Recent Trends in Certified Organic Tree Fruit in Washington State: 2016

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In cooperation with
Washington State Department of Agriculture Organic Program, Oregon Tilth, and CCOF

Washington State University
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Document Outline

Abbreviations used:

CSANR	WSU Center for Sustaining Agriculture & Natural Resources
CSA	Community Supported Agriculture operation
AMS	USDA Agricultural Marketing Service
ERS	USDA Economic Research Service
NOP	USDA National Organic Program
NASS	USDA National Agricultural Statistics Service
WSDA	Washington State Dept. of Agriculture

The following set of slides presents the current data on organic tree fruit area and production for Washington State, with some associated global and national data. Data come from various sources including certifiers [e.g., Washington St. Dept. of Agriculture (WSDA) Organic Program; Oregon Tilth Certified Organic (OTCO), California Certified Organic Farmers (CCOF)], The World of Organic Agriculture annual publication http://www.organic-world.net/index.html, USDA, Calif. Dept. Food and Agric. (CDFA), and industry sources [Washington State Tree Fruit Association (WSTFA), Wenatchee Valley Traffic Association (WVTA), Washington Growers Clearinghouse (WGCH), Pear Bureau Northwest (PBNW)]. Data from WSDA were extracted on March 27, 2017.

Organic agriculture continues to be consumer driven. Globally, retail sales of organic food were $81.6 billion in 2015. The U.S. was the largest single country market (35.8 billion €), followed by Germany (8.6 billion €), France (5.5 billion €), and China (4.7 billion €). Switzerland was the country with the highest per capita organic expenditure, at about 5% of total food dollars. The global organic market has been divided between North America and Europe for years, but the Asian market is accounting for an increasing share (slide 4).

Consumer Demand for Organic Food

Market Share of Sales by Region (%)

	North Amer.	Europe	Other
2003	46	52	2
2005	45	51	4
2007	43	54	3
2009	48	48	4
2011	50	46	4
2012	50	45	5
2013	49	43	8
2014	48	44	8
2015	51	39	8 (Asia)

Note: % has changed in part due to US$ vs euro currency fluctuations.

Source: World of Organic Agriculture

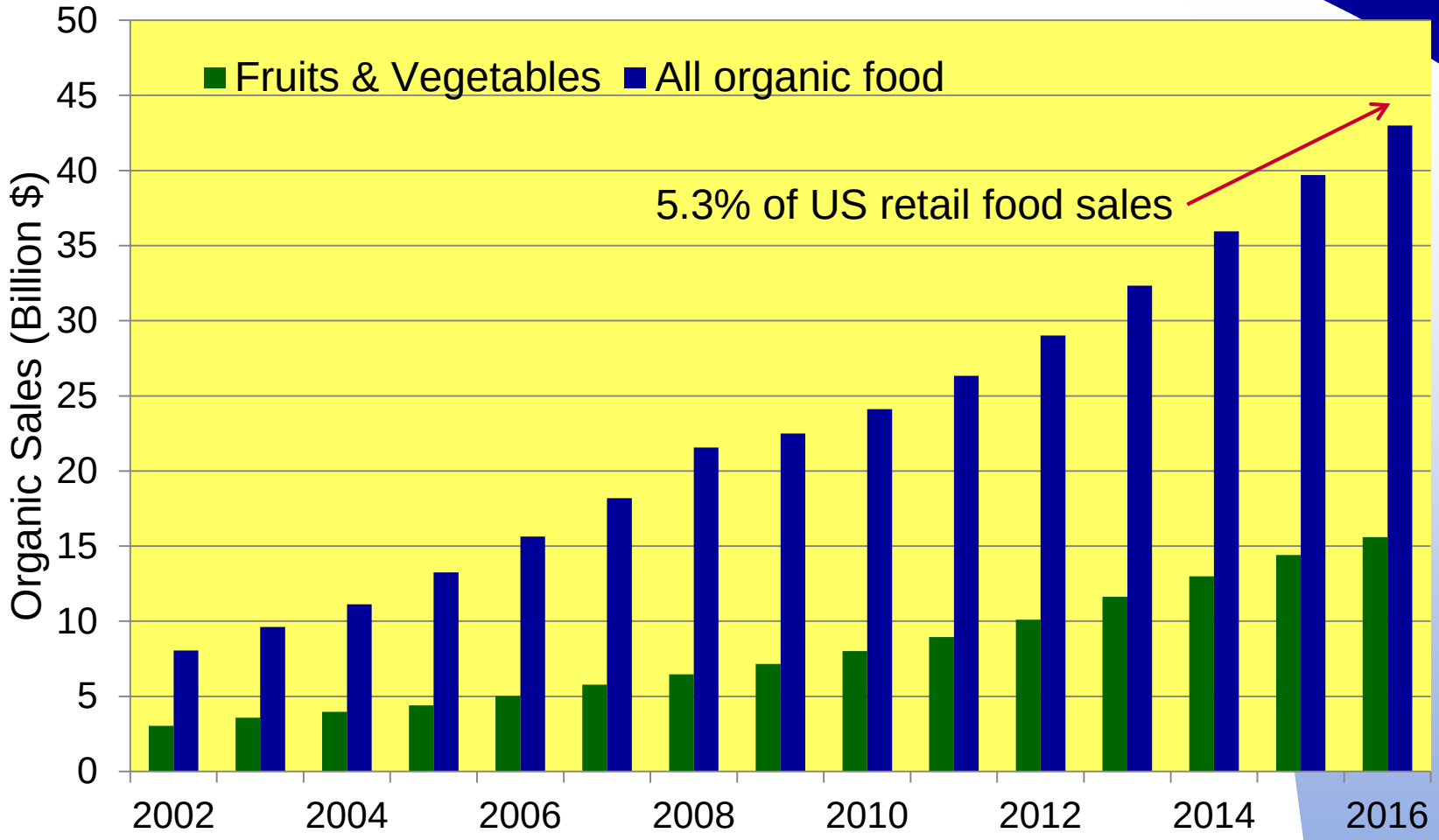
The next slide (6) shows the growth in retail sales of organic food in the U.S. since 2002. Growth dipped during the recession but did not stop, and has rebounded to 10-12% per year. Growth of the fruit and vegetable category was much more stable (slide 7), confirming that these products are very core to organic consumers. These consumer data come from the Organic Trade Association (OTA) annual industry survey.

OTA did a first-ever survey of organic produce in cooperation with Nielsen Co. in 2016 (slides 8 and 9). Organic fruit sales grew faster than organic vegetables since 2011. Berries were the top selling organic produce item, while apples were 7th, and bananas were 10th. Organic apples had average annual growth of 21% for the past 4 years, and of 14% for the most recent year.

According to the survey, household penetration of organic apples was 4.5%, compared with 20% for organic pre-cut salad and carrots. But organic apples had the second highest annual expenditure on a produce item. Sales for a number of organic apple varieties were down versus the previous year due to a smaller 2015 Washington crop.

