

2016 Grape Crop Economics

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U.S. Concord Production- A Review

- 2015 Concord crop
 - 401,720 tons
 - Smallest since 2012
 - 20% decrease from 2014
- Inventories were up prior to 2015 harvest
 - Cash price decreased on the East and West steady
- New York, Pennsylvania, Ohio
 - 2015 crop below average
- Michigan
 - 2015 crop slightly above average
 - 22% increase from 2014

Washington Concord Production- 2015

- 175,000 tons
- 33% decrease in production from 2014
- Highest GDD on record
- Early start to harvest, and end
- Highest Brix on record
 - Small berries, good color and flavor
 - Low acids
- 2015 crop had average yield (tons/acre)



2016 Michigan Grape Season

- No harsh freezes
- Normal growing season
 - Wet August and September
- Above average crop
 - Largest since 2007

2016 NY and Pennsylvania Season

- Dry season caused smaller berry size
 - Late rains mitigated small berry size
- Yield per acre up slightly
 - Good sugars
- Low cash price for juice, Concord wine market is healthier
- Crop size top 3-5 in history

The 2016 Growing Season in WA

- Mild winter
- Warmest spring based on GDD
- Early start to harvest, but lagged due to rains
- Solid Brix development
 - Average color and flavor, lack of juice
 - Low acids
- 2016 crop had above average yield (tons/acre)

Concord Grape Juice Industry

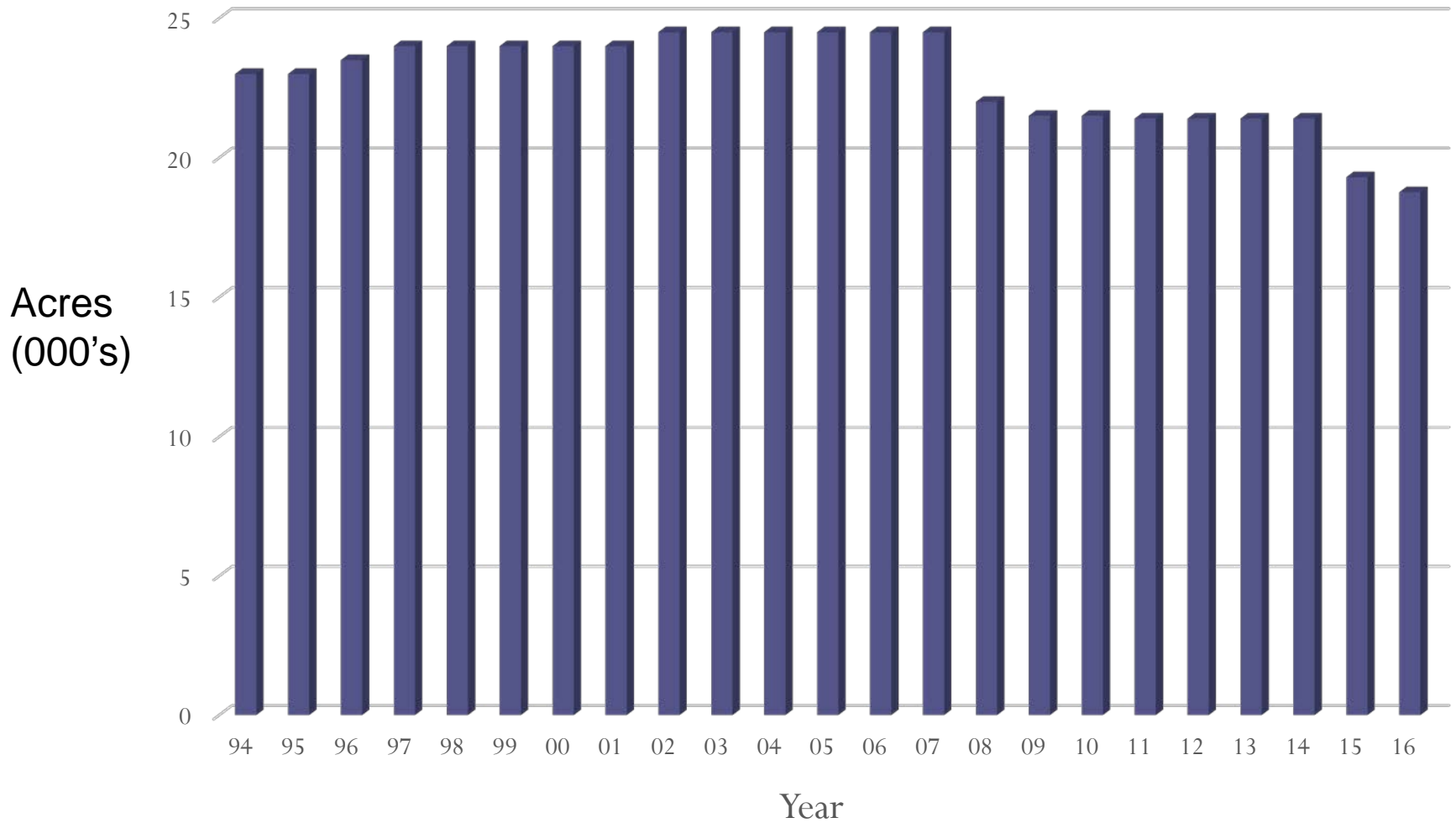
- Washington
 - Nation's leading producer
 - Production averaged 198,455 tons 2005-2015
 - 2016 production estimated at 194,076 tons
 - Approximately 11,647 tons organic Concords
- New York
 - 2nd largest producer
 - Production averaged 116,536 tons 2005-2015
 - 2016 production estimated at 137,000 tons
 - 208,000 for Lake Erie region

Concord and Niagara Grape Acreage in Washington (2016)

- Concord- 18,760 acres (estimate)
- Niagara- 1,475 acres (estimate)

