.00	246.60	221.00	159.98	328.00	235.20	176.00	132.32	357.00	297.80
2013	223.00	243.20	145.00	160.98	233.00	231.80	191.00	155.40	383.00	328.60
2014	202.00	251.40	122.00	167.00	234.00	247.80	152.00	175.20	425.00	365.60
2015	241.00	258.20	135.00	164.20	243.00	256.80	186.00	183.80	409.00	390.20
2016	244.00	261.00	165.00	157.60	244.00	256.40	202.00	181.40	388.00	392.40
2017	289.00	239.80	188.00	151.00	317.00	254.20	236.00	193.40	426.00	406.20

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various years.
 Note: The 5-year average is based on the current year and the previous four years.

2017 Crop: U.S. Production and Utilization Summary

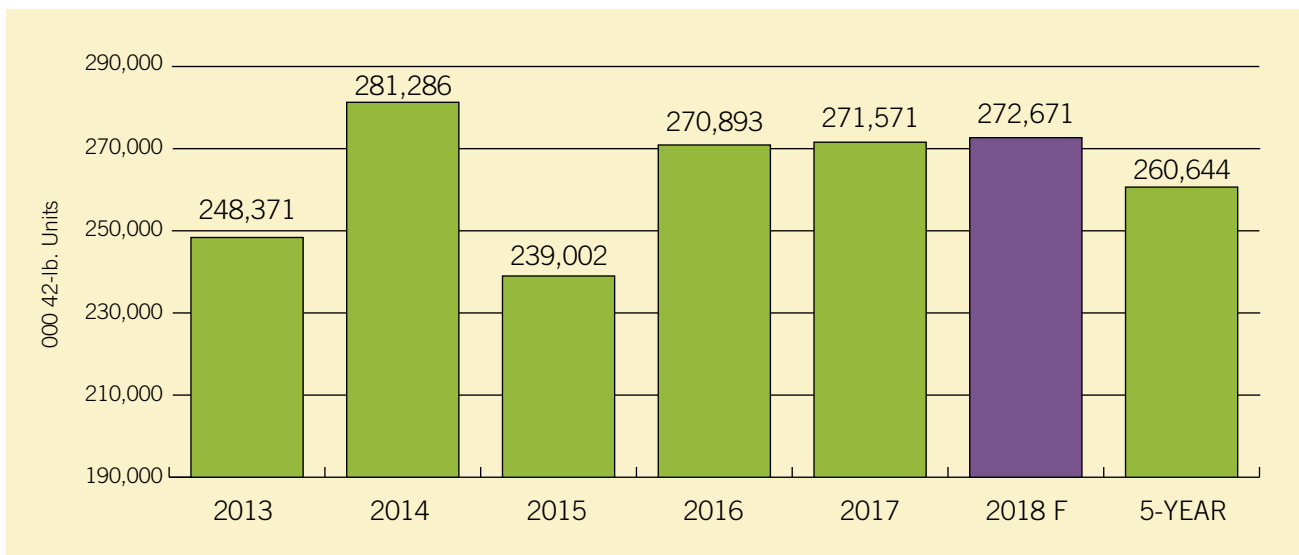
Processors converted 28 percent of the 2017 crop into apple products, which was 1 percentage point above the 27 percent converted in 2016 and 2 percentage points less than the 30 percent of the 2015 crop used for processing (**Table 16**). The percent of the crop sold as fresh-market apples in the domestic market stood at 48 percent in 2017, slightly below the 51 percent of the 2016 crop sold in the fresh domestic

Figure 1: U.S. Apple Production, 1963-2018



Source: USDA

Figure 2: U.S. Apple Production, 2013-2018



Source: USDA
F = Forecast

market. Fresh exports from the 2017 crop were 29 percent of total fresh production, up from the 25 percent in 2016 and roughly 3 percentage points less than the 26 percent exported from the smaller 2015 crop (**Table 15**).

The portion of the crop that was used in canned products was 10 percent in 2017, which was slightly less than the 11 percent in 2016. The portion of the crop used in juice and cider stood at 12 percent in 2017 and at 11 percent in 2016 (**Table 15**). The portion of the crop used in frozen products stood at 1 percent in 2017 and was the same usage at 1 percent in 2016. **Figure 3** depicts percentages of how the 2017 crop was utilized.

U.S. Crop Movement

The percentage of the 2017 crop moved prior to December 1, 2017, stood at 31.4 percent with 24.3 million bushels being processed, and 34.8 million bushels used in the domestic fresh market during this period (**Table 16**). The supply of apples in storage on December 1, 2017 was 182.5 million bushels, of which 79 percent was in long-term controlled atmosphere storage.

U.S. Exports and Imports

Exports of U.S. apples from the 2017 crop increased by 18 percent to a new record of 53.1 million bushels from the 2016 crop with exports of 45.0 million bushels (**Table 18**). The increase in exports resulted from

Table 4: Per-Capita Utilization of Apples and Apple Products (Pounds, Fresh Weight Equivalent)

SEASON	FRESH	CANNED	JUICE	FROZEN	DRIED	OTHER	TOTAL
2007/08	16.39	3.96	27.17	0.86	0.90	0.52	49.82
2008/09	15.88	4.61	25.05	0.71	0.88	0.78	47.90
2009/10	16.20	4.18	24.92	0.75	0.61	0.63	47.28
2010/11	15.29	3.98	26.37	0.57	0.65	0.71	47.56
2011/12	15.45	4.17	20.61	0.69	0.60	0.99	42.50
2012/13	16.02	3.15	22.49	0.30	0.87	0.57	43.42
2013/14	17.33	4.66	21.25	0.79	0.64	0.82	45.49
2014/15	18.60	4.24	20.42	0.75	0.70	0.79	45.50
2015/16	17.35	4.26	22.48	0.67	0.69	0.82	46.26
2016/17	18.91	4.56	22.44	0.44	1.20	0.83	48.39
2017/18F	18.02	4.44	22.08	0.40	1.34	1.04	47.32

Source: USDA Economic Research Service, Crops Branch.

Per Capita numbers approximate the trend and general level of consumption over time. Annual consumption estimates do not reflect changes in stocks. Therefore, the numbers do not reflect actual year-to-year changes in consumption. Per Capita figures are adjusted for imports and exports, and include shipments to territories.

F = Forecast by USDA Economic Research Service, Crops Branch.

Other includes vinegar, wine, slices for pie-making and fresh slices.

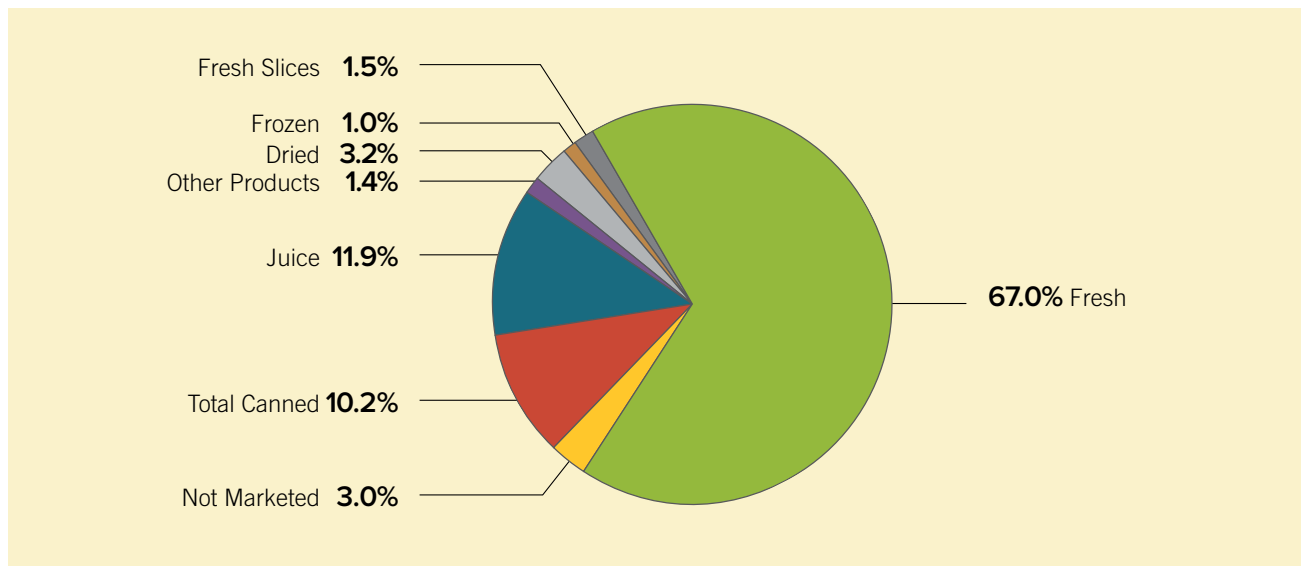
2017 Crop: U.S. Production and Utilization Summary

higher volumes of exports to Mexico, India, Canada, Vietnam, the U.A.E. and Saudi Arabia. The top three destinations for U.S. apple exports and their percentage of total exports were Mexico at 29 percent, India at 17 percent and Canada at 16 percent.

Fresh-market apple imports declined by 23 percent from 9.3 million 42-pound bushels in the 2016 crop year to 7.1 million bushels in the 2017 crop year (**Table 17**). Chile was the largest source of fresh apple imports, accounting for 50 percent of total imports. New Zealand and Canada followed, capturing approximately 27 and 14 percent of total imports, respectively. As a result of the U.S.-China trade agreement finalized in early 2015, 215,900 bushels of fresh apples were imported into the U.S. from China, accounting for 3 percent of U.S. apple imports for the 2017 crop season (**Table 19**). The yearly balance of trade for fresh apples and equivalent trade in juice apples is illustrated in **Table 17**.

The estimate of 503 million gallons single-strength equivalent for U.S. apple juice imports represents a 2 percent decrease from 512 million gallons imported in 2016. **Table 11** shows imports of apple juice on a single-strength equivalent basis and on a bushel-equivalent basis.

Figure 3: Utilization of 2017 U.S. Apple Crop



Source: USDA, National Agricultural Statistics Service.

2018 Crop: U.S. Production Forecast

On August 10, 2018, the U.S. Department of Agriculture (USDA) forecast the 2018 U.S. apple crop at 11.5 billion pounds. Measured in 42-pound bushels, the crop is forecast to be 272.7 million bushels. This is 1 million bushels greater than 2017 production in the U.S. and roughly 12 million bushels above the five year U.S. production average of 260.6 million bushels.

Production for 2018 in the East is forecast to stay steady while Midwest production, led by Michigan's rebound from weather related problems in 2017 is expected to increase by 34 percent. The Western forecast projects a decrease of 4 percent compared to 2017.

In the East, the 2018 crop is forecast at 58.7 million bushels, roughly the same as in 2017. The 2018 New York crop, at 31.0 million bushels, is forecast to be steady with 2017 and the five-year average of 31.0 million bushels. The Appalachian region (Maryland, Pennsylvania, Virginia and West Virginia) 2018 production is forecast at 20.8 million bushels, down 3 percent from 2017. The New England Region (Connecticut, Maine, Massachusetts and Vermont) crop is forecast to decrease by 7 percent from 3.3 million bushels in 2017 to 3.0 million bushels in 2018, and production in the Southeast is expected to decrease from the 2017 crop in that area as well. See **Tables 5 and 6** for regional crop production data.

Production from the Midwestern region, pegged at 31.4 million bushels, would be up by 34 percent from the 2017 production of 23.4 million bushels and is 8 percent above the five-year average. Michigan's crop is forecast at 28.0 million bushels, 40 percent above last year's crop of 20.0 million bushels, and 30 percent above the five-year average. The combined Eastern and Midwestern crop for 2017 is forecast at 90.1 million bushels, up 9 percent from 2017, and 4 percent above the five-year average.

The Western crop is forecast at 183 million bushels, a 4 percent decrease from 2017, and is 5 percent above the five-year average. Washington State is forecast to produce 171 million bushels, 4 percent below its 2017 production, and approximately 5 percent above the average production over the past five years. California production for 2018 is forecast at 6.2 million bushels, 16 percent more than the 2017 production and 9 percent above the five-year average for the state.

Apple production in Oregon is forecast at 3.7 million bushels, 12 percent less than the 2017 crop. Idaho is forecast to produce 1.3 million bushels in 2018, an increase of 14 percent from 2017. In 2016, the USDA discontinued production estimates for the Southwestern states of Arizona, Colorado and Utah. See **Table 7** for 2017 production forecasts and historical data by state and region.