Consumer Demand

Growth of US Organic Food Sales

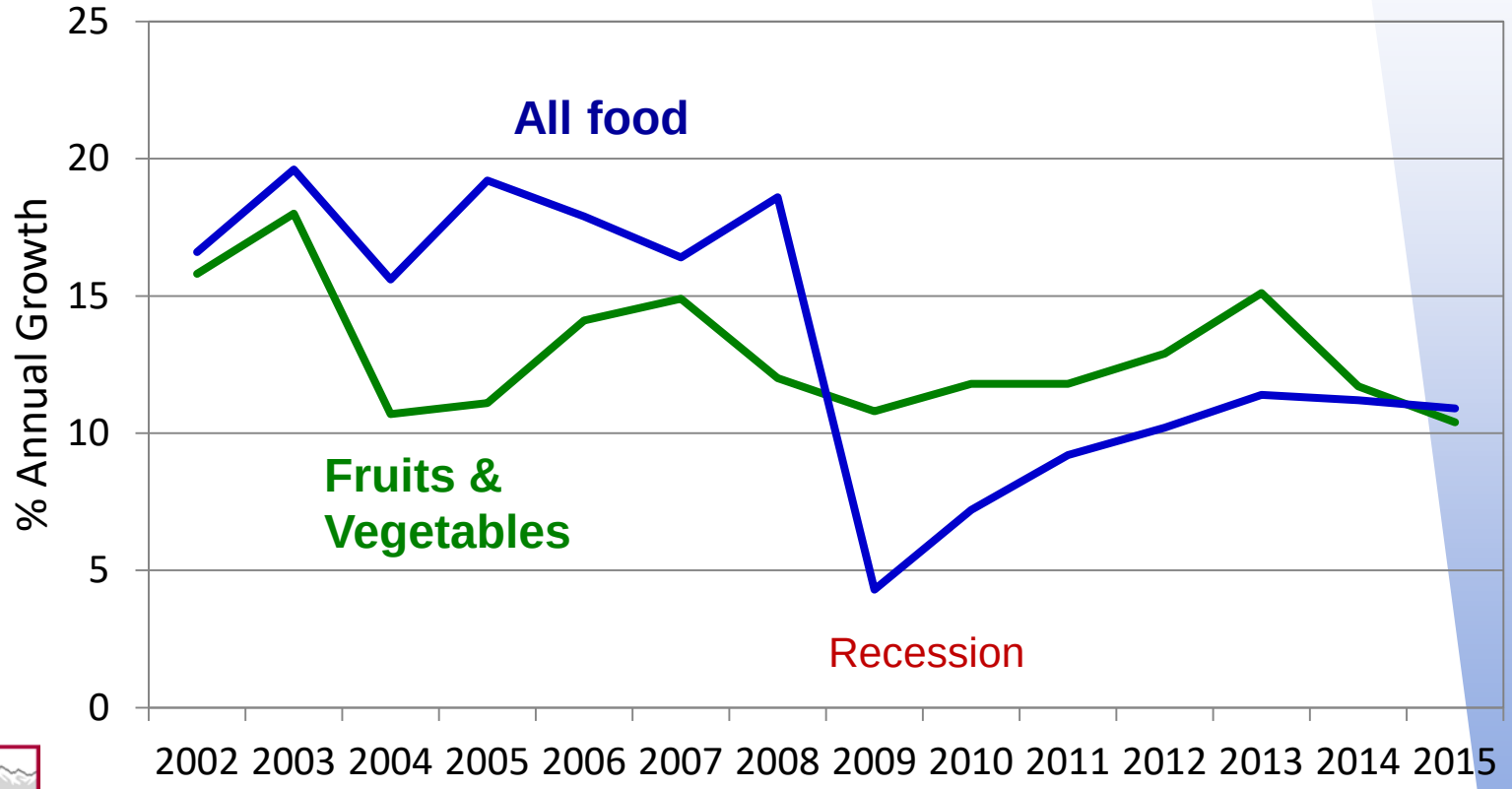


Retail organic food sales increased 8.4% in 2016. Organic fruits and vegetable sales increased 8.4% and were 36% of all organic food sales; >10% of all fruits and vegetables sales ($) in U.S. in 2016 were organic.

Source: OTA, Nutrition Business Journal

Consumer Demand for Organic Food

Annual growth rates for organic foods



- based on supermarket retail sales; does not include direct market, specialty stores

Source: OTA, Nutrition Business Journal

OTA State of Organic Produce

June 2016

2015 U.S. organic produce - $13 bil

$5.7 bil	+	$4.7 bil	+	$2.6 bil
Mass Market		Specialty, Natural		Direct sales

Organic produce sales growth since 2011

Fruit +123% Veggies +92% Other +94%

Top organic produce categories (sales)

#1 Berries

#7 Apples CAGR 1 yr 14%; 4 yr 21%

#10 Bananas

Source: OTA/Nielsen Fresh 2016 State of Organic Produce

OTA State of Organic Produce

June 2016

All levels of organic shoppers (light, moderate, enthusiast) buy organic apples

% household penetration		Spends $/yr	
Org apple 4.5	**(#11)**	**14.93**	**(#2)**
Org carrot 23.7	(#1)	6.64	(#12)
Org pre-cut salad 20.7	(#2)	15.56	(#1)
Org strawberry 6.6	(#8)	11.91	(#4)

Past 52 weeks sales (4/30/16)

Org Braeburn	-20%	**Org Pink Lady**	**+96%**
Org Honeycrisp	-22%		
Org Bing	-25%		

Source: OTA/Nielsen Fresh 2016 State of Organic Produce

Estimates of global area of organic horticultural crops, including tree fruits, have been made several times in the past by the authors to help track trends. The most recent data (2015) from *The World of Organic Agriculture* were used in the following slides. Not all major producing countries, including the US, provide complete data each year. Some of the upward trends in organic area simply represent more complete reporting (e.g., China). Organic tree fruit represented about 1% of all organic agricultural land globally, with temperate tree fruits having 39% of all organic tree fruit area (slide 11). Tropical/ subtropical tree fruits are now the largest category of organic tree fruit. Avocado (data not shown) had the largest area for a specific fruit, followed by apple and banana (slide 12).

Area of organic tree fruit expanded in 2015, with new data from certain countries (slides 13 and 15). However, several temperate trees fruits declined, as did oranges (slide 12) . This may be due to disease challenges such as citrus greening in orange, as well as withdrawal of subsidy-induced apple land in Poland (slide 14). Europe continues with the largest area of organic temperate tree fruit (Poland 41,326 ha; Italy 17,889 ha; Turkey 14,808 ha), followed by China (25,266 ha) and the U.S. (17,038 ha). Data by crop were missing for the U.S. Europe accounted for 72% of the organic apple area (slide 16).

Global Organic Tree Fruit Area

Organic tree fruit crops 734,000 ha
~1% of organic agriculture land

	Hectares* 2015	% of organic tree fruit	% change from 2014	% of all global
Temperate	296,662	40	+53	2.3
Citrus	70,798	10	-1	0.6
Tropical/ Subtropical	374,769	50	+8	1.0

*certified + transition

1 hectare (ha) = 2.47 acres

Large increases in temperate and tropical/subtropical are in part due to better reporting.

Source: World of Organic Agriculture; FAO

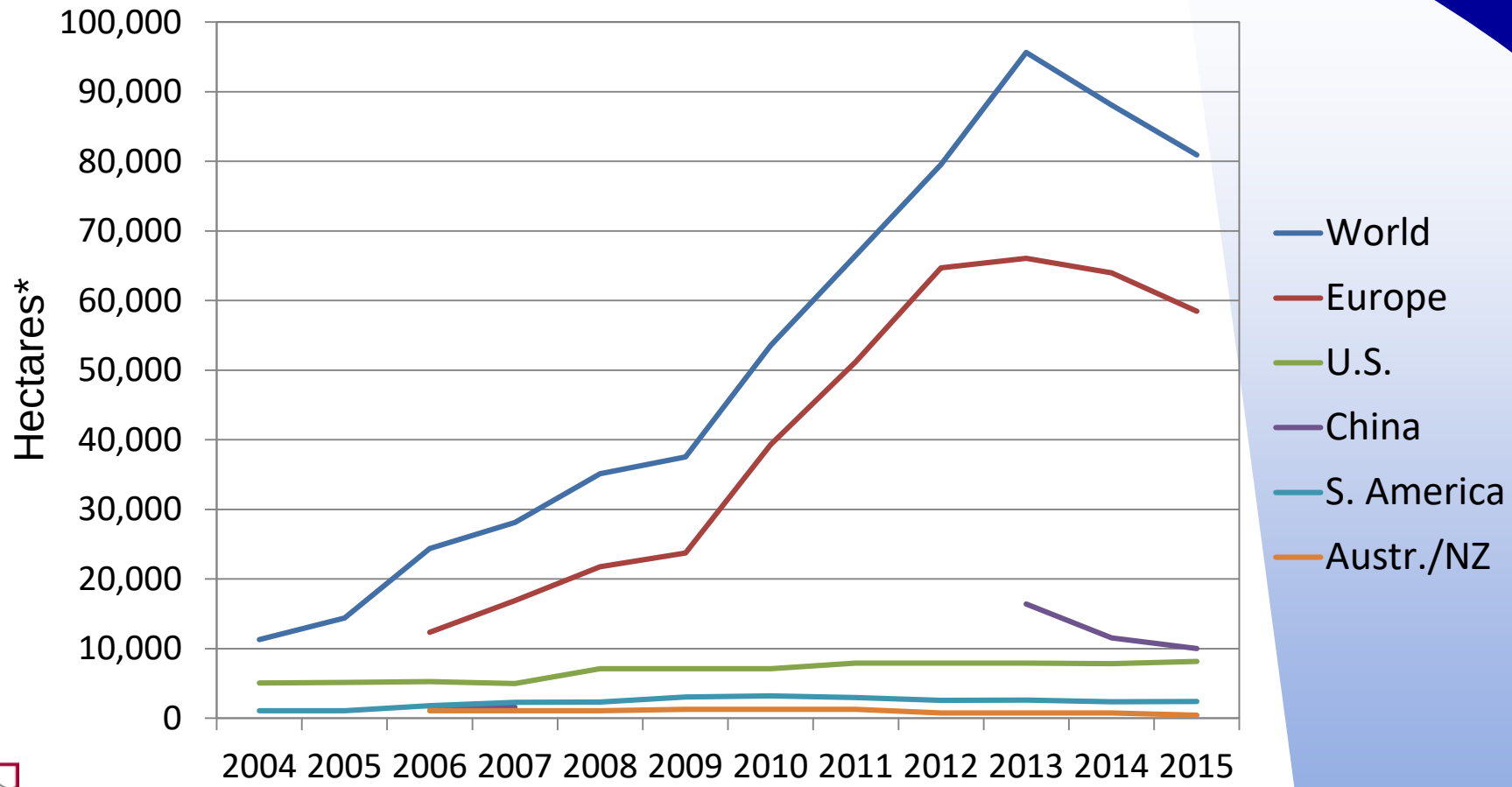
Global Organic Tree Fruit Area

	Hectares* 2015	% change from 2014	% of organic category	% of all global#
Apple	80,911	-9	25	1.4
Apricot	18,201	-13	6	3.6
Cherry	12,200	+14	4	3.0
Peach/Nect.	9,838	+43	3	0.1
Pear	10,076	-4	3	0.6
Plum	12,984	+11	5	0.5
Other, no details	138,180		48	
Banana	60,432	+5	17	0.1
Orange	14,160	-57	20	<0.1