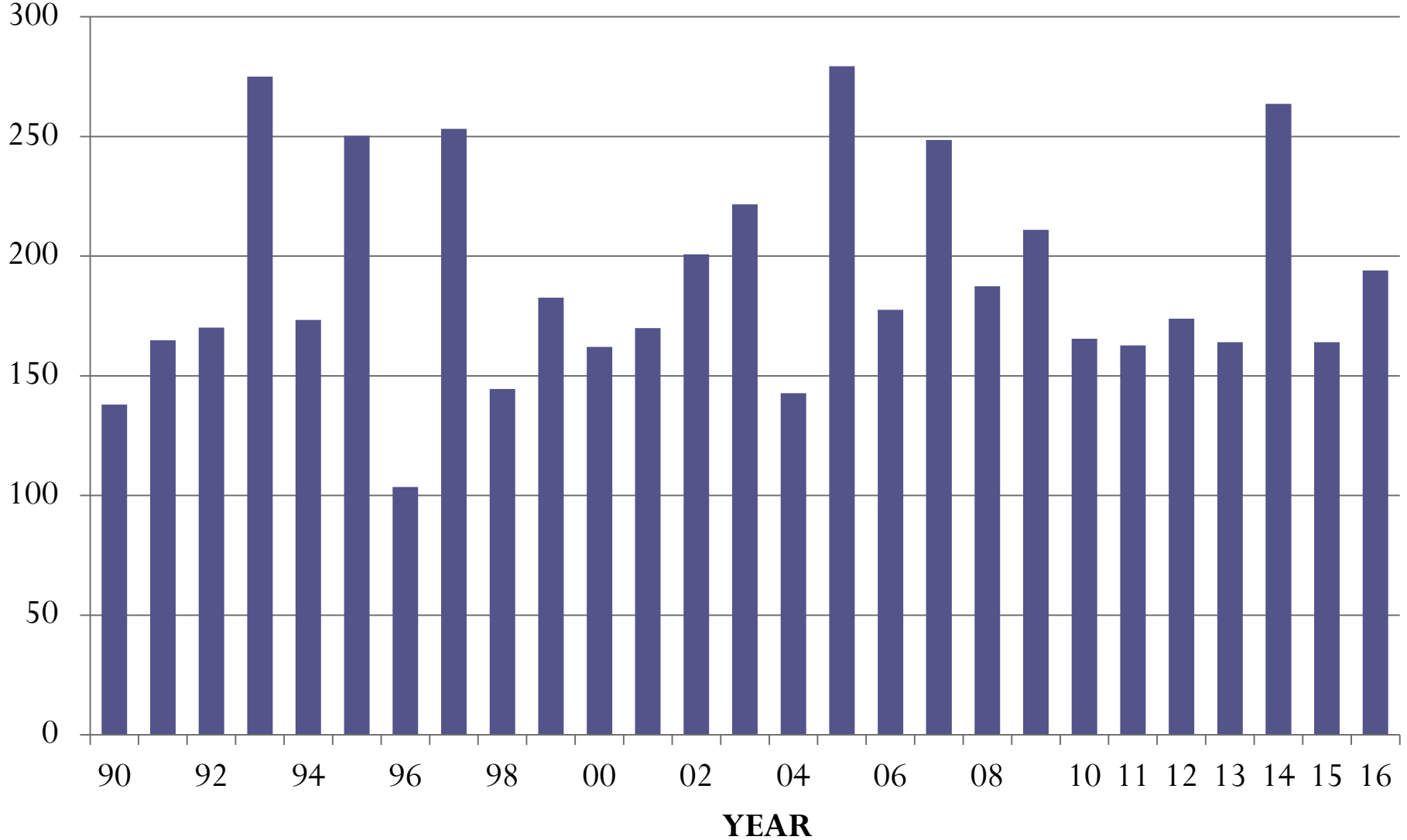


CONCORD GRAPE ACREAGE IN WASHINGTON, 1994-2016



**Tons
(000)**

WASHINGTON CONCORD GRAPE PRODUCTION, 1990-2016 (1,000 TONS)