2018 Crop: U.S. Production Forecast

Table 5: Comparison of Forecasted 2018 U.S. Apple Crop with 2017 and Five-Year Average (000 42-lb. Units)

REGION	2017	2018 FORECAST	5-YEAR AVERAGE	2018 FORECAST COMPARED WITH	
				2017	5-YEAR AVERAGE
East	58,976	58,707	57,543	0%	2%
Midwest	23,367	31,369	28,979	34%	8%
Total East and Midwest	82,343	90,076	86,522	9%	4%
West	189,229	182,595	174,122	-4%	5%
Total United States	271,571	272,671	260,644	0%	5%

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various years and *Crop Production*, Aug. 10, 2018.
Note: Columns may not add due to rounding.

Table 6: U.S. Apple Production By Region (000 42 lb. Units)

	2013	2014	2015	2016	2017	5-YEAR AVERAGE	2018 FORECAST
Eastern States	60,607	58,326	59,924	51,533	58,976	57,543	58,707
Midwest States	34,902	28,976	28,662	33,036	23,367	28,979	31,369
Total East and Midwest	95,510	87,302	88,586	84,569	82,343	86,522	90,076
Western States	152,862	193,983	150,417	186,324	189,229	174,122	182,595
United States	248,371	281,286	239,002	270,893	271,571	260,644	272,671

REGIONAL SHARE OF U.S. PRODUCTION							
	2013	2014	2015	2016	2017	5-YEAR AVERAGE	2018 FORECAST
Eastern States	24%	21%	25%	19%	22%	22%	22%
Midwest States	14%	10%	12%	12%	9%	11%	12%
Total East and Midwest	38%	31%	37%	31%	30%	33%	33%
Western States	62%	69%	63%	69%	70%	67%	67%
United States	100%	100%	100%	100%	100%	100%	100%

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various years and *Crop Production*, Aug. 10, 2018.
Note: Columns may not add due to rounding.

Table 7: U.S. Apple Production by State (000 42 lb. Units)

STATES	2013	2014	2015	2016	2017	2018 FORECAST	% CHANGE FROM 2017
New York	33,571	30,000	32,381	28,095	30,952	30,952	+0%
Pennsylvania	11,167	12,714	12,357	10,524	12,571	12,000	-5%
Virginia	4,643	4,881	4,648	4,286	5,357	5,238	-2%
North Carolina	3,690	2,976	2,500	2,476	2,381	2,738	+15%
West Virginia	2,262	2,238	2,198	1,905	2,429	2,619	+8%
Vermont	810	700	862	640	595	479	-20%
New Jersey	690	881	993	826	1,000	1,171	+17%
Massachusetts	1,036	1,031	1,026	690	929	1,033	+11%
Maine	643	905	848	869	1,036	1,143	+10%
New Hampshire	607	402	481	0	NA	NA	NA
Maryland	786	1,081	976	914	1,024	943	-8%
Connecticut	643	474	598	307	702	390	-44%
Rhode Island	60	43	57	0	NA	NA	NA
Total East	60,607	58,326	59,924	51,533	58,976	58,707	-0%
Michigan	30,000	24,405	23,690	30,357	20,000	27,976	+40%
Ohio	1,286	1,048	1,202	798	1,119	1,071	-4%
Wisconsin	1,143	1,286	1,226	976	1,167	1,229	+5%
Missouri	402	498	674	0	NA	NA	NA
Illinois	381	500	488	445	533	562	+5%
Indiana	714	407	536	0	NA	NA	NA
Minnesota	619	595	621	460	548	531	-3%
Tennessee	164	131	110	0	NA	NA	NA
Iowa	193	107	114	0	NA	NA	NA
Total Midwest	34,902	28,976	28,662	33,036	23,367	31,369	+34%
Total East and Midwest	95,510	87,302	88,586	84,569	82,343	90,076	+9%
Washington	140,476	182,143	141,190	174,286	178,571	171,429	-4%
California	6,429	5,714	4,786	6,071	5,357	6,190	+16%
Oregon	3,357	3,690	2,986	4,652	4,171	3,690	-12%
Idaho	1,681	1,507	1,098	1,314	1,129	1,286	+14%
Arizona	393	169	0	NA	NA	NA	NA
Colorado	133	212	0	NA	NA	NA	NA
Utah	393	548	357	0	NA	NA	NA
Total West	152,862	193,983	150,417	186,324	189,229	182,595	-4%
Total U.S.	248,371	281,286	239,002	270,893	271,571	272,671	+0%

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary*, various years and *USDA Crop Production*, August 10, 2018.
 NA - In 2016, USDA discontinued production estimates for New Hampshire, Rhode Island, Missouri, Indiana, Tennessee, Iowa, Arizona, Colorado and Utah.

2018 Crop: U.S. Varietal Analysis

The mix of varieties of the 2018 U.S. apple crop is as important to the apple market as the overall volume of total U.S. apple production. The relationship between fresh-market and processing varieties and the supply of certain fresh-market varieties plays an important role in determining market conditions.

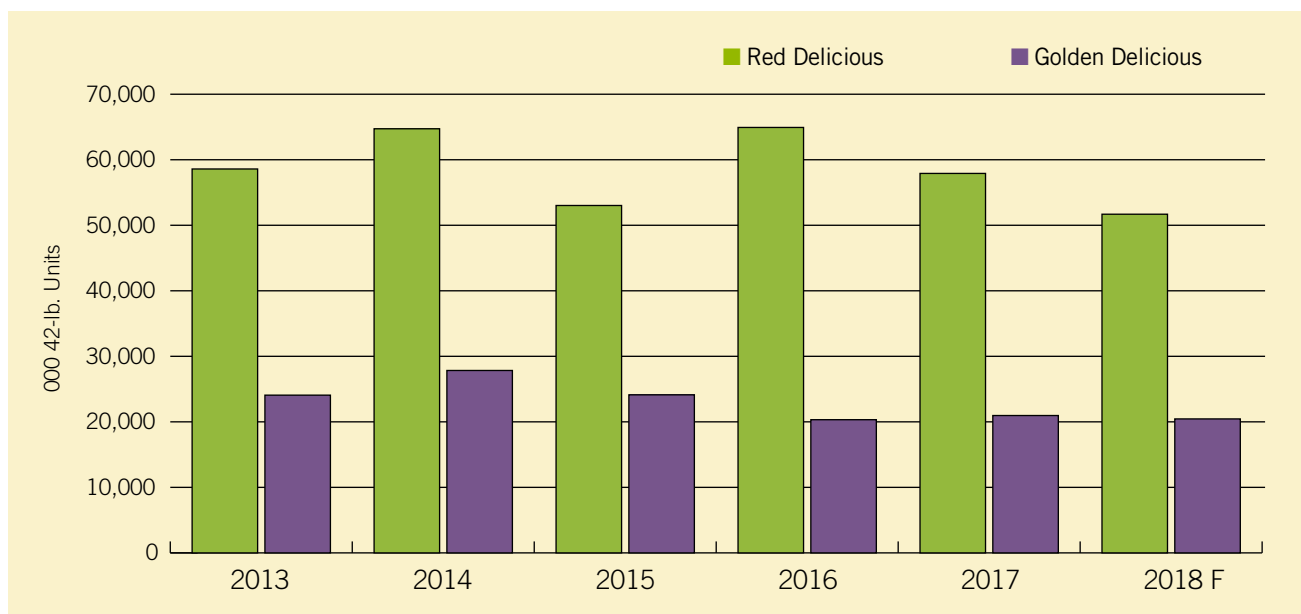
In 1981, the U.S. Department of Agriculture (USDA) discontinued its varietal estimate of the national apple crop. Since then, the U.S. Apple Association (USApple) has provided that service to the apple industry. USApple bases its varietal estimate on the total crop forecast provided by USDA. The estimate is calculated from input received from various regional producer organizations, consultations with regional production experts and varietal data collected from storage facilities.

2018 Regional and Varietal Estimates

Under ideal circumstances, the U.S. varietal mix is reasonably distributed across producing regions, and varietal supplies are sufficient to support fresh-market and processing-apple demand for any particular variety. As consumer tastes and market conditions evolve, the industry has historically sought to adjust to those evolving demand situations.

Total Western production is forecast to decrease by 4 percent from 2017 and will be 5 percent above the five-year average for that region. The percentage production of Red Delicious in Washington State relative to other varieties is expected to continue to decrease while other varieties such as Gala, Cripps Pink

Figure 4: Trends in U.S. Production for Red Delicious and Golden Delicious



Source: USApple
F = Forecast

and Honeycrisp will continue to increase their share of overall production. Reflecting the overall 2018 crop size, the production volume for Gala is expected to increase by 6 percent while Fuji volume is projected to increase by 2 percent. See **Table 8** for USApple’s varietal forecast and **Table 9** for variety forecasts by growing region.

Fresh market varieties are forecast to comprise approximately 78 percent of the U.S. crop in 2018. In 2017 and 2016, fresh-market varieties accounted for 79 percent of the crop in both years respectively. Dual-purpose varieties will make up 34 percent of the Eastern crop and 34 percent of the Midwestern crop, and will comprise 11 percent of overall U.S. production in 2018 (**Table 10**).

The varietal picture has changed over the past five years and will continue to change in 2018. Red Delicious is poised to lose the position it has held for decades as the largest volume variety. Projections for the 2018 crop are that Gala will edge out Red Delicious and will be the largest volume variety produced. With the

Table 8: Total U.S. Apple Production by Variety (000 42 lb. Units)

VARIETIES	2013	2014	2015	2016	2017	2018 FORECAST
Gala	37,891	47,138	38,567	50,879	49,565	52,432
Red Delicious	58,591	64,727	53,019	64,929	57,913	51,689
Granny Smith *	22,823	25,554	19,912	22,904	28,513	25,464
Fuji *	20,077	28,612	22,252	24,380	24,725	25,178
Honeycrisp	9,492	14,028	12,023	15,345	19,320	23,566
Golden Delicious	24,075	27,840	24,121	20,325	20,965	20,447
McIntosh	11,577	10,555	11,203	9,571	10,047	10,250
Rome	9,435	8,330	8,188	7,673	7,827	8,352
Cripps Pink *	5,160	5,942	4,616	8,487	7,456	8,296
Empire	6,938	6,137	6,451	5,968	5,934	6,184
Idared	4,974	4,276	4,235	4,405	3,850	4,457
York	3,910	4,359	4,234	3,691	4,476	4,394
Jonathan	3,547	3,033	2,982	3,053	2,389	2,934
Cortland	3,046	2,536	2,714	2,369	2,522	2,583
Braeburn *	2,506	3,239	2,516	2,144	1,576	1,131
Stayman	1,030	1,080	1,046	893	1,062	1,059
Northern Spy	1,440	1,137	1,122	1,362	925	942
Jonagold *	1,153	1,570	1,218	805	640	560
Cameo *	869	995	780	528	116	99
All Others	19,837	20,197	17,803	21,182	21,750	22,654
Total	248,371	281,286	239,002	270,893	271,571	272,671

Source: USApple

* Includes only western production. Eastern and midwest production are included in all others.

Note: Sum of varieties may not add up to total due to rounding of individual varieties.