*certified + transition; # using 2014 FAO global data

Source: World of Organic Agriculture; FAO

Organic Apple Trends
Expansion of Global Area

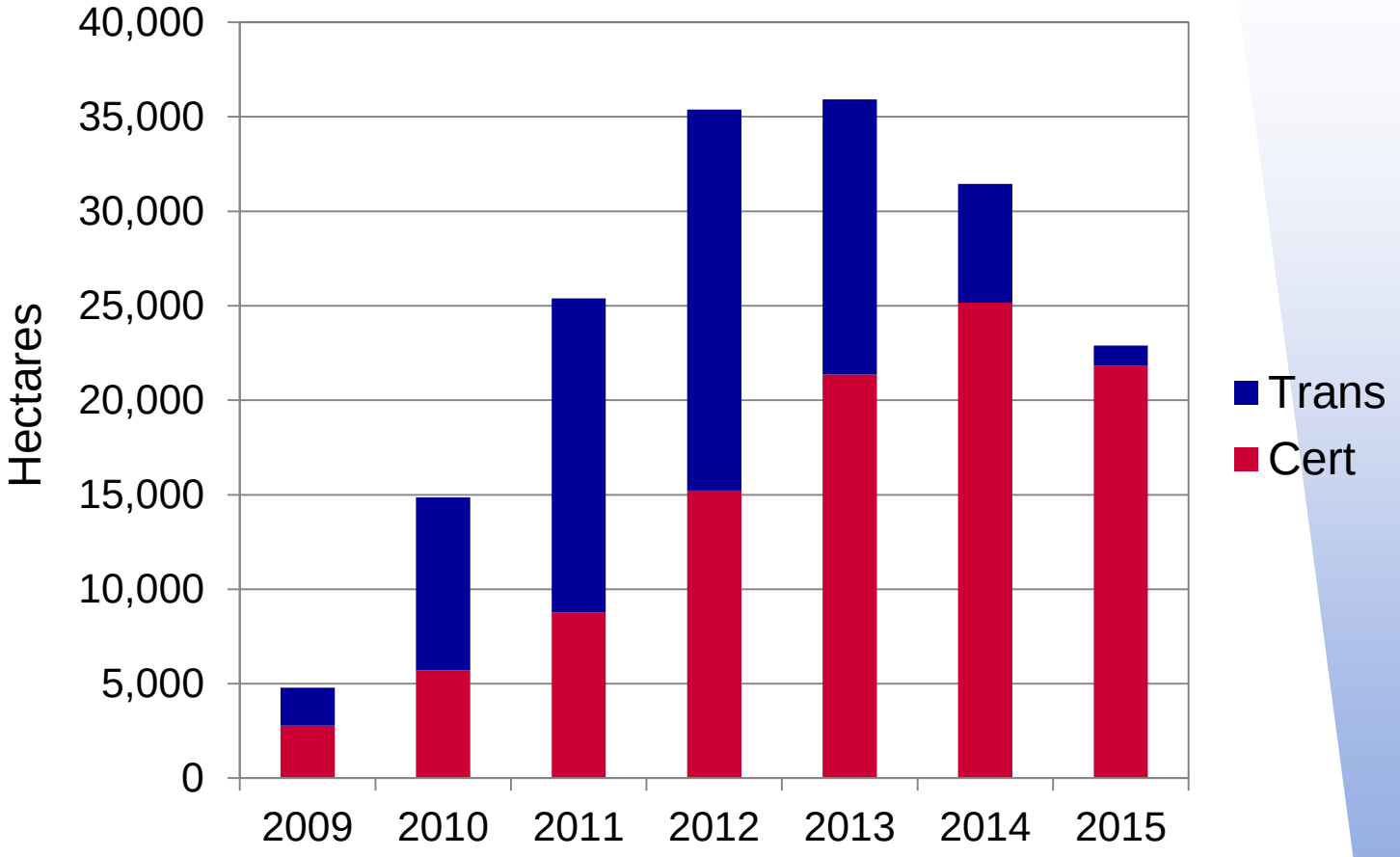


*Certified + Transition area

1 hectare = 2.47 acres

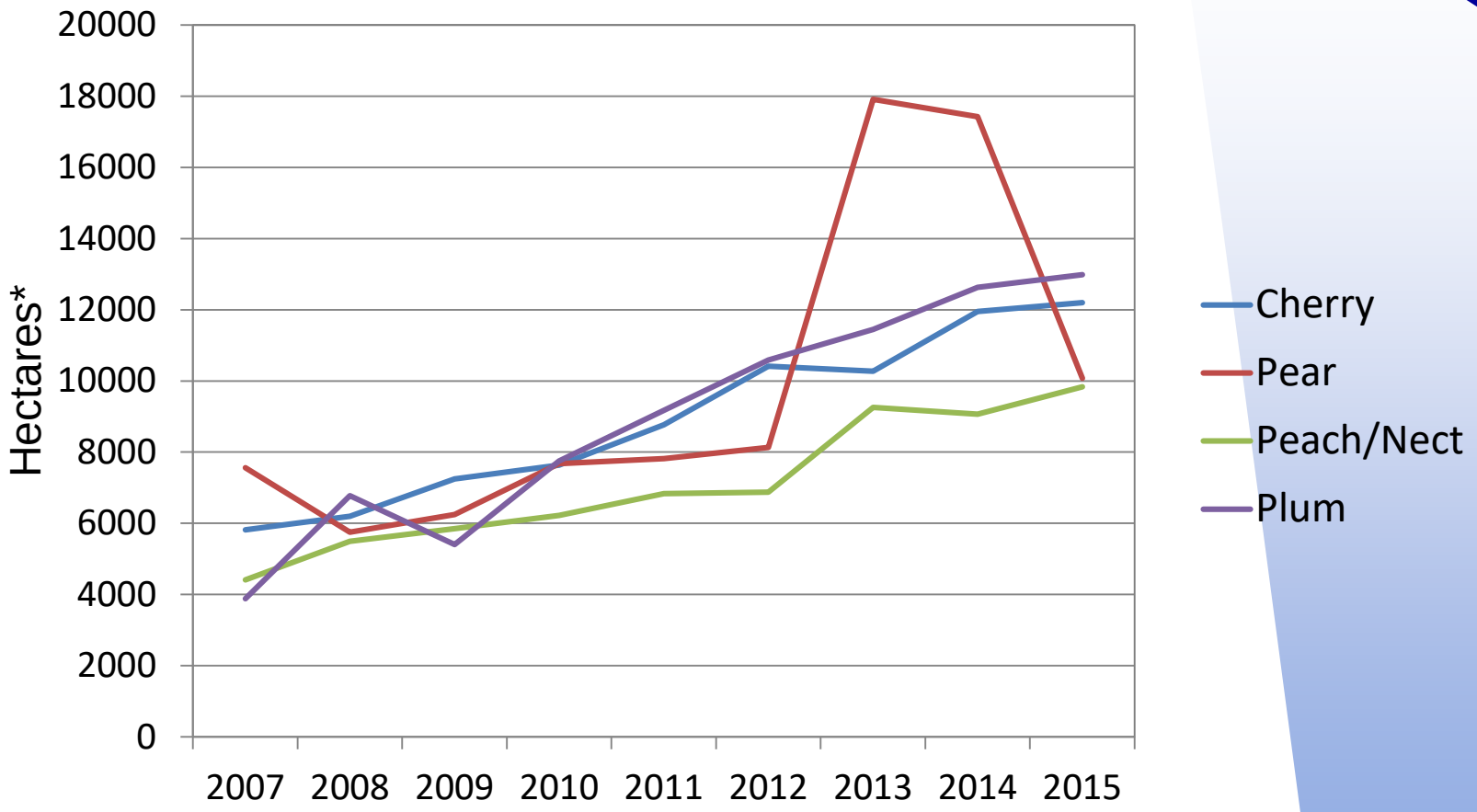
Data courtesy of H: Willer, FiBL

Organic Apple Area in Poland



Data courtesy of H: Willer, FiBL

Organic Tree Fruit Trends
Expansion of Global Area



*Certified + Transition area

Data courtesy of H: Willer, FiBL

World Organic Apple Area

	2015 Ha (C+T)	% change from 2014
World	80,911*	-9
US	8,160	+4
Europe	58,484	-9
Poland	22,899	-27
Germany	5,120	+7
Italy	4,267	+8
France	6,934	+11
Turkey	4,788	+12
China	10,004	-13
Argentina	1,302	+4
Chile	1,129	0
New Zealand	450	0

1 hectare (ha) = 2.47 acres *includes US estimate

Europe is the leading region for producing organic tree fruits.