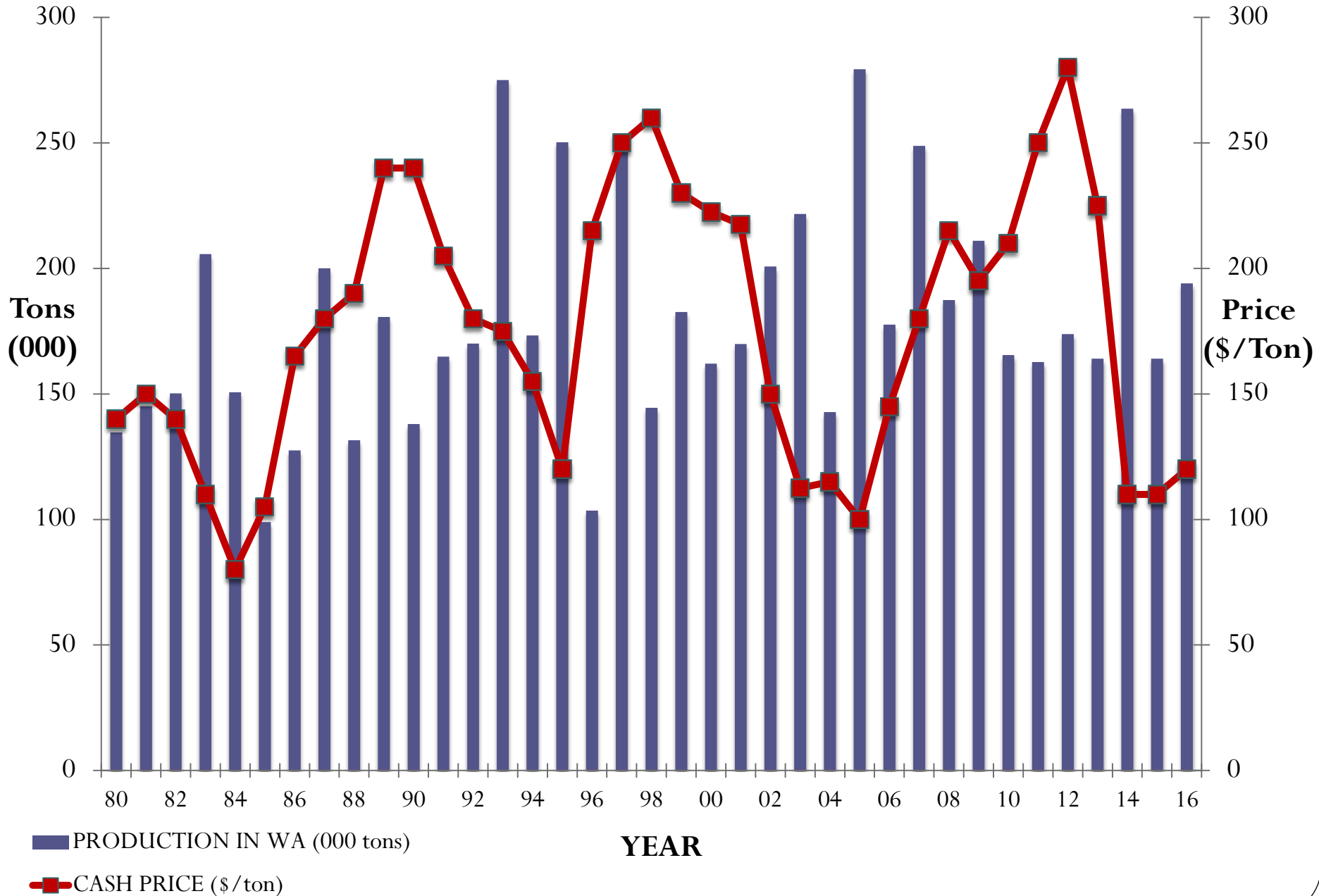


Concord Grape Production and Prices in Washington and the U.S., 2005-2016

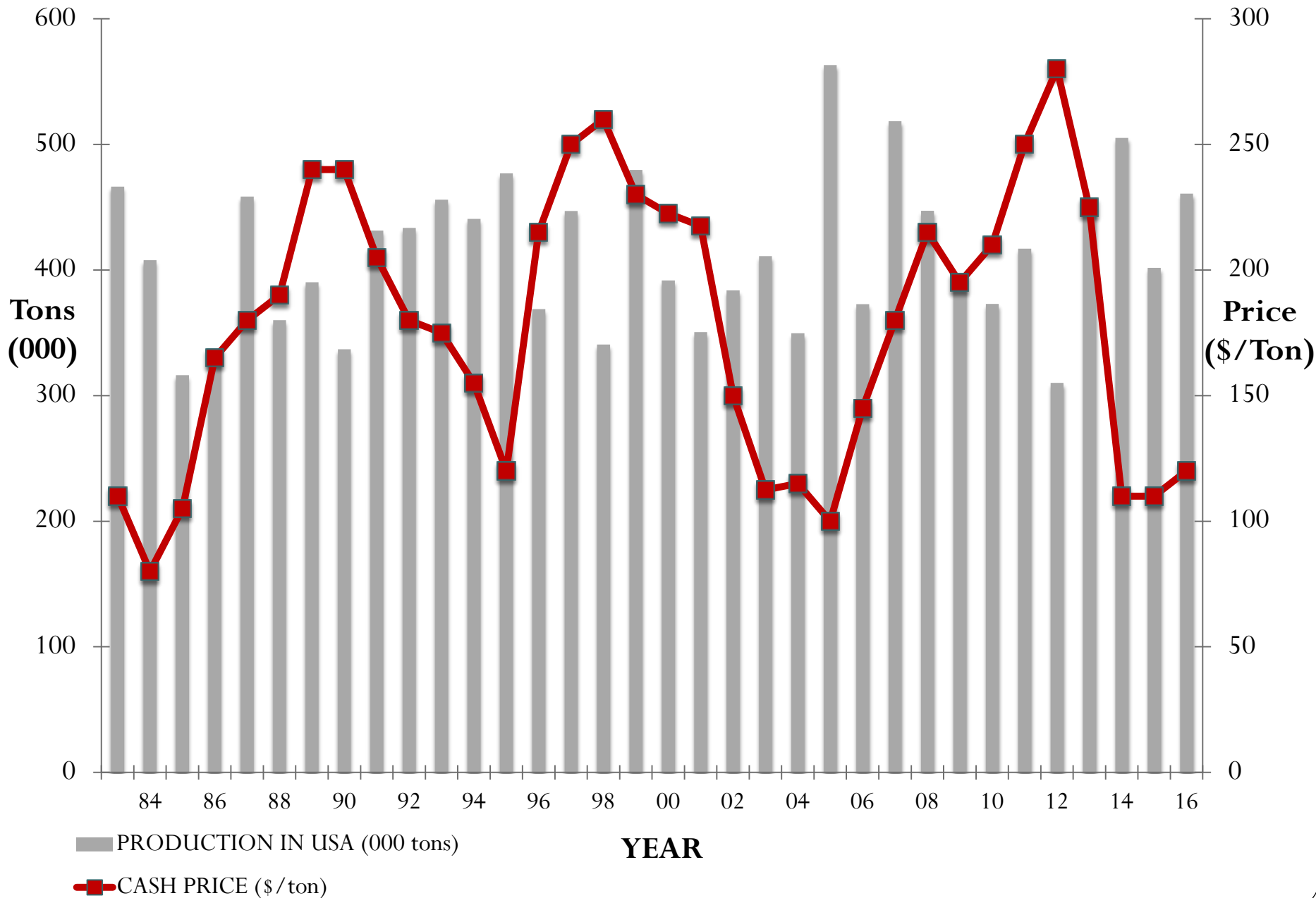
Year	Washington Production (Tons)	U.S. Production (Tons)	Cash Price in Washington (\$/ton)
2016	194,076 (est)	460,876 (est)	120
2015	175,000	401,720	110
2014	260,000	505,180	110
2013	165,000	452,550	225
2012	167,000	303,110	280
2011	156,000	417,000	250
2010	162,000	373,090	210
2009	205,000	396,790	195
2008	187,425	447,130	215
2007	249,000	518,470	180
2006	175,000	372,870	145
2005	275,000	563,760	100