Table 9: U.S. Apple Production, By Variety, Region (000 42 lb. Units)

VARIETY	AREA	2013	2014	2015	2016	2017	2018 FORECAST
Red Delicious	East	7,833	7,674	7,722	6,717	7,709	7,488
	Midwest	6,700	5,442	5,393	6,199	4,399	5,737
	West	44,059	51,611	39,905	52,014	45,806	38,464
	Total	58,591	64,727	53,019	64,929	57,913	51,689
Gala	East	3,140	3,050	3,217	2,901	3,304	3,906
	Midwest	2,730	2,768	3,248	4,156	2,850	4,366
	West	32,021	41,319	32,101	43,823	43,411	44,160
	Total	37,891	47,138	38,567	50,879	49,565	52,432
Golden Delicious	East	8,181	8,140	8,107	7,111	8,186	7,878
	Midwest	4,302	3,528	3,524	3,890	2,843	3,724
	West	11,592	16,172	12,490	9,324	9,935	8,845
	Total	24,075	27,840	24,121	20,325	20,965	20,447
Granny Smith	West/Total	22,823	25,554	19,912	22,904	28,513	25,464
Fuji	West/Total	20,077	28,612	22,252	24,380	24,725	25,178
McIntosh	East	9,340	8,457	9,127	7,383	8,469	8,268
	Midwest	2,237	2,098	2,076	2,188	1,578	1,983
	Total	11,577	10,555	11,203	9,571	10,047	10,250
Rome	East	7,016	6,394	6,405	5,652	6,373	6,429
	Midwest	2,055	1,595	1,579	1,837	1,296	1,743
	West	364	341	204	184	158	180
	Total	9,435	8,330	8,188	7,673	7,827	8,352
Empire	East	5,243	4,778	5,112	4,403	4,880	4,818
	Midwest	1,695	1,359	1,339	1,565	1,054	1,366
	Total	6,938	6,137	6,451	5,968	5,934	6,184
Cripps Pink	West/Total	5,160	5,942	4,616	8,487	7,456	8,296
Braeburn	West/Total	2,506	3,239	2,516	2,144	1,576	1,131
Idared	East	2,583	2,354	2,363	2,041	2,275	2,268
	Midwest	2,390	1,922	1,872	2,364	1,575	2,189
	Total	4,974	4,276	4,235	4,405	3,850	4,457
York	East/Total	3,910	4,359	4,234	3,691	4,476	4,394
Jonathan	East	195	218	212	185	224	220
	Midwest	3,227	2,693	2,698	2,803	2,109	2,676
	West	125	122	73	66	56	39
	Total	3,547	3,033	2,982	3,053	2,389	2,934
Cortland	East	2,692	2,270	2,453	2,052	2,305	2,286
	Midwest	354	266	261	317	217	297
	Total	3,046	2,536	2,714	2,369	2,522	2,583
Jonagold	West/Total	1,153	1,570	1,218	805	640	560
Cameo TM	West/Total	869	995	780	528	116	99
Stayman	East	941	1,002	958	845	1,000	998
	Midwest	90	79	88	48	62	62
	Total	1,030	1,080	1,046	893	1,062	1,059
Honeycrisp	East	2,158	2,141	2,405	2,183	2,493	2,853
	Midwest	1,731	1,522	1,585	1,881	1,360	1,996
	West	5,603	10,366	8,033	11,282	15,468	18,717
	Total	9,492	14,028	12,023	15,345	19,320	23,566
Northern Spy	East	175	157	170	145	161	99
	Midwest	1,265	980	952	1,217	763	843
	Total	1,440	1,137	1,122	1,362	925	942
All Others	East	7,199	7,333	7,438	6,227	7,120	6,803
	Midwest	6,127	4,724	4,048	4,571	3,261	4,389
	West	6,511	8,141	6,317	10,384	11,369	11,462
	Total	19,837	20,197	17,803	21,182	21,750	22,654
TOTAL U.S.		248,371	281,286	239,002	270,893	271,571	272,671

Source: USDA Crop Production, various years; USApple.

Note: Sum of varieties may not add to total due to rounding of individual varieties. Includes a benchmark adjustment in variety calculation.

2018 crop, Golden Delicious has fallen to sixth place. Reflecting the size of the 2018 crop relative to the 2017 crop as well as its increasing share of production, Honeycrisp production is estimated to increase by 22 percent for the 2018 crop compared to the prior year (Table 9). In 2018 Honeycrisp is projected to move into fifth place in national production, displacing Golden Delicious, continuing to significantly increase its share of total production and closing the gap with Fuji and Granny Smith.

Continuing its decline in share of national production, USApple estimates that total Red Delicious production in 2018 will decrease to 51.7 million bushels compared to production of 57.9 million bushels in 2017 (see

Table 10: U.S. Crop Distribution, By Variety Grouping, Region (000 42 lb. Units)

	2014		2015		2016		2017		2018	
	AMOUNT	%	AMOUNT	%	AMOUNT	%	AMOUNT	%	AMOUNT	%
FRESH¹										
East	26,100	44.7%	27,583	46.0%	23,586	45.8%	26,855	45.5%	27,332	46.6%
Midwest	13,188	45.5%	13,641	47.6%	15,989	48.4%	11,241	48.1%	15,448	49.2%
West	185,502	95.6%	143,896	95.7%	175,756	94.3%	177,701	93.9%	170,953	93.6%
Total Fresh	224,791	79.9%	185,120	77.5%	215,330	79.5%	215,798	79.5%	213,733	78.4%
DUAL PURPOSE²										
East	20,376	34.9%	20,499	34.2%	17,884	34.7%	20,364	34.5%	20,079	34.2%
Midwest	10,084	34.8%	10,021	35.0%	11,260	34.1%	8,101	34.7%	10,689	34.1%
West	341	0.2%	204	0.1%	184	0.1%	158	0.1%	180	0.1%
Total Dual Purpose	30,801	11.0%	30,724	12.9%	29,328	10.8%	28,623	10.5%	30,948	11.3%
PROCESSING³										
East	4,516	7.7%	4,404	7.3%	3,836	7.4%	4,637	7.9%	4,493	7.7%
Midwest	980	3.4%	952	3.3%	1,217	3.7%	763	3.3%	843	2.7%
West	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Processing	5,496	2.0%	5,356	2.2%	5,053	1.9%	5,401	2.0%	5,336	2.0%
ALL OTHER⁴										
East	7,333	12.6%	7,438	12.4%	6,227	12.1%	7,120	12.1%	6,803	11.6%
Midwest	4,724	16.3%	4,048	14.1%	4,571	13.8%	3,261	14.0%	4,389	14.0%
West	8,141	4.2%	6,317	4.2%	10,384	5.6%	11,369	6.0%	11,462	6.3%
Total All Other	20,197	7.2%	17,803	7.4%	21,182	7.8%	21,750	8.0%	22,654	8.3%
Total	281,286		239,002		270,893		271,571		272,671	

Source: USApple.

¹ Braeburn, Cameo, Cripps Pink, Empire, Fuji, Gala, Golden Delicious (West), Granny Smith, Honeycrisp, Jonagold, Jonathan (West), McIntosh, Red Delicious and Winesap.

² Cortland, Idared, Jonathan (East and Midwest), Golden Delicious (East and Midwest), Rome, and Stayman. Processing apple varieties represent an insignificant portion of Western production.

³ East and Midwest: Northern Spy, R. I. Greening and York; West: No significant processing apple variety production.

⁴ These are mostly dual-purpose and processing varieties.

Note: Percent for East, Midwest and West refers to percent of total crop in the respective areas. Percent for Total refers to the percent of the total national crop.

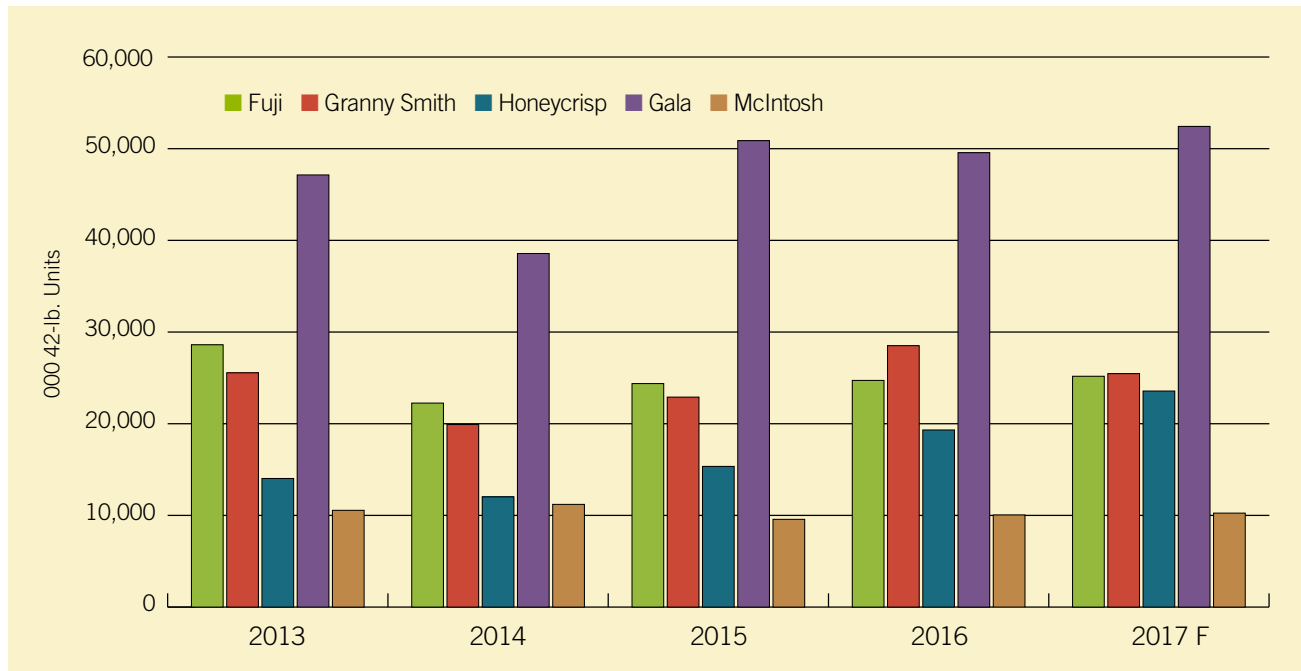
Figure 4). Red Delicious production volume is expected to decrease by 16 percent in the West compared to 2017. However, in the Midwest, with a larger projected Michigan crop, Red Delicious production is forecast to be 30 percent above 2017 production. Production in the East is expected to decrease by 3 percent in 2018.

Nationally, Gala production in 2018 is forecast at 52.4 million bushels, putting it in first place for overall volume, and up 6 percent from the 2017 crop. Gala production in 2018 is expected to increase by 18 percent in the East and, due in part to the larger projected 2018 Michigan crop relative to the weather reduced 2017 crop, contributes to the 53 percent increase in the Midwest. Production in the West is forecast to increase by 2 percent. See **Figure 7** for an analysis of Gala production.

In 2018 Golden Delicious production is estimated to decrease by 11 percent in the West, and to increase by 31 percent in the Midwest but is expected to decrease by 4 percent in the East compared to 2017 production. Nationally, 2018 Golden Delicious production volume is expected to decrease 2 percent compared to 2017 (**Figure 4**). Together, Red Delicious, Gala, and Golden Delicious are expected to make up 46 percent of total U.S. apple production in 2018, approximately 2 percent less than the share of U.S. production that the three varieties comprised in 2017.

Fuji production in the West in 2018 is expected to increase by 2 percent as compared to 2017. See **Figure 6** for an analysis of Western U.S. Fuji production. Production of Granny Smith is forecast to decrease 11 percent as compared to 2017. McIntosh volume is expected to decrease by 2 percent in the East but to

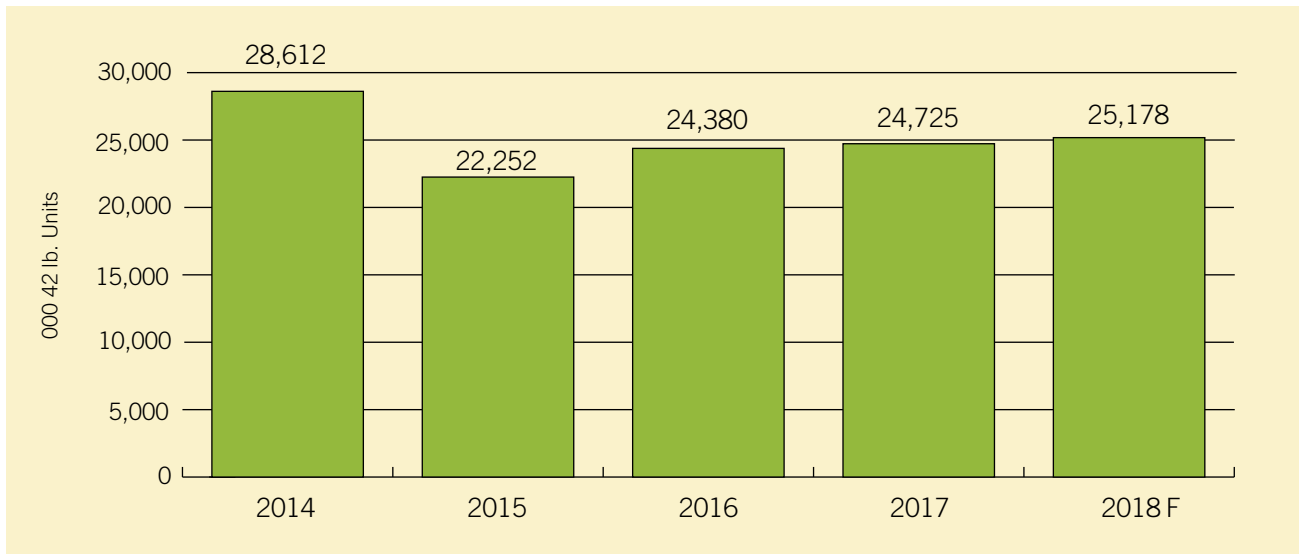
Figure 5: Trends in Production for Other Top U.S. Varieties