- 72% of world organic apple area

WA organic <u>apples, 2015</u>

- 5,782 ha cert.
- 71% of US area
- 7% of world certified area (2015)

Data courtesy of H: Willer, FiBL

Data on the area of organic tree fruit production in the U.S. are not collected regularly and are not segregated by the fruit type, except for apple. The results in the following tables (slides 18 to 20) come from USDA ERS reports, certifier data, CDFA, and USDA NASS surveys. In general, >90% of certified organic apple area has been located in the semi-arid regions of the western U.S. where there is little summer rainfall which minimizes many key diseases. This pattern holds true for other temperate tree fruit as well, such as pears, sweet cherries, peaches/nectarines, plums, and apricots. For example, based on data from the NASS 2015 Organic Production Survey, Washington State is the major producer of organic apples, pears, and cherries. It has 71% of the reported organic apple acres, producing 93% of the reported fresh fruit volume in the country. It also has 57% of the organic pear acres and 79% of the volume, and 75% of the sweet cherry acreage and 93% of the volume. A similar situation exists for peaches/nectarines and plums/prunes in California. Additional data can be found on slides 78 to 82.

U.S. Organic Temperate Tree Fruit Area (ac)

	2015 (acres)			2016 (acres)	
	WA	CA	US estimate	WA	CA
Apple	14,283	3,460	20,156	16,191	3,186
Pear	2,050	761	3,167	2,243	682
Apricot	260	449	?	251	442
Cherry	2,056	470	3,291	2,078	433
Nectarine	395	990	?	379	1,047
Peach	553	1,675	3,112	553	1,761

Data from various certifiers, CDFA, and USDA-NASS.

US Organic Apple Area
(acres, estimated)

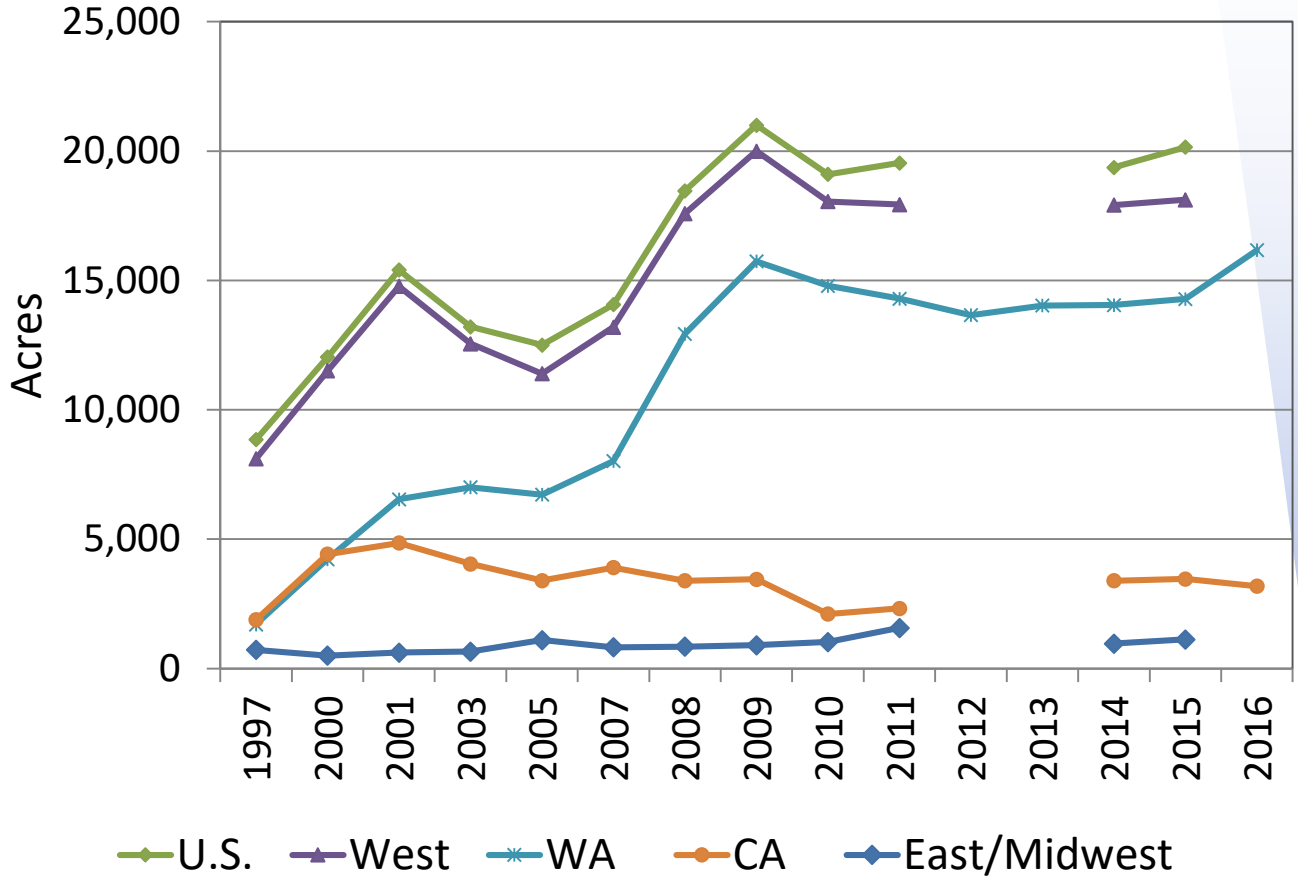
State	2000	2001	2003	2005	2007	2008	2011	2014	2015
WA*	4,228	6,540	7,003	6,721	8,018	12,936	14,296	14,052	14,283
CA*	4,423	4,853	4,045	3,402	3,900	3,393	2,322	3,392	3460
AZ	1,795	1,715	835	865	816	816	354	?	?
CO	431	635	235	202	209	164	509	194	176
OR	350	350	265	123	106	136	234	262	143
Other West	281	677	171	83	147	139	96	17	59
West total	11,508	14,770	12,554	11,396	13,196	17,584	17,934	17,917	18,121
Midwest	419	567	650	708	612	655	1,207	319	563
NY & NE	83	52	5	392	212	193	361	645	555
S & SE	28	15	1	8	47	33	40	11	10
US Total	12,038	15,404	13,210	12,504	14,067	18,465	19,542	19,370	20,156

*WA and CA values are from WSDA, OTCO, CCOF, and CDFA

>90 % in arid west

Combined data sets from WSU-CSANR ,USDA-ERS, USDA-NASS; Other West states include ID, MT, NM, NV, UT; updated 2011 to ERS values.

U.S Certified Organic Apple Area



Data are mostly from USDA-ERS and USDA-NASS; except WA is from certifiers, CA is from CDFA

The acreages of different organic tree fruits in Washington over time are shown in slide 22. While accounting for about 21% of all certified organic acres in the state, organic tree fruit generates over 60% of the farmgate value of all organic products grown in the state (slide 23). Storage, packing, and marketing add another $80-90 million of value each year. Estimates for the value of organic tree fruit that is processed could not be determined, but demand for these products is growing (e.g., juice, puree, sliced apples). Organic apples dominate the organic tree fruit sector for area, production, and value, and sales value has been rapidly increasing (slide 24). Organic apples, pears, and cherries set record sales values ($) with the 2015 crop.

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Organic Tree Fruit Acres
Washington State

	--- Certified acres ---							Trans acres†
	2010	2011	2012	2013	2014	2015	2016	2016
Apple	14,790	14,296	13,657	14,030	14,052	14,283	16,191	4,244
Pear	2,033	1,917	1,900	1,820	1,843	2,050	2,243	374
Cherry	2,147	1,827	1,792	1,850	1,939	2,056	2,078	373
Apricot*	299	296	266	285	299	260	251	--
Nectarine	550	528	488	464	440	395	379	--
Peach	701	619	618	594	580	553	553	0.25
Plum/Prune*	125	92	89	64	58	56	76	--
Mixed stone	13	17	45	22	17	32	--	--
Total*	20,658	19,592	18,855	19,129	19,228	19,685	21,771	4,991

**apricot includes aprium; plum includes pluot and plumcot; totals do not include mixed tree fruit;*
†only those acres registered with a certifier

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Tree fruit had a 21% share of all organic acreage in Washington State in 2016.