NASS data for 2005-2015

WASHINGTON CONCORD GRAPE PRICES AND PRODUCTION, 1980-2016



US CONCORD PRODUCTION & WASHINGTON CASH PRICE, 1984-2016



U.S. Concord Cash Grape Prices 1998-2016

\$/Ton

300

250

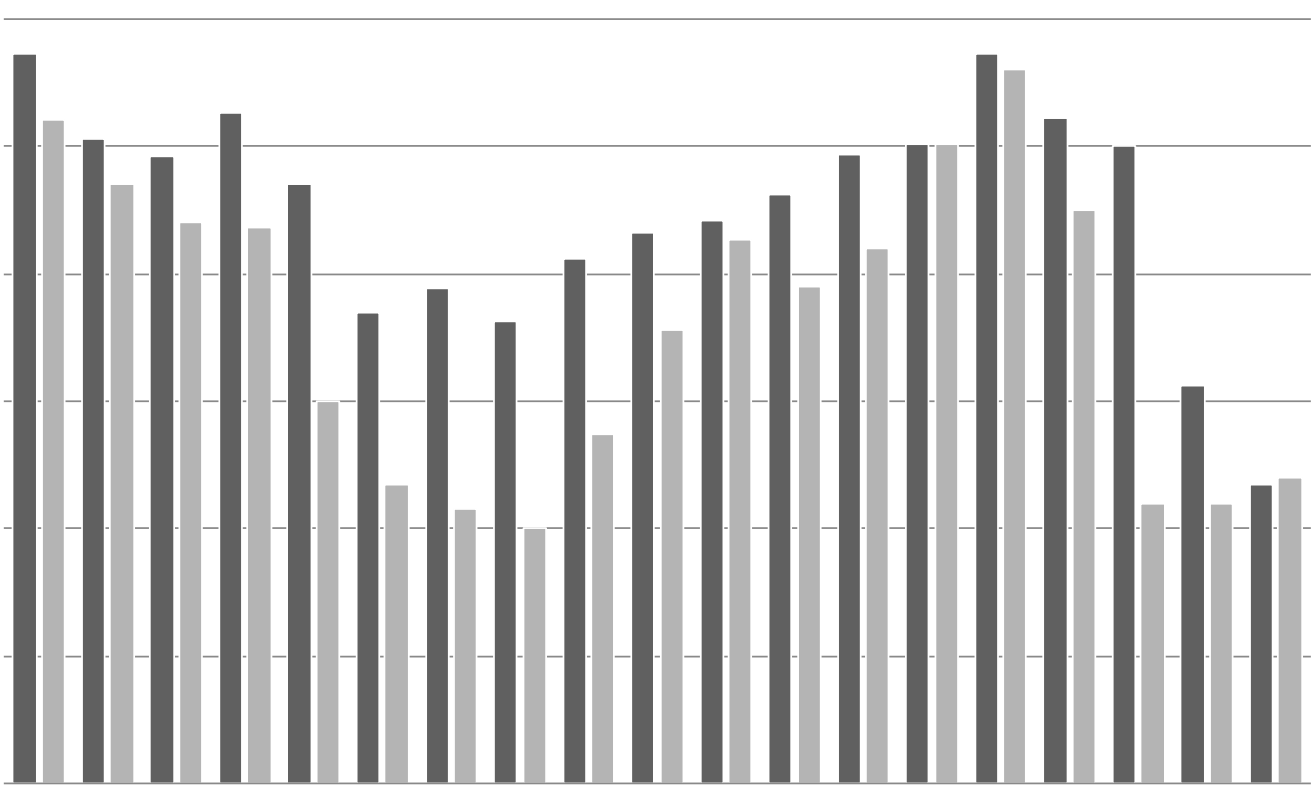
200

150

100

50

0



■ Eastern

■ Washington

U.S. Concord 68 Brix Concentrate Prices 1998-2016

\$/Gal

25

20

15

10

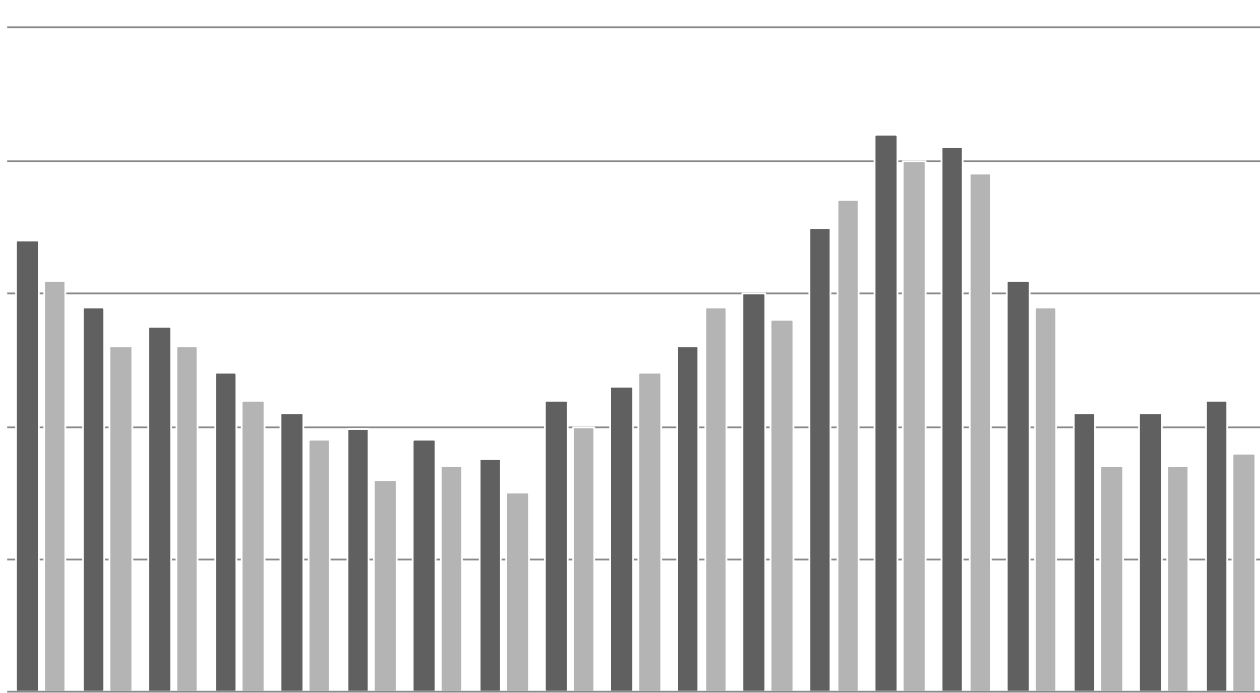
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1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