Source: USApple
F = Forecast

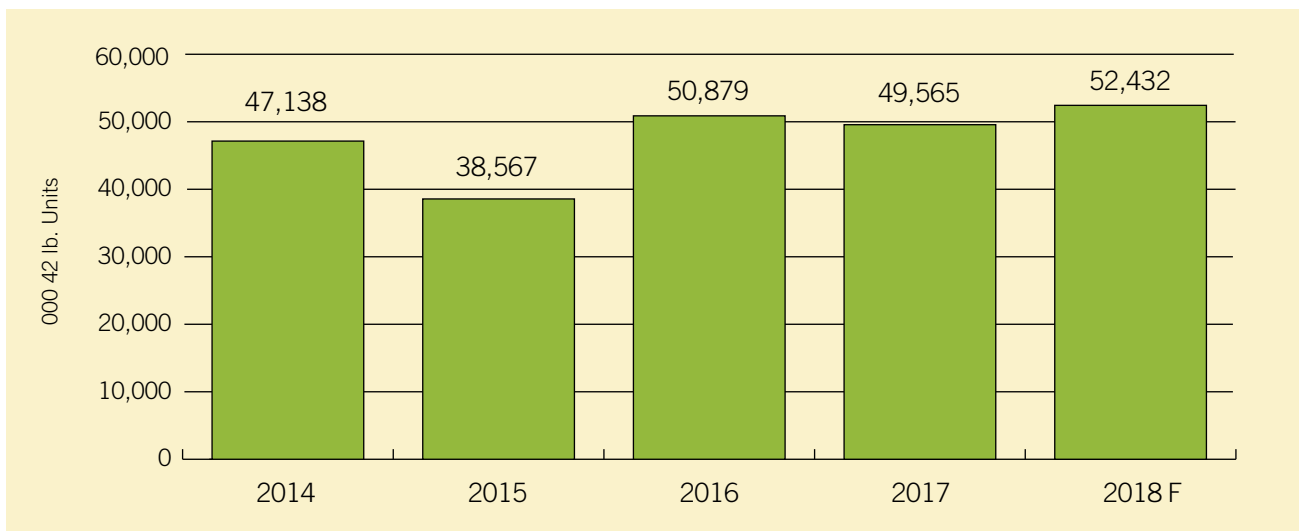
rise by 26 percent in the Midwest in 2018 from 2017 production levels. Nationally, McIntosh production in 2018 is forecast to increase by 2 percent compared to production in 2017. See **Figure 5**, **Table 8** and **Table 9** for historical comparisons of varietal production.

Figure 6: Western U.S. Fuji Production (000 42-lb. Units)



Source: USApple
F = Forecast

Figure 7: U.S. Gala Production (000 42-lb. Units)



Source: USApple
F = Forecast

2018 Crop: U.S. Utilization and Movement Forecasts

The following forecast of the 2018 crop processing apple utilization is based on U.S. Department of Agriculture (USDA) data on the utilization of apples in various processed apple products and information USAApple has gathered from apple processing firms.

Total Canned Apple Products

Canned apple products are expected to use 29.1 million bushels of raw product in 2018 (**Table 13**). Utilization at this level would be 5 percent more than in 2017.

Apple Juice Concentrate

After increasing steadily in the mid-1980s, imports of single-strength-equivalent apple juice varied from year-to-year in the 1990s. Imports then grew dramatically during the first decade of the twenty-first century. **Table 11** illustrates import levels of single-strength-equivalent apple juice over the past five years; import data has also been converted to show the equivalent in bushels of apples and is compared to utilization of domestically-produced apples for juice processing.

In 2017, imports of single-strength apple juice equivalents were 2 percent less than 2016 import levels. For the 2017 crop year, imported bushel equivalents represented 82 percent of the total amount of apples used to process apple juice in the United States. Historical prices for apple juice concentrate are included in **Appendix A**.

Table 11: U.S. Apple Juice Imports (000)

	2013/14	2014/15	2015/16	2016/17	2017/18 (F)
Imported Gallons: Single-Strength Equivalent ¹	445,854	432,455	504,238	512,209	503,267 F
Imported Gallons Converted to: Bushel Equivalents ¹	124,193	120,461	140,456	142,677	140,186
Domestic Production in Gallons: Single Strength Equivalent ¹	126,650	123,350	110,742	107,192	112,817 F
Domestic Bushels Used for Juice	35,279	34,359	30,847	29,858	31,425
Total Bushel Equivalents Used for Juice (Domestic + Imported)	159,472	154,820	171,303	172,535	171,611
Imported Bushel Equivalents as Percent of Total	78%	78%	82%	83%	82%

Source: USDA, Economic Research Service, Crops Branch.

¹ Based on a marketing year of August through July.

The volume shown as bushel equivalents is based on a conversion rate of 3.59 gallons of single-strength juice per 42-lb. unit. One bushel is equivalent to 42 lbs.

F = Forecast by Economic Research Service, Crops Branch

The volume of raw product to be utilized for juice processing from the 2018 crop is forecast at the equivalent of 34.5 million bushels. This level of juice-apple utilization would represent 44 percent of the total processing volume, up from the 43 percent utilization rate in 2017.

Frozen Apple Products

Frozen apple utilization from the 2018 crop is forecast at 4.6 million bushels, which is 63 percent more than 2017 utilization. USApple estimates that 6 percent of total processed apples from the 2018 crop will go to frozen product, which is more than the 4 percent of processed apples used for frozen product last year.

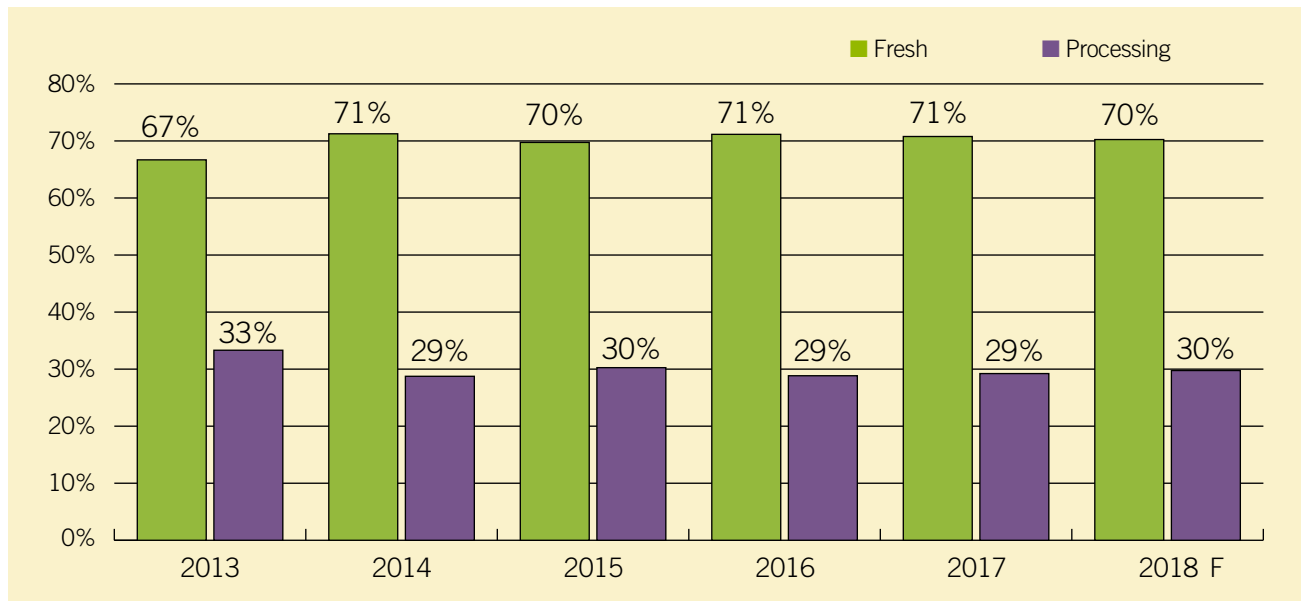
Dried Apple Products

In 2018, the dried category is forecast to utilize 6.0 million bushels, which is down by 31 percent from the amount utilized in 2017. USApple estimates that approximately 8 percent of total processed apples will go to dried products, down from 11 percent in 2016.

Fresh Apple Slices

USDA began tracking the utilization of processed fresh apple slices in 2005. This category used 4.2 million bushels in 2017, and USApple estimates use in 2018 to be 4.7 million bushels.

Figure 8: U.S. Crop Utilization (Percentage)



Source: USDA, National Agricultural Statistics Service.

Note: Based on utilized production.

F = Forecast.

2018 Crop: U.S. Utilization and Movement Forecasts

Table 12: Utilization Summary, By U.S. Production Region (000 42 lb. Units)

REGIONS	FRESH	PROCESSED	NOT MARKETED	TOTAL
EASTERN STATES				
2013-14	26,895	31,798	1,402	60,095
2014-15	27,529	31,693	697	59,920
2015-16	28,405	29,540	471	58,417
2016-17	26,133	24,962	438	51,533
2017-18	30,079	28,148	750	58,976
2018-19 Forecast	28,301	29,652	754	58,707
MIDWESTERN STATES				
2013-14	14,405	18,667	474	33,545
2014-15	12,851	15,584	153	28,588
2015-16	13,462	13,579	288	27,329
2016-17	16,907	15,574	95	32,576
2017-18	12,869	9,867	62	22,798
2018-19 Forecast	14,866	15,195	216	30,276
TOTAL EAST AND MIDWEST				
2013-14	41,300	50,464	1,876	93,640
2014-15	40,381	47,278	850	88,508
2015-16	41,867	43,119	760	85,745
2016-17	43,040	40,536	533	84,110
2017-18	42,948	38,014	812	81,774
2018-19 Forecast	43,167	44,846	970	88,983
WESTERN STATES				
2013-14	118,333	27,379	138	145,850
2014-15	149,368	29,524	14,888	193,780
2015-16	118,000	26,310	990	145,300
2016-17	137,286	32,952	10,133	180,371
2017-18	138,633	38,033	7,324	183,990
2018-19 Forecast	142,748	33,252	6,594	182,595
OTHER STATES				
2013-14	4,410	4,171	193	8,774
2014-15	4,344	4,174	199	8,717
2015-16	4,317	3,683	145	8,145
2016-17	2,536	3,848	29	6,412
2017-18	2,086	3,662	60	5,807
2018-19 Forecast	500	576	17	1,093
TOTAL UNITED STATES				
2013-14	164,174	82,014	2,183	248,371
2014-15	194,093	80,976	6,104	281,172
2015-16	164,183	73,112	1,895	239,190
2016-17	182,862	77,336	10,695	270,893
2017-18	183,667	79,710	8,195	271,571
2018-19 Forecast	186,415	78,675	7,582	272,671

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

Note: Sum of column and row may not equal total due to rounding.

Processing vs. Fresh-Market Forecasts

USDA forecasts the 2018 U.S. apple-crop at 273 million bushels. Based on this forecast, USApple estimates that approximately 186 million bushels will be sold as fresh-market apples, 79 million bushels are forecast to be processed, and approximately 7.6 million bushels will not be marketed (**Table 15**).

Utilization by production region is found in **Table 12**. Comparisons of apple-crop processing utilization volume and value are found in **Tables 13 and 14** respectively; overall utilization is summarized in **Table 15**.

Fresh-market apple utilization in 2018 is expected to increase by 1 percent as compared to 2017. The fresh versus processing ratio of crop utilization for the 2018 crop is forecast to be 68 percent fresh and 29 percent processing, with roughly 3 percent of the crop not marketed. For the 2017 crop, 68 percent was sold in the fresh market while 29 percent was used for processed products and 3 percent was not marketed.

Figure 8 presents the historic utilization breakdown graphically. **Table 12** includes a regional breakdown of the crop into fresh-market and processed product destinations. Utilization of the processing portion of the crop estimated for 2018 and for the previous five years is shown in **Table 15**.

2018 Crop Movement Forecast

USApple estimates that movement of the 2018 crop prior to December 1, 2018, will be 97 million bushels. Of this, 30 percent will go to processing, 44 percent to the fresh domestic market and 19 percent to fresh exports.

On December 1, 2018, holdings of 2018 crop apples remaining in storage are forecast to be 175 million bushels, representing 64 percent of the total crop. About 79 percent of these holdings would be in controlled-atmosphere storage. General utilization, movement, and storage data are presented in **Table 16**.