Combined certifier data

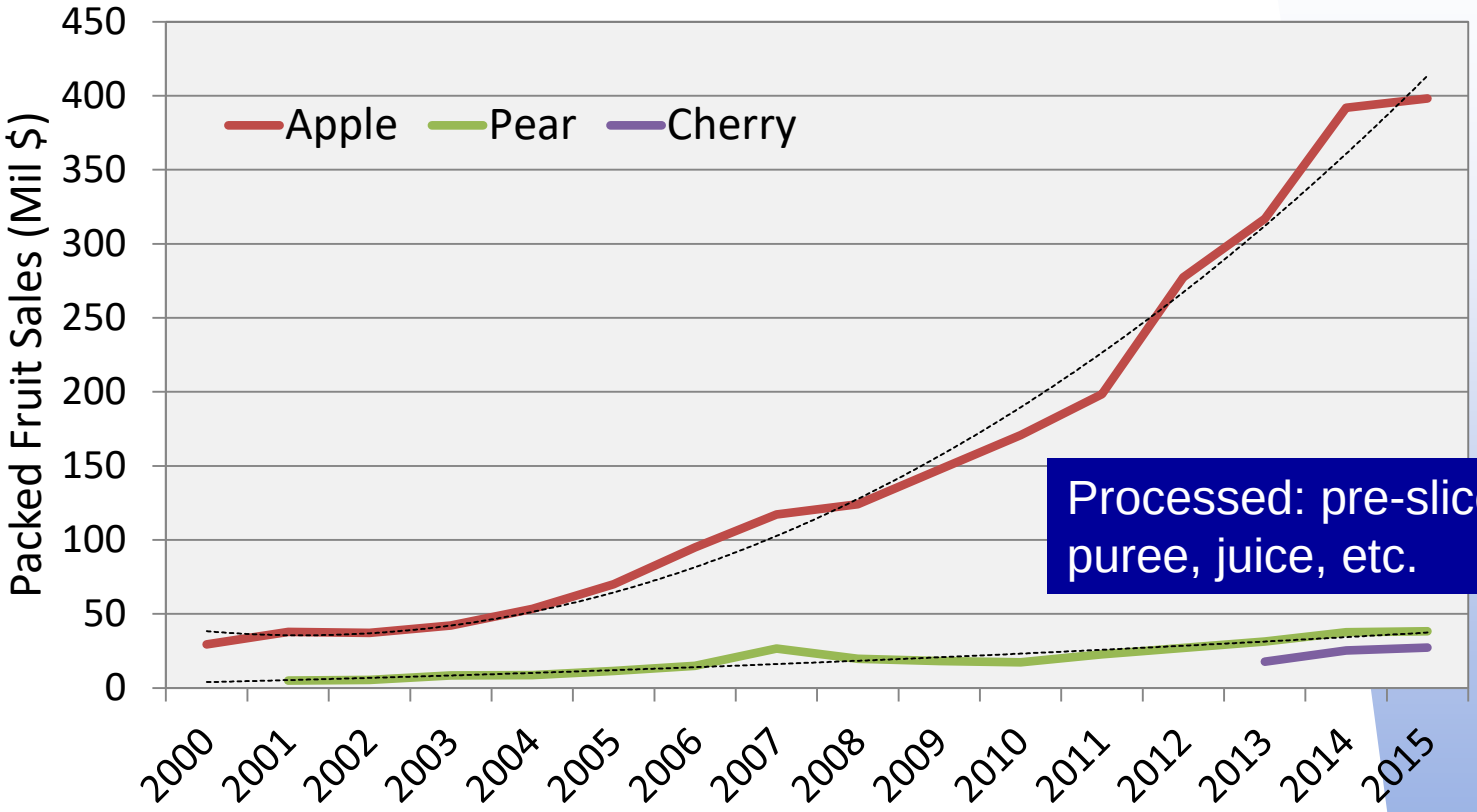
Value of WA Organic Tree Fruits

	2009	2010	2011	2011	2012	2013	2014	2015
(Mil $)	Sales Yr Farmgate Value			Crop Yr Packed Value				
Apple	77.85	96.28	121.04	198.55	277.40	317.0	391.9	398.1
Pear	8.87	8.66	11.87	22.71	27.04	31.4	37.6	38.2
Cherry	9.92	10.05	17.09	15.31	16.15	17.9	25.4	27.3
Other	5.05	7.49	10.95	>11.0	?	?	?	?
Total	101.69	122.48	160.95	>248	>320	>343	>455	>464

Sales year = Jan.-Dec., regardless of when the crop was harvested. Crop year = value of the crop harvested in the given year, that may be sold over multiple years; uses Packed value based on FOB price.

Data: WSDA, WGCH, WVTA

Value of Fresh WA Organic Apples and Pears



Processed: pre-sliced, IQF, puree, juice, etc.

Based on shipped volume for the crop (e.g., 2008 harvest was shipped in both 2008 and 2009) and estimated weighted average price per packed box during the same period. Dashed line is polynomial trend line estimate. Does not included processed fruit.

Data: WSTFA, WGCH, WVTA

The expansion of organic apple area in the state has proceeded in a stepwise fashion as shown in slide 26. Partly this is due to the 3-year transition requirement that creates a lag between a market signal to growers and their ability to enter the market. There is also a lag in exiting, for example when prices fall, since growers have invested in the transition period and in various production practices. Increases in area have been spurred by crisis situations, such as Alar in 1989, and the crash in conventional 'Red Delicious' prices in the late 1990s.

While 'Red Delicious' remains the most widely planted cultivar under conventional management, 'Gala' and 'Fuji' dominate organic plantings, with 'Honeycrisp' increasing rapidly in area (slide 27). The change in area of cultivars over time can be seen in slides 28 and 29. In addition, many new and specialty cultivars are being grown organically, including some for hard cider production (slide 30).

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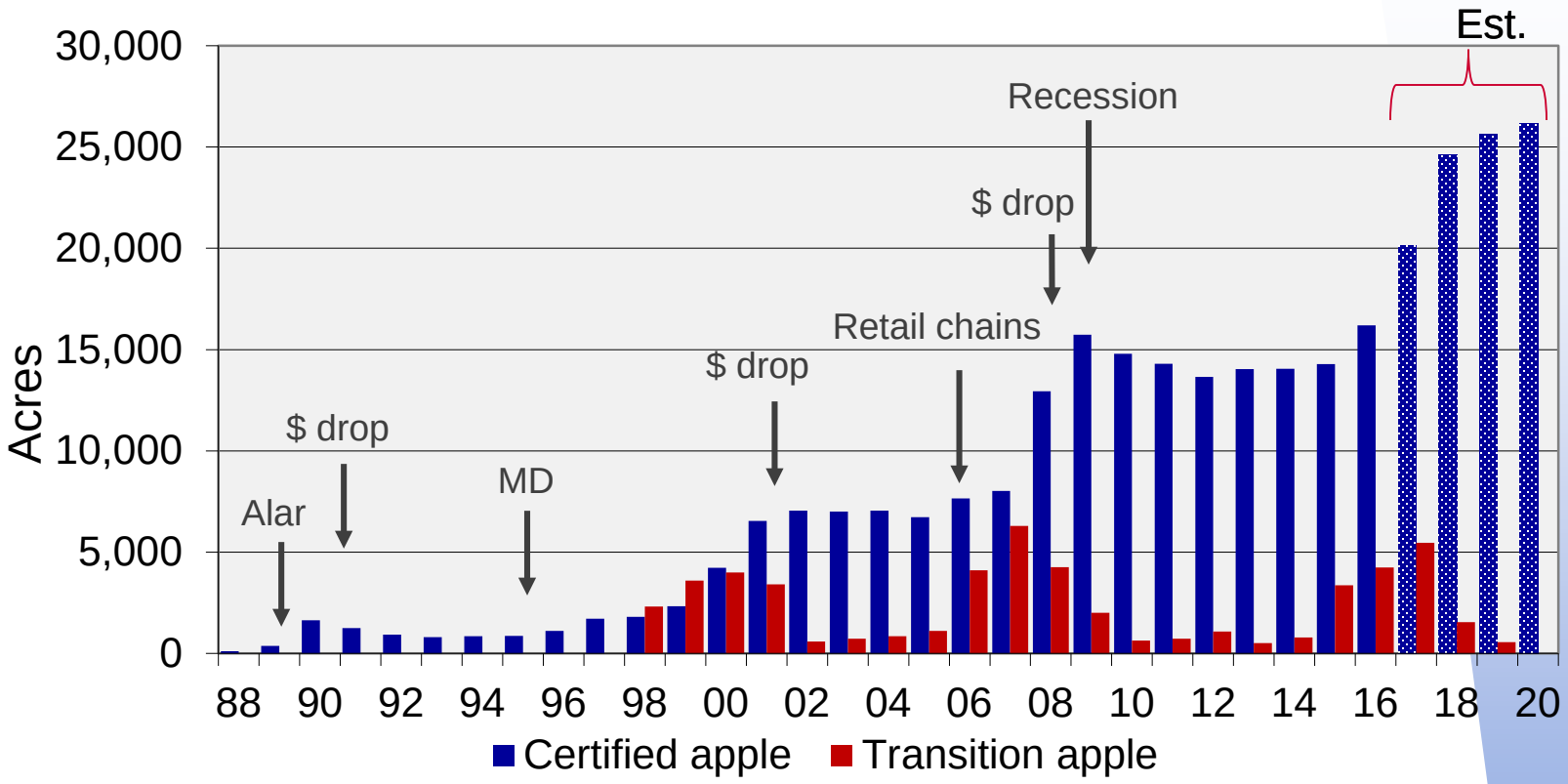
Organic Apple Acreage
Washington State