■ Eastern

■ Washington



Washington Niagara Production

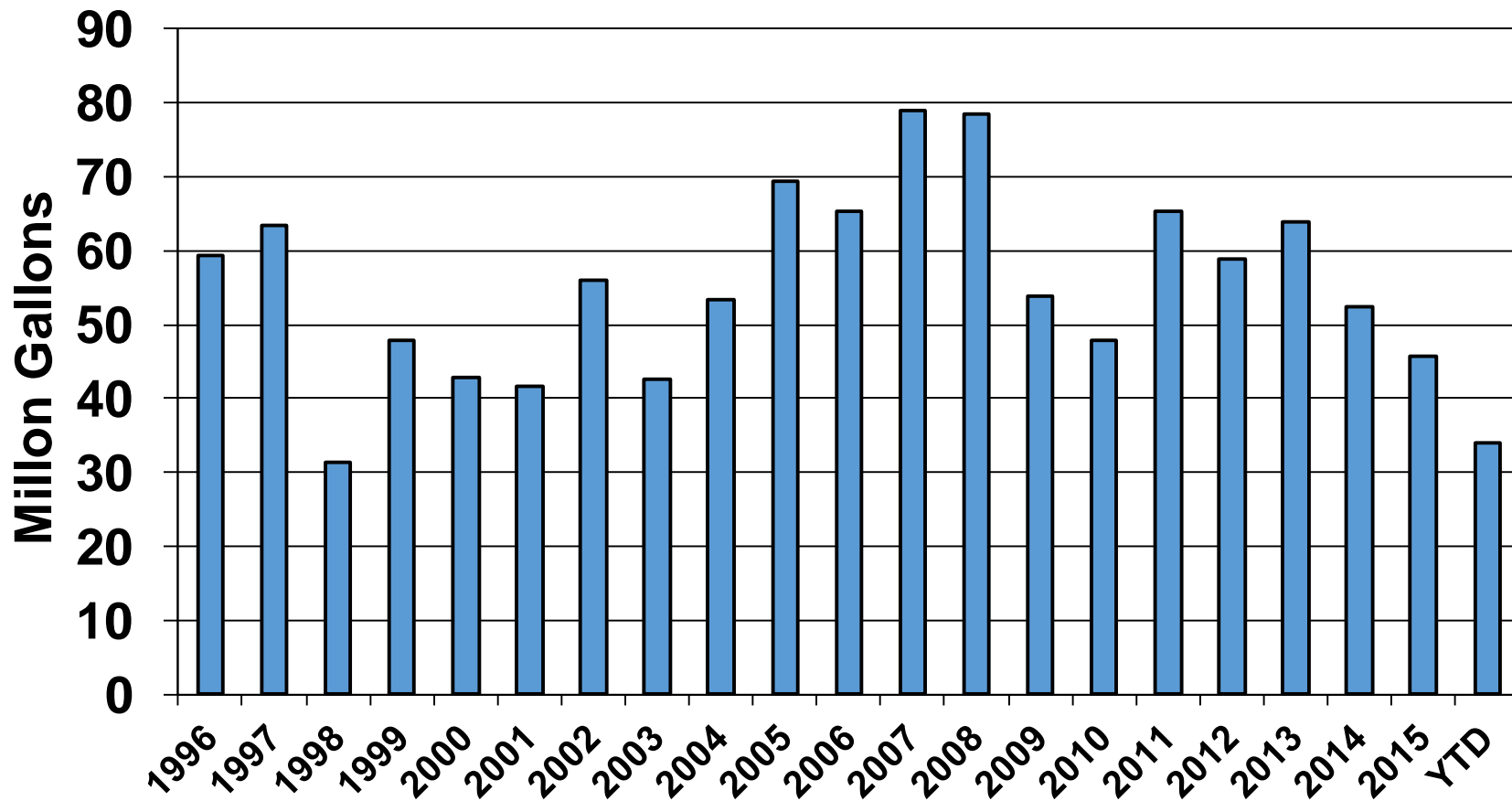
Year	Washington Production (Tons)	U.S. Production (Tons)
2016	23,096 (Est.)	70,000 (Est.)
2015	14,000	54,050
2014	25,000	70,290
2013	15,000	80,650
2012	18,000	50,150
2011	18,000	76,730
2010	14,000	55,190
2009	20,000	63,650
2008	17,000	60,390

1,475 acres in WA (estimate)