Table 13: U.S. Processing-Apple Utilization: Volume (000 42-lb. units)

	2013	2014	2015	2016	2017	FORECAST 2018
Canned ¹	30,105	27,024	26,429	28,917	27,755	29,142
Juice	36,186	35,243	31,640	30,626	32,233	34,483
Dried	3,833	4,071	4,262	8,076	8,810	6,038
Frozen	5,695	5,964	4,464	3,274	2,833	4,620
Fresh Slices	4,488	4,321	4,440	3,229	4,200	4,681
Total	82,014	78,298	71,236	74,121	75,831	78,964

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

¹ Canned apple products include apple sauce and canned slices.

Note: Sum of processing utilization categories may not add due to rounding.

Table 14: U.S. Processing-Apple Utilization: Value (\$000)

	2012	2013	2014	2015	2016	2017
Total Canned	\$147,908	\$140,981	\$114,635	\$133,755	\$148,169	\$168,444
Juice	\$122,887	\$110,186	\$90,292	\$89,701	\$106,120	\$127,257
Dried	\$19,624	\$15,376	\$12,996	\$16,647	\$34,259	\$43,660
Frozen	\$10,922	\$27,867	\$29,309	\$22,781	\$18,862	\$18,862
Fresh Slices	\$19,313	\$36,098	\$38,569	\$38,139	\$26,306	\$37,573
TOTAL¹	\$327,069	\$340,208	\$293,006	\$308,737	\$348,696	\$415,021

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

¹ Sum of categories may not equal total due to rounding - plus USDA no longer reports "Other Products" category

Table 15: U.S. Apple Utilization Summary (000 42-lb. Units)

	2013	2014	2015	2016	2017	FORECAST 2018
Fresh Production	164,174	194,093	164,183	182,862	183,667	186,415
Fresh Imports ¹	11,023	9,706	9,607	9,259	7,106	8,016
Imports as % of Fresh	7%	5%	6%	5%	4%	4%
Fresh Exports ¹	44,160	52,869	42,487	45,041	53,070	50,332
Exports as % of Fresh	27%	27%	26%	25%	29%	27%
Not Marketed	2,183	6,104	1,895	10,695	8,195	7,582
Total Processed²	82,014	78,298	71,236	74,121	75,831	78,964
Canned	30,105	27,024	26,429	28,917	27,755	29,142
Juice	36,186	35,243	31,640	30,626	32,233	34,483
Dried	3,833	4,071	4,262	8,076	8,810	6,038
Frozen	5,695	5,964	4,464	3,274	2,833	4,620
Fresh Slices	4,488	4,321	4,440	3,229	4,200	4,681
Total Production	248,371	281,286	239,002	270,893	271,571	272,671

Source: USDA, National Agricultural Statistics Service, USApple, *Noncitrus Fruits and Nuts Summary*, various years - and Foreign Agricultural Service Global Agricultural Trade System (GATS)

¹ Based on a marketing year of July through June.

² Sum of categories may not equal total due to rounding.

Table 16: U.S. Utilization, Movement and Storage Holdings (000 42 lb. Units)

UTILIZATION	2015		2016		2017		2018 FORECAST	
	QUANTITY	%	QUANTITY	%	QUANTITY	%	QUANTITY	%
TOTAL UTILIZATION								
Fresh Exports	42,487	18%	45,041	17%	53,070	20%	50,332	18%
Fresh Domestic	121,697	51%	137,821	51%	130,597	48%	136,083	50%
Processing	71,236	30%	74,121	27%	75,831	28%	78,964	29%
Not Marketed ¹	1,895	1%	10,695	4%	8,195	3%	7,582	3%
Total	239,002	99%	270,893	99%	271,571	99%	272,671	100%
ESTIMATED FALL MOVEMENT (BEFORE DECEMBER 1)								
Fresh Exports	18,505		15,374		17,772		18,302	
Fresh Domestic	39,941		47,267		34,838		42,541	
Processing	28,820		31,048		24,350		29,444	
Not Marketed	1,895		10,695		8,195		7,143	
Total	89,162		104,385		85,155		97,431	
ESTIMATED STORAGE MOVEMENT (AFTER DECEMBER 1)								
Fresh Exports	23,982		29,711		35,298		37,595	
Fresh Domestic	81,756		90,554		95,759		87,723	
Processing	42,415		43,073		51,481		49,922	
Total	148,153		163,339		182,538		175,240	
MOVEMENT BY TYPE OF STORAGE								
From C.A. Storage	120,583		132,900		143,627		138,440	
From Regular Storage	27,503		30,439		38,912		36,801	
Total Holdings on Dec 1	148,086		163,339		182,538		175,240	
Processor Holdings	42,415		43,073		51,481		48,163	
Fresh Holdings	105,737		120,265		131,057		127,078	

Source: USDA, National Agricultural Statistics Service, *Noncitrus Fruits and Nuts Summary* and USDA August 10, 2018 *Crop Production*.

¹ All apples not marketed are assumed to be waste or shrinkage and are accounted for in the fall period (prior to Dec. 1).

Note: Totals may not add up due to rounding.

International Market Outlook

Exports are an important factor in determining overall economic conditions in the apple industry. According to USDA's Global Agricultural Trade System (GATS), fresh exports from the 2017 U.S. apple crop for the July 2017 to June 2018 marketing year totaled 53.1 million bushels, an 18 percent increase from the 2016 crop. The value of U.S. fresh-apple exports from the 2017 crop, at \$1.09 billion, was up 14 percent from the \$955 million of the previous marketing year. In 2017, the 53.1 million bushels exported made up 29 percent of total fresh-market production. Exports, forecast at 50 million bushels in 2018-19, will represent approximately 27 percent of anticipated fresh production (**Tables 15 and 16**).

According to USDA data, Mexico was the top-ranked market for U.S. apple exports from the 2017 crop. U.S. exporters shipped approximately 15.2 million bushels of apples to Mexico in 2017-18, compared to 13.7 million exported there in 2016-17. Exports to Mexico in 2017-18 represented 29 percent of all U.S. exports. India represented the second-largest market for U.S. apple exports, taking over the spot that had been formerly occupied by Canada. USDA export data indicates that 8.8 million bushels were shipped to India from the 2017 crop, as compared to 4.9 million bushels from the 2016 crop.

Table 17: U.S. Apple Balance of Trade

	2013/14	2014/15	2015/16	2016/17	2017/18
VOLUME OF FRESH					
42-lb. Bushels (000) Imports	11,023	9,706	9,607	9,259	7,106
Exports	44,160	52,869	42,487	45,041	53,070 ²
Exports as percent of Fresh Crop	27%	27%	26%	25%	29%
Total Trade	55,184	62,575	52,094	54,300	60,176
U.S. Net	33,137	43,162	32,880	35,782	45,963
Exports as percent of total fresh trade	80%	84%	82%	83%	88%
Imported Concentrate Converted to Bushels Equivalent	124,193	120,461	140,456	142,677	140,186
TOTAL U.S. NET¹ (Fresh + Concentrate)	-91,056	-77,299	-107,577	-106,895	-94,223
VALUE OF FRESH (\$000)					
Exports	\$1,040,195	\$1,079,652	\$927,687	\$955,007	\$1,091,554 ²
Imports	\$246,631	\$233,212	\$250,395	\$245,499	\$199,322
U.S. Net	\$793,564	\$846,440	\$677,292	\$709,508	\$892,232

Source: USDA, Foreign Agricultural Service. Exports and imports are based on a marketing year of July through June.

¹ Total U.S. Net = the U.S. net less the bushel equivalent of imported juice and concentrate from Table 11.

² USDA FAS Global Agricultural Trade System (GATS) Report - Fresh apple exports July 2017-June 2018.

Canada was the third-largest export market for U.S. exporters. Exports to Canada totaled 8.3 million bushels from the 2017 crop, and 7.1 million bushels from the 2016 crop. Exports to China from the 2017 crop totaled 684 thousand bushels with a value of \$16.8 million.

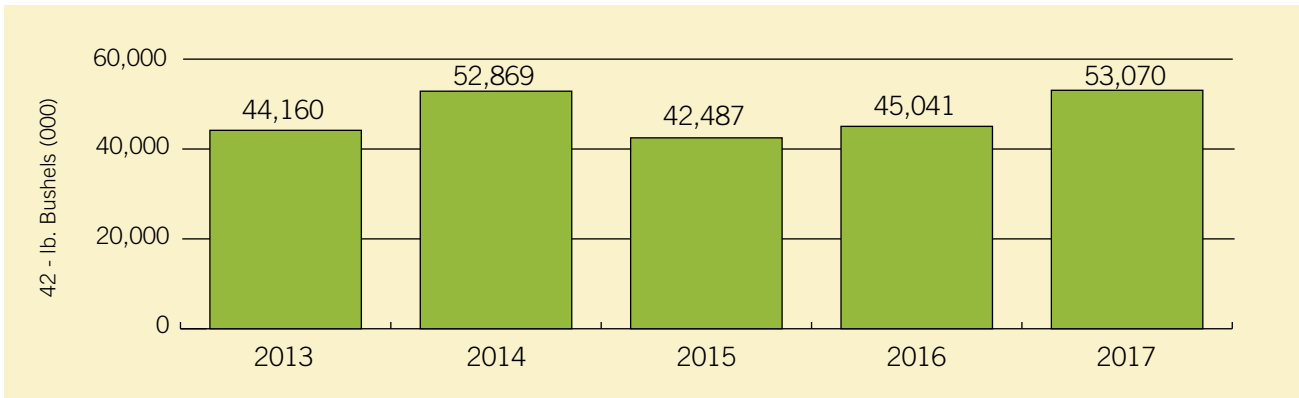
Table 17 details the historic balance of apple trade. **Table 18** lists leading U.S. export markets. **Table 19** lists the leading countries from which the United States imports fresh apples. **Figure 9** illustrates yearly exports from 2013 to 2017. **Figure 10** details monthly exports from 2014 to 2017. **Figure 11** illustrates yearly import totals from 2013 to 2017. **Figure 12** details monthly imports from 2014 to 2017. **Figure 13** shows the percentage of the U.S. fresh-market crop that is exported, and **Figure 14** illustrates U.S. fresh apple imports as a percentage of fresh production.

Table 18: Top Twenty Apple Export Markets (000 42-lb. Units)

COUNTRY	CROP YEAR					VALUE (in 000 \$)
	2013	2014	2015	2016	2017	
Mexico	12,094	15,642	12,350	13,685	15,195	\$290,960
India	2,770	5,833	2,670	4,910	8,816	\$174,773
Canada	7,136	7,637	7,401	7,113	8,335	\$168,395
Taiwan	3,101	3,861	3,016	3,386	2,777	\$66,856
Indonesia	1,896	1,560	2,071	1,727	1,637	\$33,399
Vietnam	1,667	1,813	1,069	1,380	1,636	\$41,475
United Arab Emirates	2,837	3,030	1,929	1,420	1,565	\$30,350
Hong Kong	1,886	2,289	1,760	2,017	1,548	\$34,430
Saudi Arabia	1,026	1,483	967	1,009	1,321	\$25,839
Dominican Republic	754	936	945	1,049	1,030	\$19,606
Israel	721	742	731	501	814	\$14,925
Thailand	1,039	1,113	957	791	783	\$17,705
Israel	465	252	328	314	719	\$20,877
China	36	756	747	961	684	\$16,787
Guatemala	466	499	563	472	573	\$11,935
Malaysia	715	545	390	276	566	\$11,173
Costa Rica	416	450	552	461	526	\$11,087
Honduras	401	376	417	445	489	\$9,373
El Salvador	351	363	505	368	445	\$7,980
United Kingdom	536	357	275	122	304	\$8,911
Others	3,846	3,332	2,846	2,634	3,307	\$74,718
Total Exports	44,160	52,869	42,487	45,041	53,070	\$1,091,554

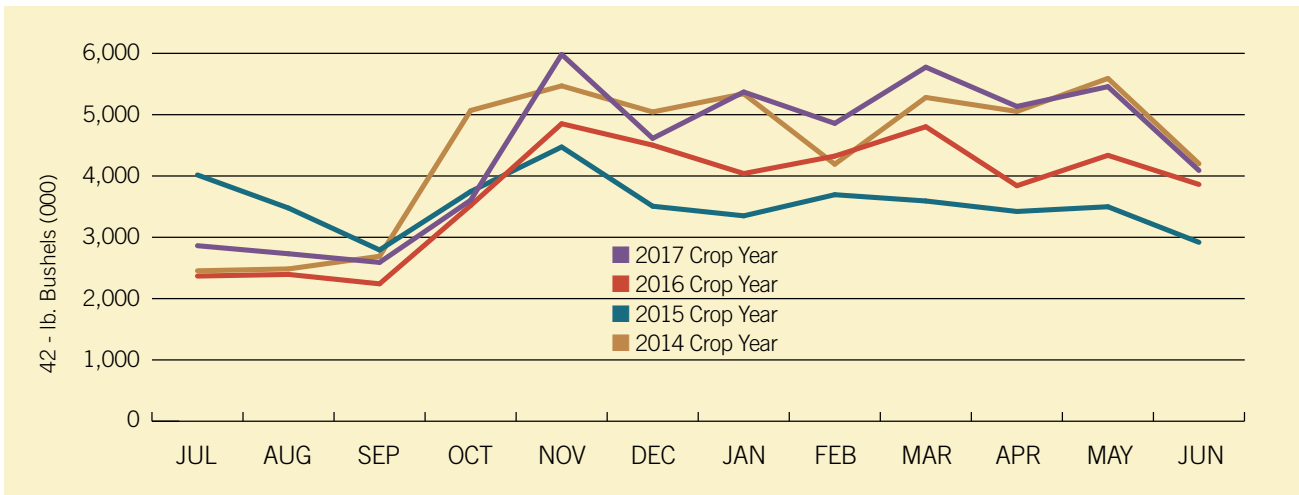
Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce. Exports are based on a marketing year of July through June.