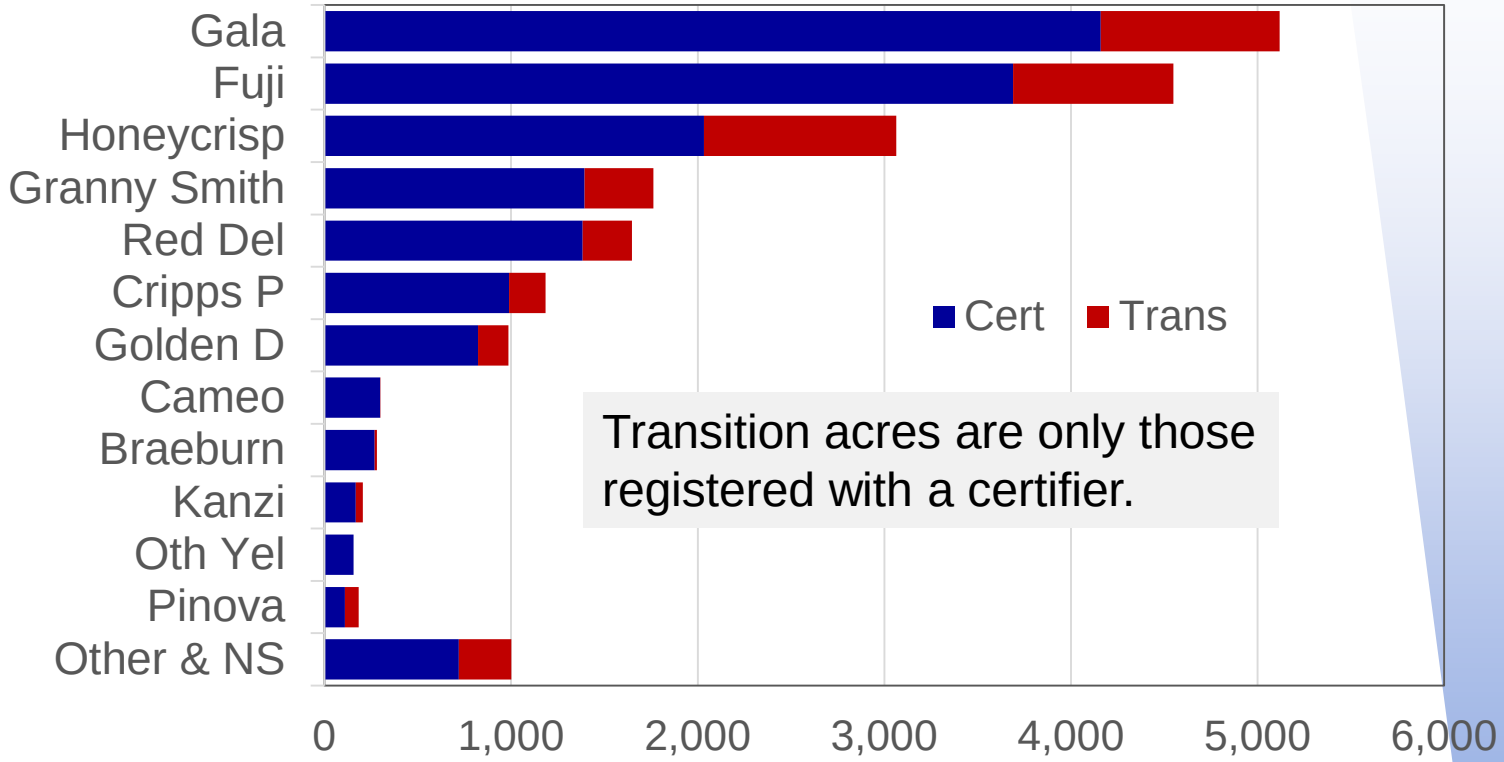
Organic (C+T) = 11.3% of WA apple bearing acreage
(based on 2016 WSDA estimate of 180,961 acres)

Some historical events that have influenced organic apple production include the Alar incident, price volatility ($ drop), the introduction of mating disruption (MD) for codling moth control, and market entry by national chain supermarkets (Retail chains).

Combined certifier data

Center for Sustaining Agriculture & Natural Resources

Organic Apple Variety Acres Washington 2016



Transition acres are only those registered with a certifier.

- Fuji and Gala = 48% of certified apple acres
- Honeycrisp tops Red and Granny since 2013
- Opal, Jonagold, Ambrosia, Pacific Rose, Envy, Autumn Glory, Lady Alice and Jazz: ~ 460 ac cert.

Combined certifier data; Cripps Pink includes Pink lady; Pinova includes Pinata and Sonata.

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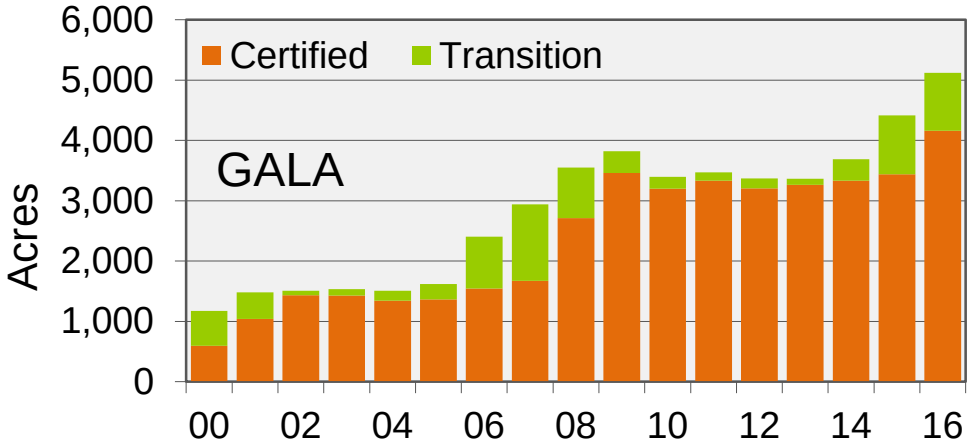
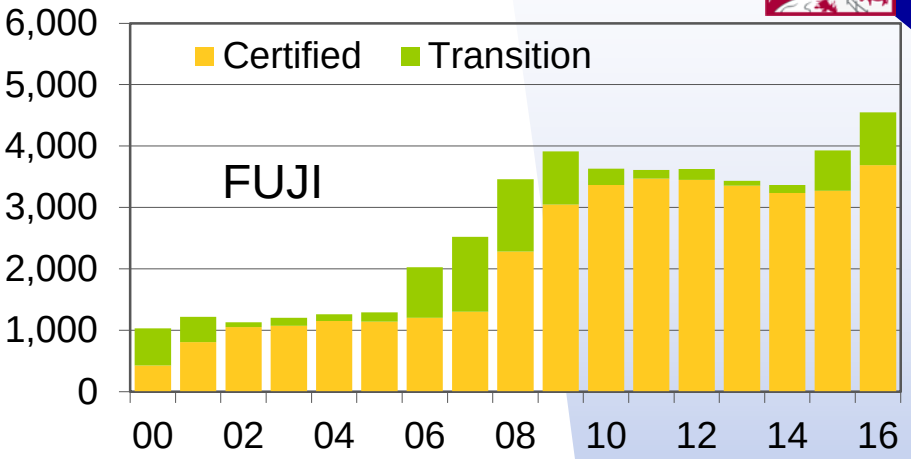
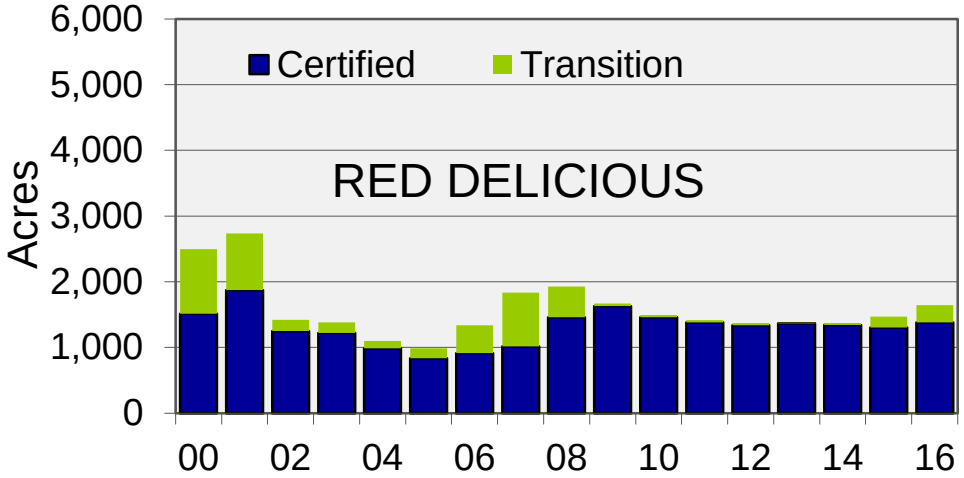
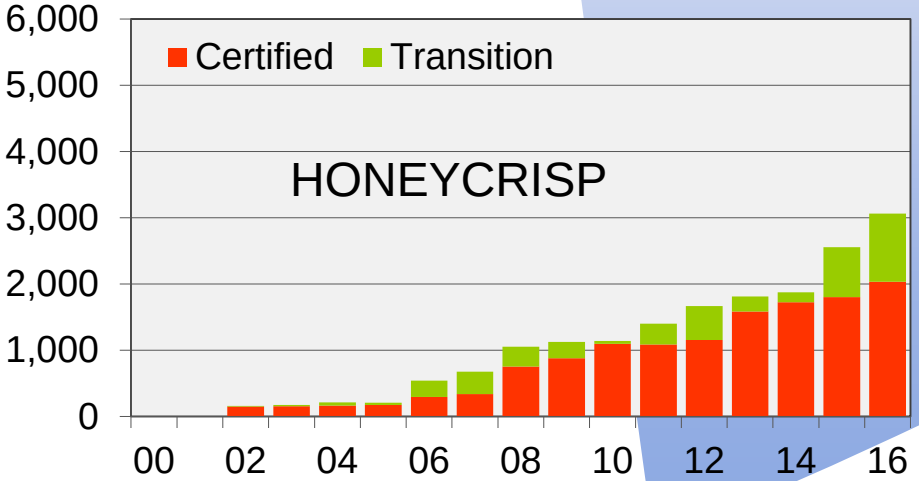
Organic Apple Varieties
Washington State Acres Trend