Grape Juice Imports

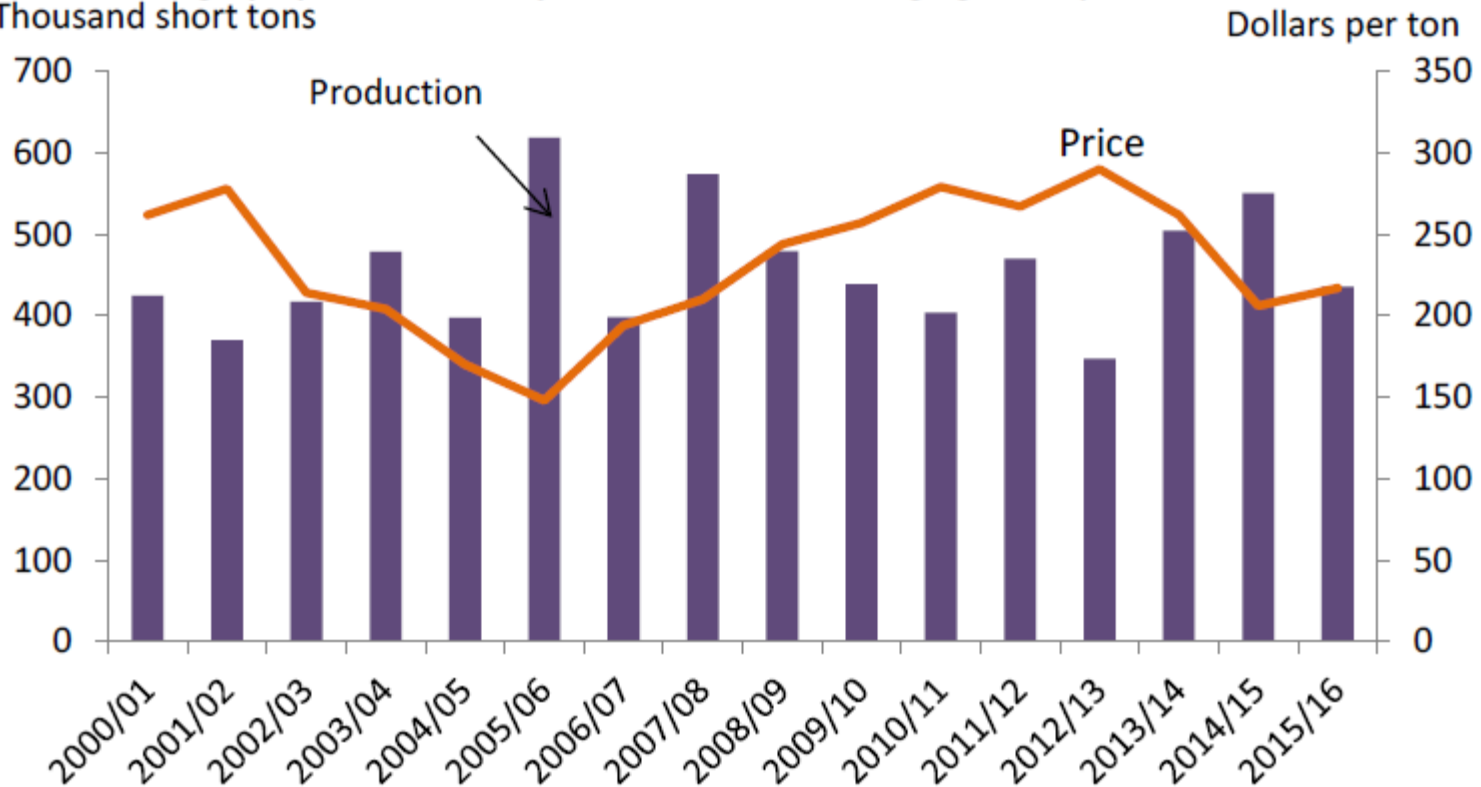
- Single strength juice and concentrated
 - 41.7 million gallons in 2001
 - 69.4 million gallons in 2005
 - 78.9 million gallons in 2007
 - 54.0 million gallons in 2009
 - 65.3 million gallons in 2011
 - 63.8 million gallons in 2013
 - 52.3 million gallons in 2014
 - 45.8 million gallons in 2015
- Argentina accounts for more than 80% of volume
- Small amounts from Chile, Australia, Mexico, & Spain
- These imports compete with the traditional market

U.S. Grape Juice Imports (1996-2016)



Utilized Grape Production and Grower Price

U.S. utilized grape production for juice and season-average grower price
Thousand short tons



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

Pricing of Concord Grapes

1. Supply and demand conditions

■ Supply

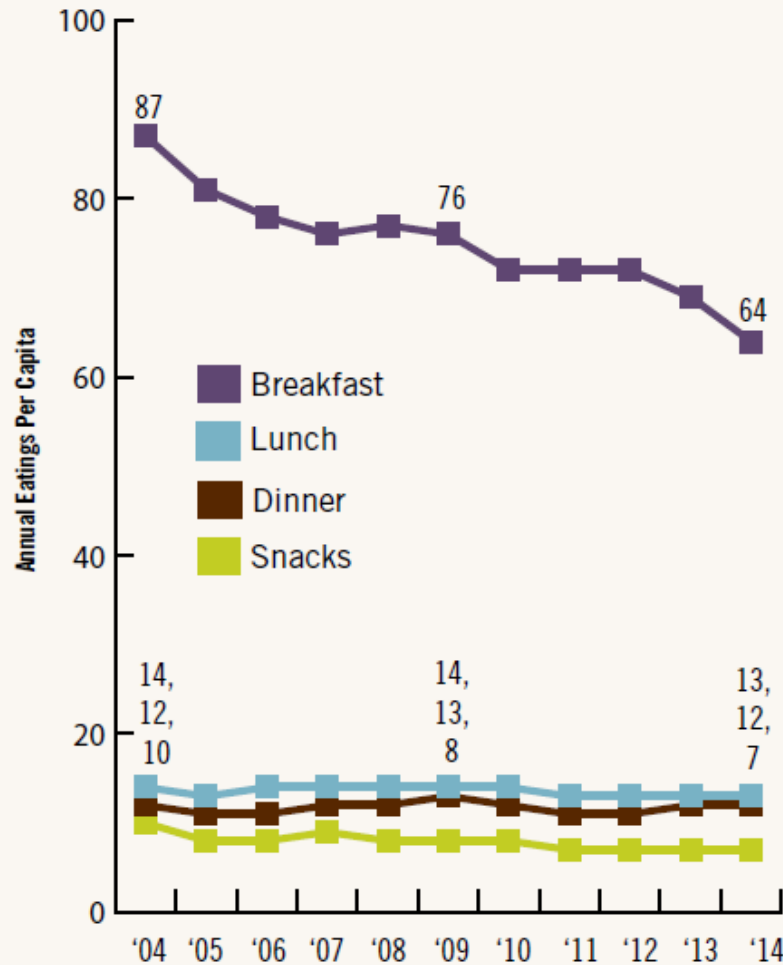
- Current production
- Inventories of concentrate/product
- Imports