Figure 9: U.S. Apple Exports



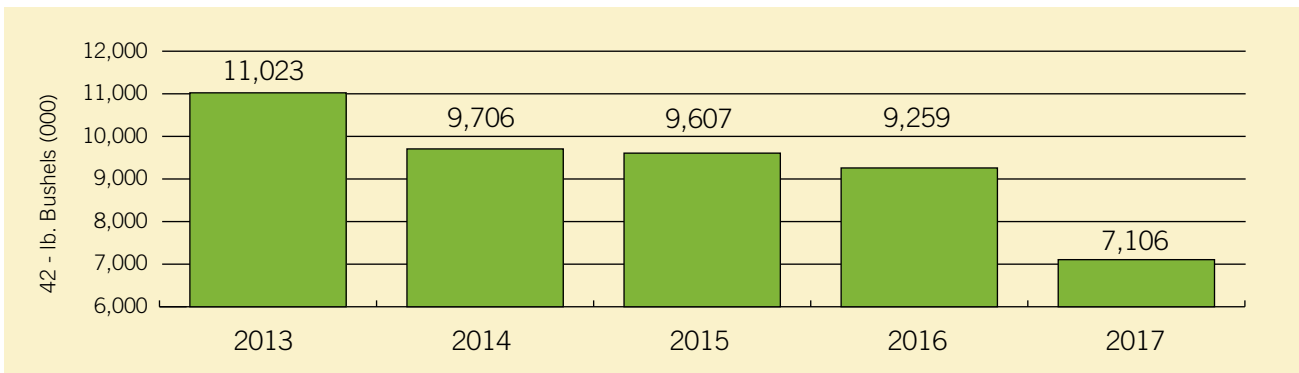
Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce.

Figure 10: U.S. Apple Exports by Month for Various Crop Years



Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce.

Figure 11: Apple Imports by year (000 42-lb. units)



Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce.

2018 U.S. Trade Outlook

Based on a U.S. 2018 crop forecast of 273 million bushels, USApple expects apple exports from the 2018 crop to decrease to 50 million bushels. This would be approximately 5 percent less than the 53.1 million bushels exported in 2017-18.

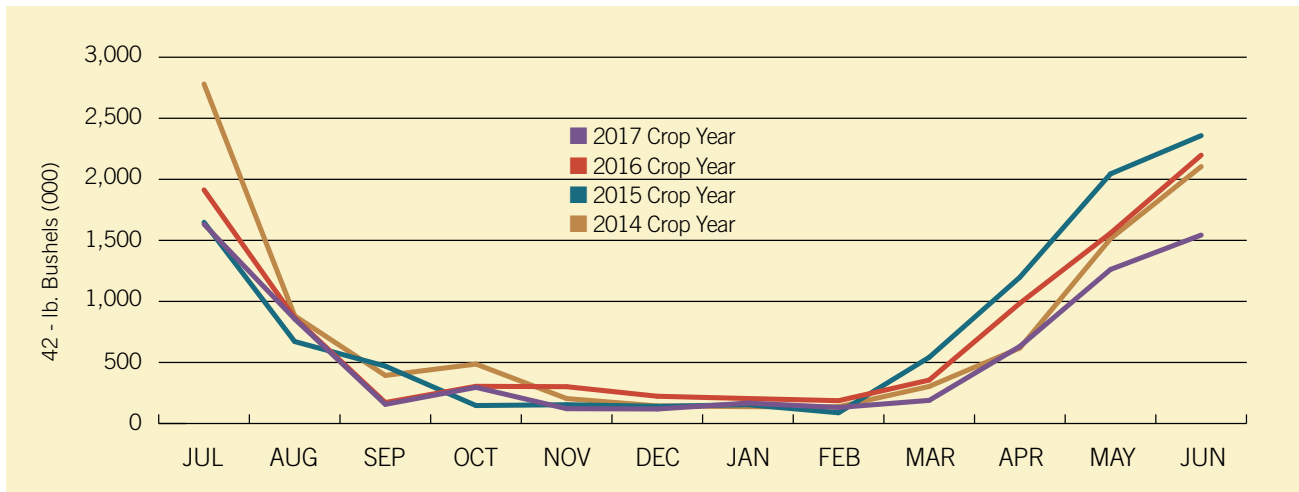
Imports of fresh apples into the United States in 2018-19 are forecast by USApple at 8.0 million 42 lb. units, an 11 percent increase from 2017.

Table 19: Apple Imports by Country and Year (000 42-lb. units)

COUNTRY	2013	2014	2015	2016	2017
Chile	6,906	5,226	5,267	4,694	3,578
New Zealand	2,443	1,794	2,215	2,129	1,909
Canada	1,221	1,943	1,331	1,719	978
Argentina	430	705	643	481	421
China	0	1	116	164	216
Others	23	36	35	72	6
Total Imports	11,023	9,706	9,607	9,259	7,106

Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce
Imports are based on a marketing year of July through June.

Figure 12: Apple Imports by Month for Various Crop Years



Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce.

European Crop Outlook

European production in 2018 has rebounded from the effects of a widespread damaging frost and drought in 2017. Production in the European Union's apple-growing countries is forecast at 12.6 million metric tons (662 million bushels) for the 2018 season. This information was developed by the World Apple and Pear Association (WAPA) in conjunction with the Prognosfruit Conference in Warsaw, Poland from August 8-10, 2018.

The 2018 European forecast is 36 percent greater than 2017, when production was 9.3 million metric tons (486 million bushels). The projected 2018 crop is 12 percent greater than the five-year average. Apple production for all 28 members of the European Union is reported together.

Table 20: European Union Apple Production, By Country (000 Metric Tons)

	2013	2014	2015	2016	2017	2018 FORECAST	5-YEAR AVERAGE	CHANGE FROM 2017	5-YR AVG.
Poland	3,170	3,750	3,970	4,035	2,870	4,480	3,559	+56%	+26%
Italy	2,122	2,456	2,280	2,272	1,704	2,200	2,167	+29%	+2%
France	1,576	1,444	1,674	1,515	1,424	1,502	1,527	+5%	-2%
Germany	804	1,116	973	1,033	597	990	905	+66%	+9%
Spain	464	505	482	495	480	473	485	-1%	-3%
Hungary	585	920	522	498	530	728	611	+37%	+19%
Romania	387	382	336	327	230	320	332	+39%	-4%
Netherlands	314	353	336	317	228	259	310	+14%	-16%
Portugal	284	272	329	263	314	267	292	-15%	-9%
Greece	236	245	242	259	231	286	243	+24%	+18%
United Kingdom	204	223	243	244	206	220	224	+7%	-2%
Belgium	220	318	285	234	88	217	229	+147%	-5%
Czech Rep	121	131	156	139	102	150	130	+47%	+16%
Lithuania	40	27	46	50	48	54	42	+13%	+28%
Croatia	96	62	101	35	66	108	72	+64%	+50%
Austria	155	188	177	40	67	184	125	+175%	+47%
Denmark	23	26	24	24	19	24	23	+26%	+3%
Sweden	17	16	21	20	18	32	18	+78%	+74%
Slovakia	42	46	40	17	15	47	32	+213%	+47%
Slovenia	56	68	71	12	6	65	43	+983%	+53%
Latvia	15	10	8	10	8	6	10	-25%	-41%
TOTAL	10,529	12,558	12,326	11,840	9,251	12,611	11,301	38%	13%

Source: WAPA.

Note: Sum of country totals may not add to total due to rounding.

Among the largest producers, Polish production is forecast to increase by 56 percent over its 2017 production, while Italian production, is forecast to increase by 29 percent. French production is expected to be up by 5 percent, and German production is forecast to increase by 66 percent in 2018. Production in Spain is expected to fall by 1 percent from last year's crop, while production in Hungary is forecast to increase by 37 percent. Apple production in the Netherlands is expected to increase by 14 percent, while Belgium production is expected to rise by 147 percent.

Table 21: European Union Apple Production, By Variety (000 Metric Tons)

	2013	2014	2015	2016	2017	2018 FORECAST	5-YEAR AVERAGE	CHANGE FROM 2017	5-YR AVG.
Golden Delicious	2,535	2,677	2,534	2,406	1,911	2,347	2,413	+23%	-3%
Gala	1,204	1,327	1,382	1,314	1,271	1,457	1,300	+15%	+11%
Idared	1,069	1,192	1,129	965	629	1,148	997	+83%	+15%
Red Delicious	597	675	643	632	558	692	621	+24%	+11%
Shampion	457	494	513	522	416	571	480	+37%	+19%
Jonagored	341	491	519	539	335	545	445	+63%	+22%
Jonagold	500	644	633	567	298	539	528	+81%	+2%
Granny Smith	361	383	405	384	363	381	379	+5%	+0%
Red Jonaprince	53	98	104	156	114	353	105	+210%	+236%
Elstar	346	431	399	387	265	335	366	+26%	-8%
Fuji	311	321	338	288	290	327	310	+13%	+6%
Braeburn	302	322	327	320	220	305	298	+39%	+2%
Cripps Pink	187	249	244	261	260	277	240	+7%	+15%
Ligol	250	260	290	303	330	250	287	-24%	-13%
Gloster	196	201	183	197	166	187	189	+13%	-1%
Jonathan	178	193	143	123	108	150	149	+39%	+1%
Pinova	62	79	119	104	85	138	90	+62%	+54%
Reinette Grise	121	126	134	108	83	130	114	+57%	+14%
Bramley	70	83	84	85	75	77	79	+3%	-3%
Boskoop	58	85	77	71	34	63	65	+85%	-3%
Morgenduft	57	74	46	49	54	59	56	+9%	+5%
Annurca	35	40	35	35	35	40	36	+14%	+11%
Cox Orange	42	33	34	29	20	20	32	+0%	-37%
Stayman	18	14	14	14	8	7	14	-13%	-49%
Spartan	6	6	6	4	3	4	5	+33%	-20%
Cortland	25	25	26	0	0	0	15	NA	NA
Lobo	30	30	31	0	0	0	18	NA	NA
Other new Varieties	152	168	207	211	208	307	189	+48%	+62%
Other	1,358	1,808	1,713	1,737	1,192	1,802	1,562	+51%	+15%
TOTAL	10,929	12,558	12,326	11,840	9,251	12,611	11,381	+36%	+11%

Source: WAPA.

Note: Column totals reflect EU production as listed in Table 20.

In terms of varieties, European production of Golden Delicious, that region's most prevalent variety, is forecast at 2.3 million metric tons (123 million bushels), a 23 percent increase from 2017, and 3 percent less than the average production over the last five years. Gala, now the second largest variety produced in Europe, is expected to yield 1.5 million metric tons (76 million bushels) in 2018. European Gala production is expected to be 15 percent above 2017, and will be 11 percent above the five-year average. Red Delicious, the fourth

Table 22: Other European and Perimeter Countries Apple Production, By Country (000 Metric Tons)

	2013	2014	2015	2016	2017	2018 FORECAST	5-YEAR AVERAGE	CHANGE FROM 2017 5-YR AVG.	
Belarus	145	160	155	155	125	150	148	20%	1%
Bosnia-Herzegovina	85	61	69	28	30	33	55	10%	-40%
China	39,683	40,923	42,813	43,800	43,800	31,500	42,204	-28%	-25%
Macedonia	113	85	70	101	100	120	94	20%	28%
Mexico	522	350	717	714	714	500	603	-30%	-17%
Moldova	260	420	250	412	487	505	366	4%	38%
Norway	7	8	5	8	7	8	7	14%	14%
Russia	1,470	1,647	1,707	1,735	1,100	1,300	1,532	18%	-15%
Serbia	332	317	356	400	400	430	361	8%	19%
Switzerland	132	143	140	136	96	168	129	75%	30%
Turkey	2,681	2,109	2,486	2,852	2,004	2,505	2,426	25%	3%
Ukraine	1,211	1,082	1,196	1,117	1,007	1,108	881	10%	26%
TOTAL	45,431	47,305	49,964	51,458	49,870	38,327	49,964	-23%	-23%

Source: WAPA.