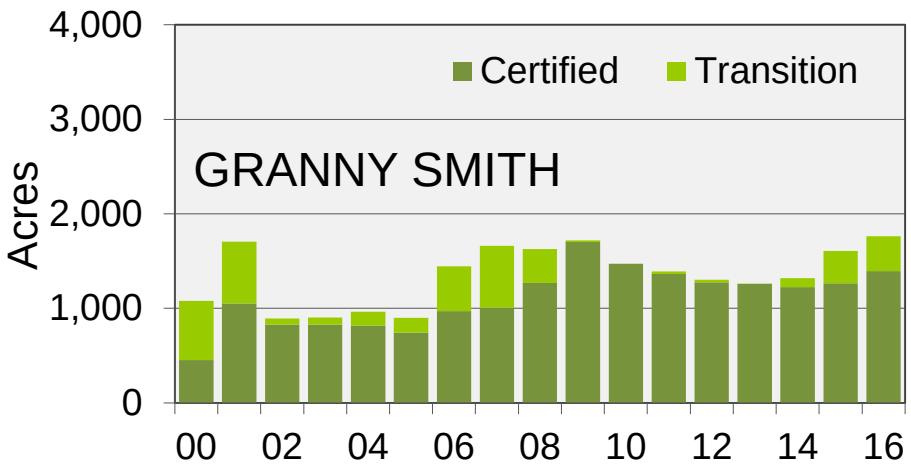


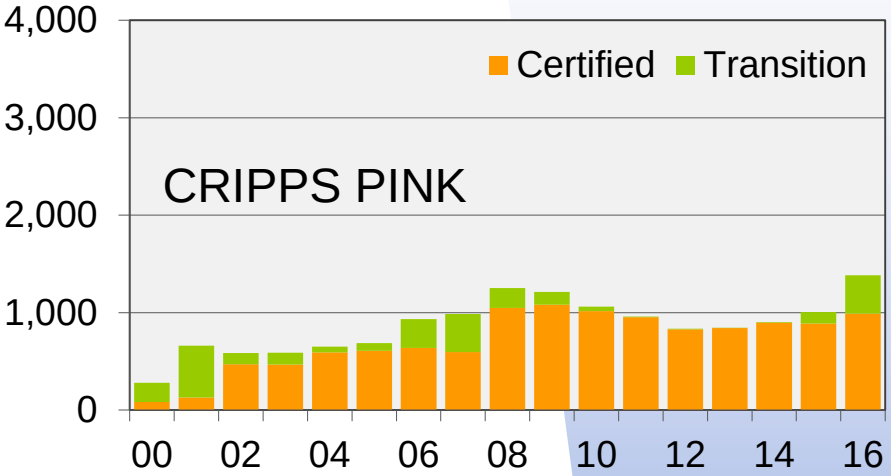


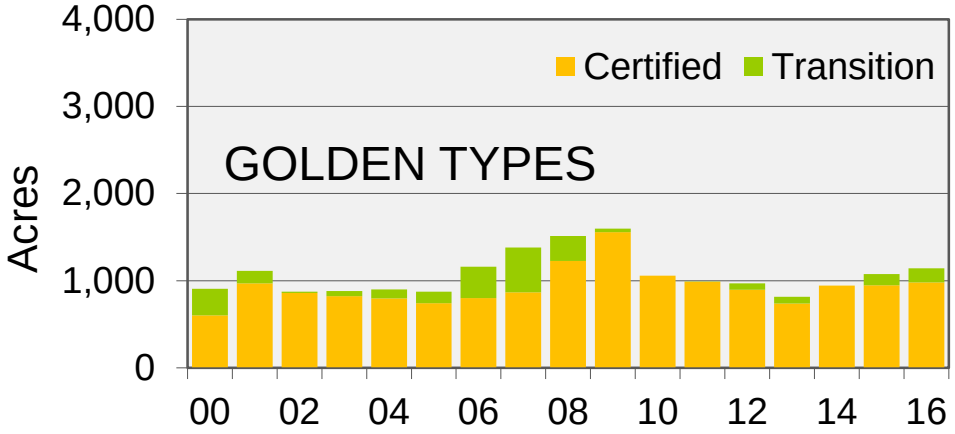


Combined certifier data

Organic Apple Varieties
Washington State Acres Trend







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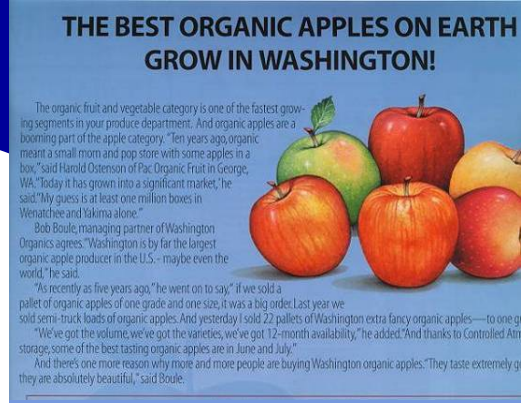
Combined certifier data

Organic Specialty Apples
Washington State 2016


THE BEST ORGANIC APPLES ON EARTH GROW IN WASHINGTON!

The organic fruit and vegetable category is one of the fastest growing segments in your produce department. And organic apples are a booming part of the apple category. "Ten years ago, organic meant a small mom and pop store with some apples in a box," said Harold Ostenson of Pac Organic Fruit in George, WA. "Today it has grown into a significant market,' he said. "My guess is at least one million boxes in Wenatchee and Yakima alone."

Bob Boule, managing partner of Washington Organics agrees. "Washington is by far the largest organic apple producer in the U.S.– maybe even the world," he said.

"As recently as five years ago," he went on to say," if we sold a pallet of organic apples of one grade and one size, it was a big order. Last year we sold semi-truck loads of organic apples. And yesterday I sold 22 pallets of Washington extra fancy organic apples—to one g

"We've got the volume, we've got the varieties, we've got 12-month availability," he added. "And thanks to Controlled Atm storage, some of the best tasting organic apples are in June and July."

And there's one more reason why more and more people are buying Washington organic apples. "They taste extremely g they are absolutely beautiful," said Boule.