■ Demand

- Sale of products
- Exports
- Demand for inventories

2015 Study on America's Consumption of Fruit & Vegetables

- Produce for Better Health Foundation



Economic Outlook

- Acreage likely to continue decline
- Industry currently oversupplied
- Cash price likely to be similar or slightly higher



Wine Grapes

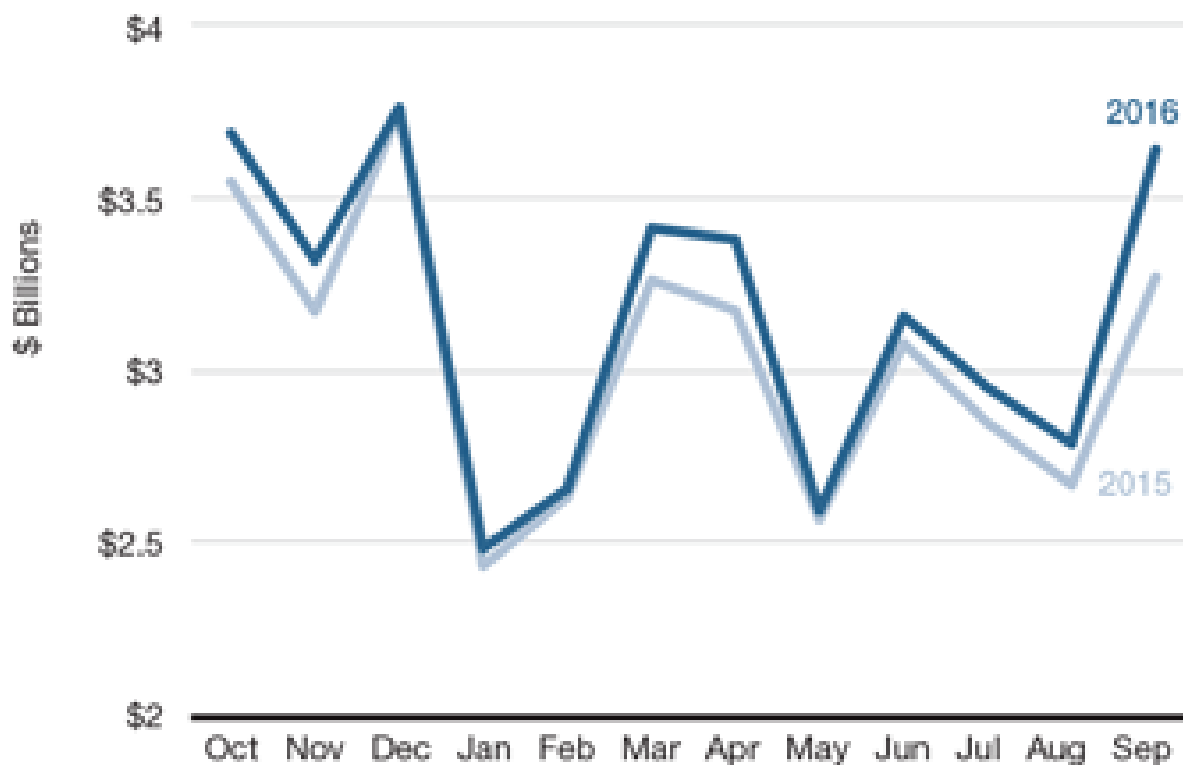


Wine Sales in the U.S.- 2005 to 2015 in millions of gallons

Year	Table Wine	Dessert Wine	Champagne/ Sparkling Wine	Total Wine	Total Retail Value (billion)
2015 (Est.)	780	82	52	913	\$55.8
2014	771	78	47	896	\$53.1
2013	769	73	44	886	\$51.3
2012	749	65	42	856	\$50.8
2011	724	71	41	836	\$48.6
2010	681	66	37	784	\$46.5
2009	666	64	33	764	\$45.2
2008	650	65	32	746	\$45.0
2007	647	62	33	742	\$43.5
2006	627	57	32	717	\$41.5
2005	609	52	31	692	\$38.5

U.S. Wine Sales

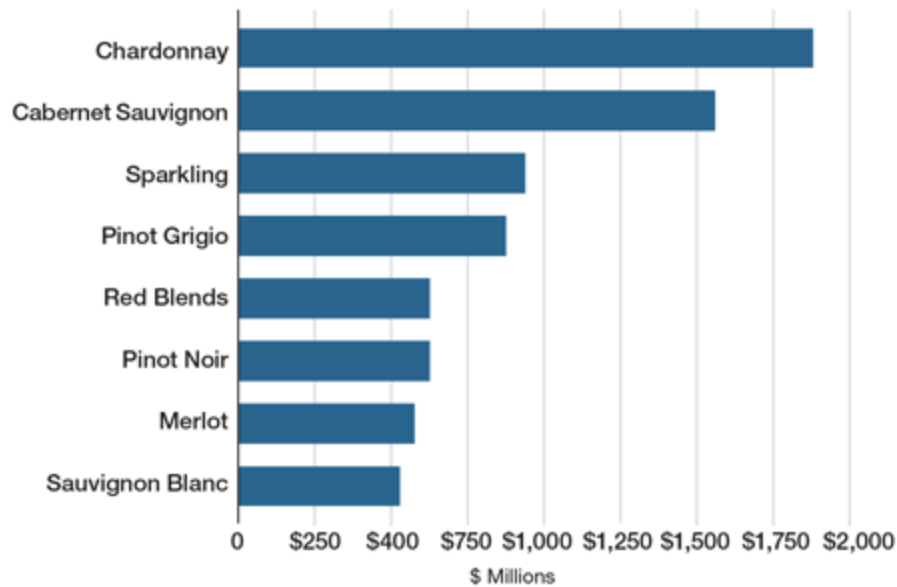
U.S. WINE SALES




Source: bw166.com, Wines Vines Analytics. Domestic table and sparkling wine sales on-premise and off-premise.