Note: Sum of country totals may not add to total due to rounding.

NC = Change of less than one percent.

Table 23: Canadian Apple Production, by Province (000 42-lb. Units)

PROVINCE	2013	2014	2015	2016	2017	2018 FORECAST	5-YEAR AVERAGE	CHANGE FROM 2017 5-YR AVG.	
Ontario	7,622	8,567	7,315	7,284	5,844	7,342	7,326	+26%	0%
Quebec	5,926	6,091	6,067	5,597	5,478	5,747	5,832	+5%	-1%
British Columbia	4,502	4,439	3,928	2,922	2,828	3,311	3,724	+17%	-11%
Nova Scotia	2,282	2,030	2,100	1,302	1,332	1,381	1,809	+4%	-24%
New Brunswick	173	173	167	167	188	132	174	-30%	-24%
Total	20,505	21,300	19,577	17,272	15,659	17,913	18,863	+14%	-5%

Source: The Canadian Horticultural Council and Provincial Producer Organizations

most popular European variety, is forecast at 692,000 metric tons (36 million bushels) and is expected to increase by 24 percent from last year and will be 11 percent above the five-year average. Jonagold production, forecast at 539,000 metric tons (28 million bushels), is up 81 percent from last year and 2 percent above the five-year average.

Table 20 shows historical European production by country, while **Table 21** denotes historical European production by variety. **Table 22** shows production in other European and perimeter countries which are not members of the EU.

Table 24: Canadian Apple Production, By Variety (000 42-lb. Units)

	British Columbia		Ontario		Quebec		New Brunswick		Nova Scotia		Canadian Total	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
McIntosh	208	257	1,237	1,296	3,242	3,280	90	63	190	190	4,967	5,086
Gala	1,226	1,404	902	1,183	197	187	0	0	40	44	2,365	2,818
Empire	0	0	781	989	292	314	0	0	12	12	1,085	1,315
Honeycrisp™	68	84	463	718	111	127	20	14	330	363	992	1,306
Spartan	295	321	103	113	513	533	0	0	10	10	921	977
Ambrosia	699	845	325	394	0	0	0	0	60	72	1,084	1,311
Cortland	0	0	149	208	409	552	49	34	110	110	717	904
Spy	0	0	700	950	0	0	0	0	310	310	1,010	1,260
Red Delicious	138	164	462	590	0	0	0	0	45	45	645	799
Idared	0	0	125	160	0	0	0	0	75	75	200	235
Golden Delicious	27	26	169	189	0	0	0	0	65	65	261	280
Paula Red	0	0	0	0	248	254	0	0	0	0	248	254
Fuji	23	31	40	48	0	0	0	0	0	0	63	79
Granny Smith	60	72	0	0	0	0	0	0	0	0	60	72
Crispin/Mutsu	0	0	65	52	0	0	0	0	0	0	65	52
Jonagold	0	0	0	0	0	0	0	0	65	65	65	65
Pink Lady	29	46	0	0	0	0	0	0	0	0	18	46
Gravenstein	0	0	0	0	0	0	0	0	0	0	0	0
Braeburn	0	0	0	0	0	0	0	0	0	0	0	0
Others	55	61	323	452	466	500	29	20	20	20	893	1,053
Total	2,828	3,311	5,844	7,342	5,478	5,747	188	132	1,332	1,381	15,659	17,913

Source: The Canadian Horticultural Council and Provincial Producer Organizations

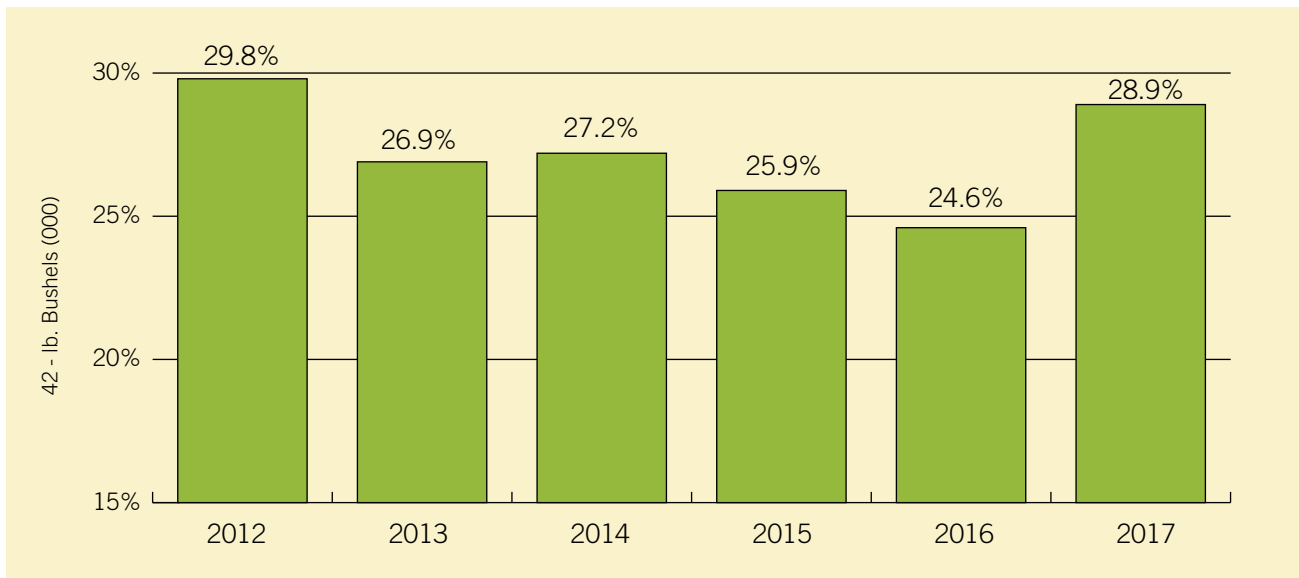
Canadian Crop Outlook

Total Canadian apple production for the 2018 crop is forecast at 17.9 million bushels, up 14 percent from the 2017 crop. Compared to the five-year average, 2018 production is expected to decline by 5 percent. Ontario production is slated to increase by 26 percent to 7.3 million bushels in 2018, which is equal to the five-year average. British Columbia production is expected to increase to 3.3 million bushels in 2018, which is 11 percent below the five-year average. Quebec production is forecast at 5.7 million bushels in 2018, up 5 percent from 2017, and down 1 percent from the five-year average. Nova Scotia production is estimated at 1.4 million bushels, up 4 percent from 2017, and 24 percent below the five-year average. In New Brunswick, production is expected at 131,600 bushels, down 30 percent from 2017 production, and down 24 percent from the five-year average.

Varietal production in Canada is dominated by McIntosh, which makes up approximately 28 percent of total Canadian apple production. The 2018 McIntosh crop in Canada is forecast to be 2 percent above the 2017 crop. Gala, the second-most widely grown variety this year, is up 19 percent from 2017 production levels. Red Delicious has fallen to ninth place, but due to the overall larger crop, production is expected to increase by 24 percent from 2017. The forecast for other important varieties in 2018 compared to 2017 follows: Empire up 21 percent, Spartan up 6 percent from 2017, Idared up 18 percent, and Cortland up 26 percent.

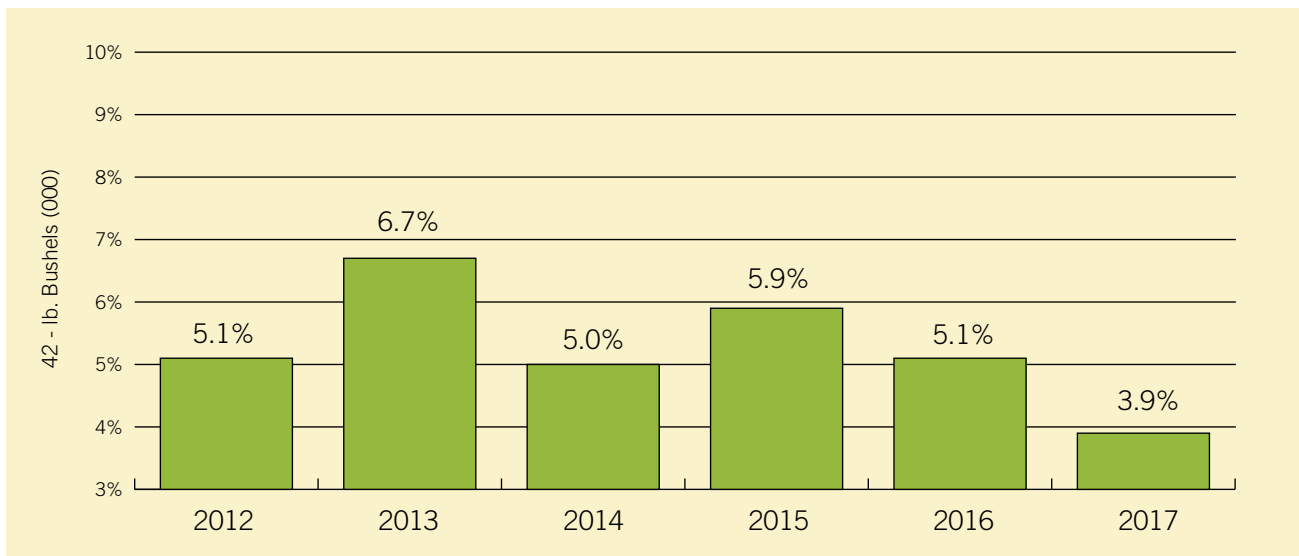
Table 23 shows historical Canadian apple production by province, and **Table 24** shows Canadian apple production by variety.

Figure 13: U.S. Fresh Apple Exports as Percent of Fresh Production



Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce
Marketing year is July through June.

Figure 14: U.S. Fresh Apple Imports as Percent of Fresh Production



Source: USDA Global Agricultural Trade System (GATS) and U.S. Department of Commerce
Marketing year is July through June.

Appendix A

Monthly Apple-Juice Concentrate Price Ranges, 2003 - 2018 (\$US per Gallon 70 Brix)

2003	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	4.55	4.50	4.50	5.00	5.00	4.85	5.50	5.75	5.75	6.25	6.25	6.25
	4.95	5.25	5.25	5.25	5.25	5.45	6.00	6.00	6.50	6.50	6.85	6.85
South American, Ex-Dock, NY	4.40	4.40	4.40	4.50	4.50	4.50	4.70	4.70	N/A	N/A	N/A	N/A
	4.85	4.80	4.80	4.80	4.85	4.85	4.95	4.95	N/A	N/A	N/A	N/A
Chinese, Ex-Dock, NY	4.10	4.10	4.25	4.25	3.85	4.00	4.00	4.10	4.00	4.00	4.25	4.25
	4.50	4.25	4.80	4.60	4.10	4.25	4.55	4.25	4.50	4.75	4.75	4.75
U.S.A. FOB, Northwest	4.50	4.50	4.50	4.75	4.50	4.50	4.50	4.75	4.75	5.50	5.50	5.50
	5.25	5.25	5.25	5.25	5.25	5.00	5.00	5.50	5.50	6.00	6.00	6.00
2004	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.25
	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	7.00	7.00	6.85
South American, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	5.50	5.50	5.50	5.50	5.25	5.25	5.25
	N/A	N/A	N/A	N/A	N/A	6.00	6.00	6.00	6.00	5.50	5.50	5.50
Chinese, Ex-Dock, NY	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.50	3.95	3.95	4.00
	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	5.00	4.70	4.70	4.75
U.S.A. FOB, Northwest	5.50	5.50	5.50	5.50	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
	6.00	6.00	6.00	6.00								
2005	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	6.25	6.25	6.25	6.25	6.25	6.50	6.50	6.50	7.00	8.25	8.25	8.25
	6.85	6.85	6.85	6.85	6.85	7.00	7.00	7.00	8.50	8.50	8.50	8.50
South American, Ex-Dock, NY	5.25	5.25	5.25	5.25	5.25	5.00	5.00	5.00	4.50	4.50	4.50	5.00
	5.50	5.50	5.50	5.50	5.50	5.25	5.25	5.25	4.75	4.75	5.00	5.75
Chinese, Ex-Dock, NY	4.00	4.00	4.00	4.50	4.50	4.25	4.25	4.25	3.75	5.00	5.00	5.25
	4.75	4.75	4.75	5.00	5.00	4.75	4.75	4.75	4.50	5.15	5.25	5.75
U.S.A. FOB, Northwest	5.00	5.00	5.00	5.00	5.00	4.75	4.75	4.75	4.50	5.00	5.00	5.00
	5.50	5.50	5.50	5.50	5.50	5.25	5.25	5.25	5.25	5.50	5.50	5.50
2006	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	8.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.50	8.00	7.00
	8.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.00	9.00	
South American, Ex-Dock, NY	5.10	5.40	5.40	5.45	5.60	5.60	5.60	5.60	5.75	N/A	N/A	6.00
	5.25	5.85	5.85	5.85	5.75	5.75	5.75	5.75	5.85	N/A	N/A	6.20
Chinese, Ex-Dock, NY	5.50	5.50	5.50	5.50	N/A	N/A	N/A	N/A	N/A	6.10	6.10	5.80
	6.00	6.00	6.00	6.00	N/A	N/A	N/A	N/A	N/A	6.70	6.70	6.00
U.S.A. FOB, Northwest	5.25	5.25	6.10	5.50	6.00	6.00	6.00	6.00	6.25	6.50	6.50	6.00
	5.75	5.75	6.50	6.00	6.45	6.45	6.45	6.45	6.50	6.75	6.75	6.20

Source: The Food Institute

¹ Apple juice concentrate prices are segregated by country of origin.