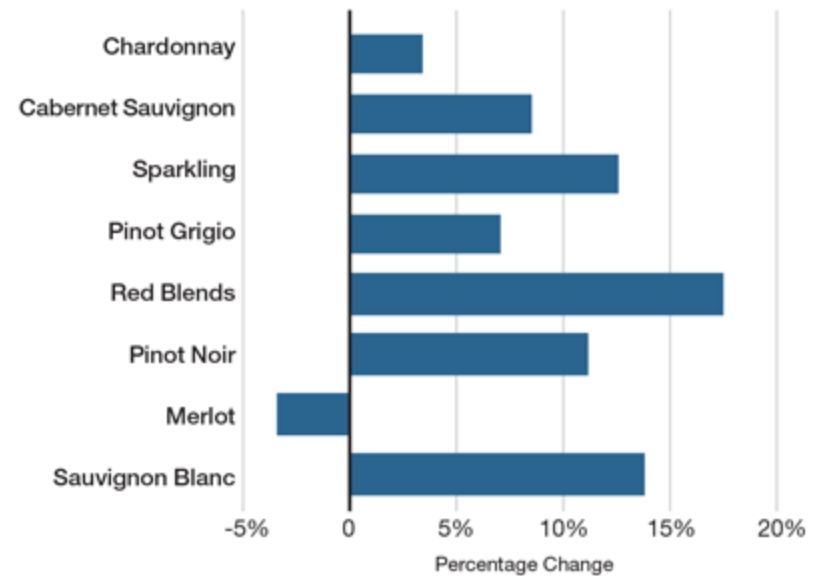
Market Share and Growth (Off-Premise Sales)


OFF-PREMISE SALES BY VARIETAL



Source:  IR, Wines & Vines Analytics. All table wines in multiple-outlet and convenience stores, 52 weeks through July 10, 2016.

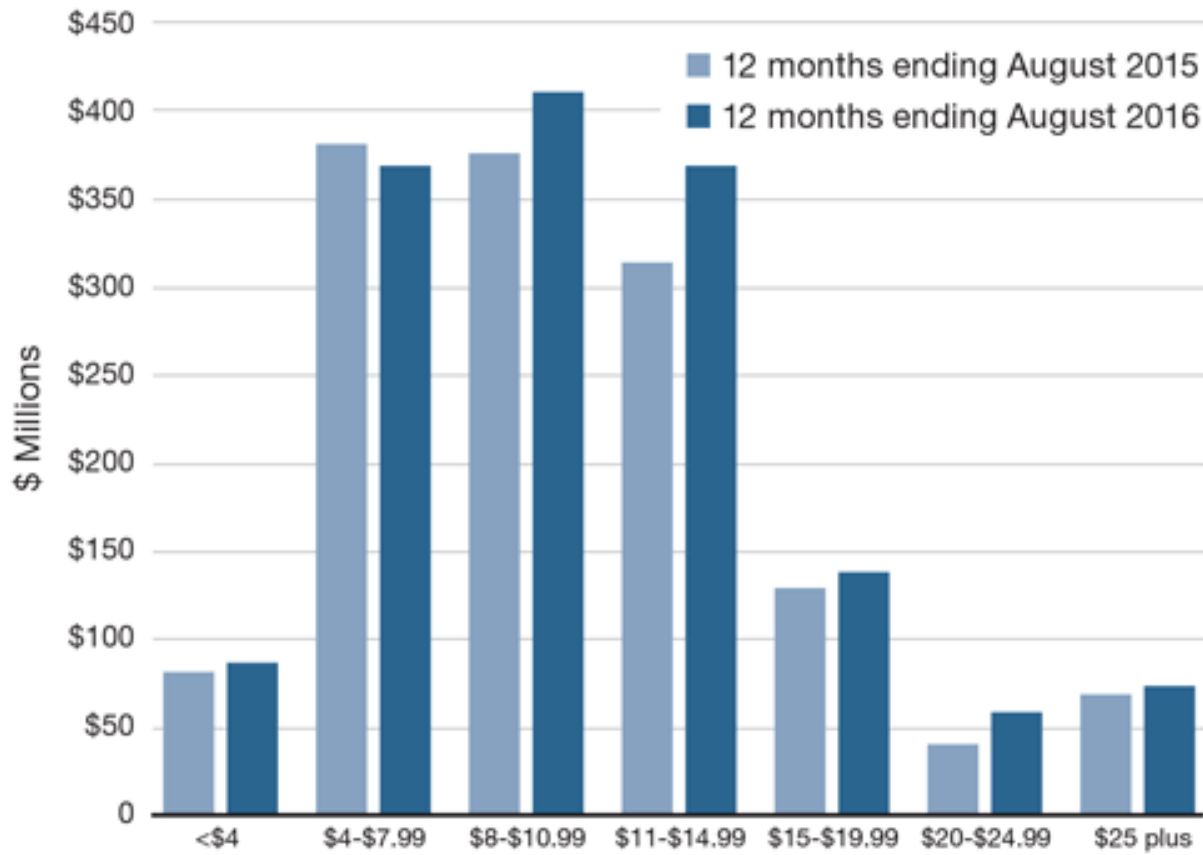
OFF-PREMISE SALES GROWTH RATE BY VARIETAL




Source:  IR, Wines & Vines Analytics. All table wines in multiple-outlet and convenience stores, 52 weeks through July 10, 2016.

Cabernet Sauvignon

OFF-PREMISE CABERNET SAUVIGNON SALES BY PRICE



Source:  IRI. Wines Vines Analytics. Domestic table and sparkling wine sales in multiple-outlet and convenience stores; 52 weeks from Aug. 9, 2015, to Aug. 7, 2016.

Wine Grape Production

Year	Washington Production (Tons)	California Production (Tons)
2016	258,000(Est.)	3,900,000(Est.)
2015	222,000	3,705,000
2014	227,000	3,893,000
2013	210,000	4,245,000
2012	188,000	4,014,000
2011	142,000	3,347,000
2010	160,000	3,589,000
2009	156,000	3,703,000

Thank You!



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