² N/A indicates that data is unavailable.

Monthly Apple-Juice Concentrate Price Ranges, 2003 - 2018 (cont'd)

2007	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	7.00	N/A	N/A	7.25	7.00	7.25	N/A	15.00 16.00	15.00 16.00	15.00 16.00	15.00 16.00	16.00 17.00
South American, Ex-Dock, NY	6.00 6.20	6.15 6.35	6.30 6.50	6.30 6.50	6.25	6.25	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Chinese, Ex-Dock, NY	5.80 6.00	6.05 6.25	6.25 6.50	6.25 6.50	6.25	6.00	N/A N/A	9.00 10.00	9.50 10.00	9.50 10.50	9.50 10.50	10.00
U.S.A. FOB, Northwest	6.00 6.20	5.25 5.50	5.25 5.50	6.00	6.00	6.00	6.00	N/A	6.25	6.25	6.25	6.25
2008	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
South American, Ex-Dock, NY	N/A N/A	N/A N/A	N/A	11.00	11.00	10.50 11.00	10.00 11.00	10.00 11.50	7.50 8.00	6.50 6.75	6.00 6.25	6.00 6.25
Chinese, Ex-Dock, NY	9.50 10.50	10.00	9.50 10.00	10.00	10.00	10.50	10.50	9.50	6.50 7.00	6.00 6.25	5.00 5.25	5.00 5.25
U.S.A. FOB, Northwest	10.00	10.50 11.00	10.50 11.00	11.00 11.50	12.50 13.50	12.00 13.00	11.50 12.00	11.50 12.00	N/A N/A	N/A N/A	N/A N/A	N/A N/A
2009	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	8.00	8.00	8.00	8.00	8.00	8.00	N/A	N/A
South American, Ex-Dock, NY	6.00 6.25	6.00 6.25	5.00 5.25	5.00 5.25	5.00 5.25	5.25 5.50	5.25 5.50	5.25 5.50	5.25 5.50	5.25 5.50	5.25 5.50	5.25 5.50
Chinese, Ex-Dock, NY	4.00 4.40	4.20 4.25	4.20 4.25	4.20 4.25	4.20 4.25	4.50 5.00	4.50 5.00	5.00	4.75 5.00	4.75 5.00	5.00 5.25	5.25 5.50
U.S.A. FOB, Northwest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2010	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South American, Ex-Dock, NY	5.25 5.50	N/A N/A	N/A N/A	6.00 N/A	6.00 N/A	6.00 N/A	6.00 N/A	6.00 N/A	6.00 N/A	N/A N/A	N/A N/A	11.00 11.25
Chinese, Ex-Dock, NY	5.25 5.50	5.30 5.50	5.30 5.50	5.40 5.55	5.40 5.55	5.45 5.50	5.50 5.75	5.50 5.75	5.80 5.85	8.75 N/A	9.50 10.00	11.00 11.60
U.S.A. FOB, Northwest	N/A	N/A	N/A	N/A	N/A	6.50	6.50	7.50	7.50	N/A	N/A	N/A

Source: The Food Institute

¹ Apple juice concentrate prices are segregated by country of origin.

² N/A indicates that data is unavailable.

Monthly Apple-Juice Concentrate Price Ranges, 2003 - 2018 (cont'd)

2011	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
South American, Ex-Dock, NY	N/A N/A	N/A N/A	10.50 N/A	10.50 N/A	10.50 N/A	10.50 N/A	10.00 N/A	10.00 N/A	10	9.5	N/A	N/A	
Chinese, Ex-Dock, NY	10.50 11.50	10.50 11.50	10.60 10.95	10.60 10.95	10.90 11.00	10.50	10.25 10.50	10.25 10.50	10.25 10.50	10.50 11.50	12.25	12.25	
U.S.A. FOB, Northwest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2012	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
South American, Ex-Dock, NY	N/A N/A	N/A N/A	N/A N/A	10.85 N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	8.93	8.93	N/A
Chinese, Ex-Dock, NY	12.00	11.25 12.00	10.50	10.50	10.25 10.50	10.25 10.50	10.00- 10.50	10.00- 10.50	9.85	9.85	9.85	9.45	
U.S.A. FOB, Northwest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2013	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
South American, Ex-Dock, NY	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Chinese, Ex-Dock, NY	8.75	8.75	7.00	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.50	8.50	
U.S.A. FOB, Northwest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.00	9.00	
2014	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
European, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	7.85	7.95	7.99	7.5	6.75	6.75	7	
South American, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Chinese, Ex-Dock, NY	8.50	8.50	8.00	8.00	7.63	7.40	7.55	7.55	7.50	7.40	7.40	7.40	
U.S.A. FOB, Northwest	8.50	8.50	8.25	8.25	7.38	7.38	N/A	N/A	N/A	\$7.00	7.00	7.00	

Source: The Food Institute

¹ Apple juice concentrate prices are segregated by country of origin.

² N/A indicates that data is unavailable.

Monthly Apple-Juice Concentrate Price Ranges, 2003 - 2018 (cont'd)

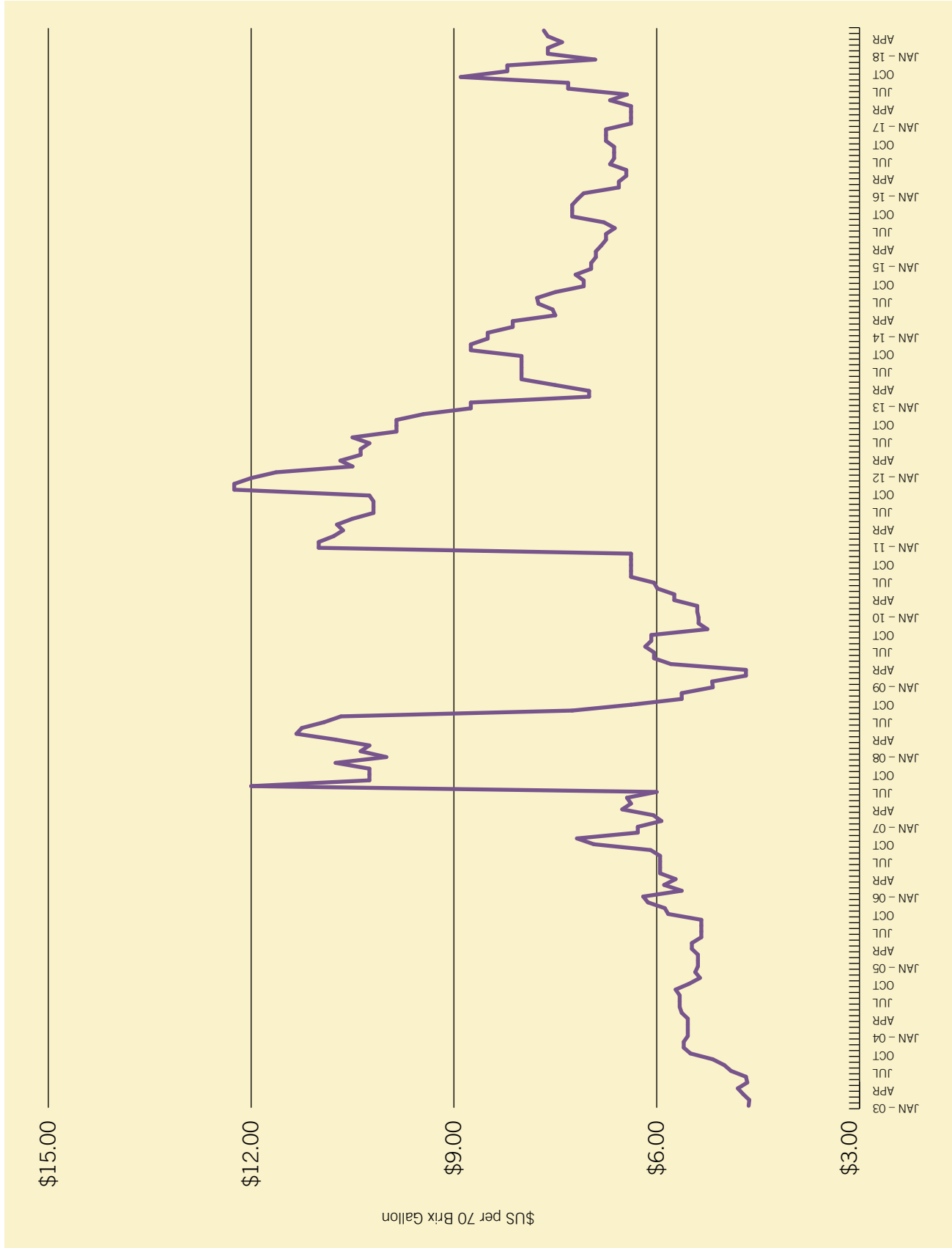
2015	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.50	8.00	8.00	8.00
South American, Ex-Dock, NY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chinese, Ex-Dock, NY	6.95	6.95	6.75	6.75	6.50	6.50	6.50	6.10	6.10	6.75	6.75	6.75
U.S.A. FOB, Northwest	6.95	6.95	6.95	6.95	6.95	6.75	6.75	6.75	6.75	7.00	7.00	7.00
2016	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	8.00	8.00	7.00	7.00	7.00	7.00	6.75	6.50	6.50	6.50	6.50	6.50
South American, Ex-Dock, NY	N/A	N/A	6.25	6.25	6.00	6.00	6.25	6.25	6.25	6.25	6.25	6.25
Chinese, Ex-Dock, NY	6.50	6.25	6.00	6.00	5.80	5.80	5.75	5.75	5.75	5.75	5.75	5.75
U.S.A. FOB, Northwest	7.00	7.00	7.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	8.50	8.50
2017	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	6.50	6.50	6.50	6.50	6.88	7.50	7.50	8.50	9.50	12.00	10.50	10.50
South American, Ex-Dock, NY	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.38	6.50	N/A	N/A	N/A
Chinese, Ex-Dock, NY	5.30	5.30	5.30	5.30	5.40	5.63	5.63	5.88	6.00	6.70	6.63	6.63
U.S.A. FOB, Northwest	8.50	6.50	6.50	6.50	6.50	6.50	6.50	8.50	7.25	8.00	7.50	7.50
2018	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
European, Ex-Dock, NY	10.50	11.00	11.75	11.75	11.50	11.50						
South American, Ex-Dock, NY	N/A	8.00	8.00	8.25	8.38	8.38						
Chinese, Ex-Dock, NY	6.63	7.50	7.50	6.88	7.50	7.50						
U.S.A. FOB, Northwest	7.50	8.85	8.85	8.35	8.35	8.35						

Source: The Food Institute

¹ Apple juice concentrate prices are segregated by country of origin.

² N/A indicates that data is unavailable.

Monthly Apple-Juice Concentrate Prices 2003 - 2018



Source: The Food Institute, Fair Lawn N.J., Bureau of Census.

Notes



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