WA Apple Commission

Over 100 varieties of organic apples grown in WA, from small to larger quantities

- 50-100 ac: Opal®, Jonagold, Ambrosia®, Pacific Rose™, Envy™, Lady Alice®, Autumn Glory®
- 11-50 ac: Jazz™, Ginger Gold®, Golden Supreme®, Jubilee, McIntosh, Minneiska (SweeTango®), RosaLynn, Empire
- 1-10 ac: Sansa, Winesap, Winter Banana, Rome, Tsugaru, Earligold™, Zestar!®, Crimson Crisp™, Mollie's Delicious, Liberty, Arkansas Black, Gravenstein

Varieties listed in WSDA producer directory:

http://agr.wa.gov/FoodAnimal/Organic/docs/wsda_cert_org_producers.pdf

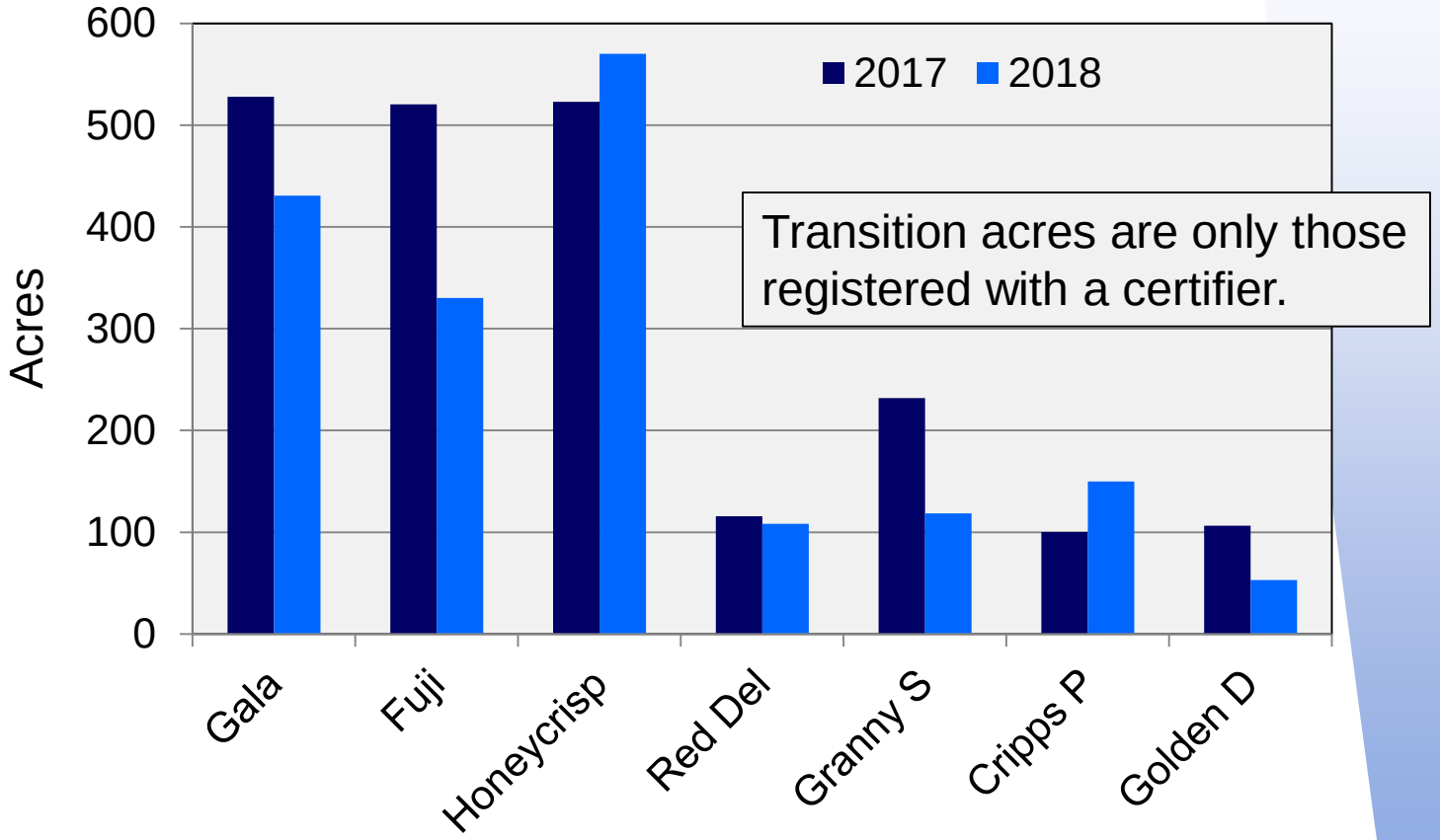
Combined certifier data

A large number of apple acres are in transition to organic, with ‘Gala’, ‘Fuji’, and ‘Honeycrisp’ dominating (slide 32). These data are for those transition acres registered with a certifier. An informal survey found that these accounted for only about half the actual area in transition. At the same time, organic apple yields appear to be increasing, with the transition of many acres of modern, high-density plantings (slide 33). These data were calculated by dividing the actual number of packed boxes shipped each year (by variety), by the actual number of certified acres for that variety, both values that are very accurate. Yields went from around 400 packed boxes per acre in 2008 to 600 in 2015.

There are fewer transition acres for pears and cherries, and these increases are not expected to result in a large new pulse of fruit.

Organic Apple Variety Transition Acres

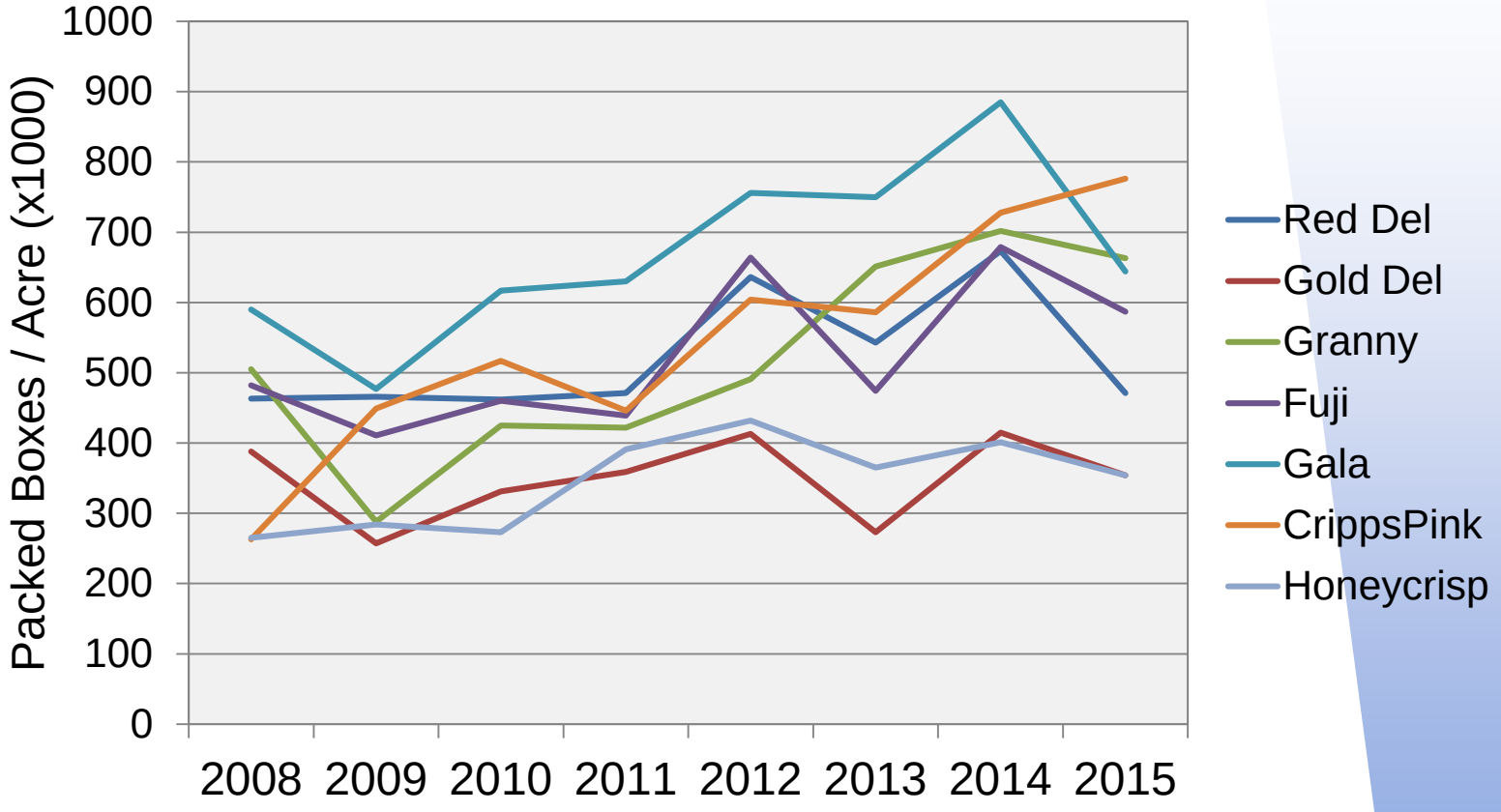
Washington



Only about 50% of acres actually in transition are registered.

Combined certifier data; Cripps Pink includes Pink lady.

Organic Apple Yield Trend - WA



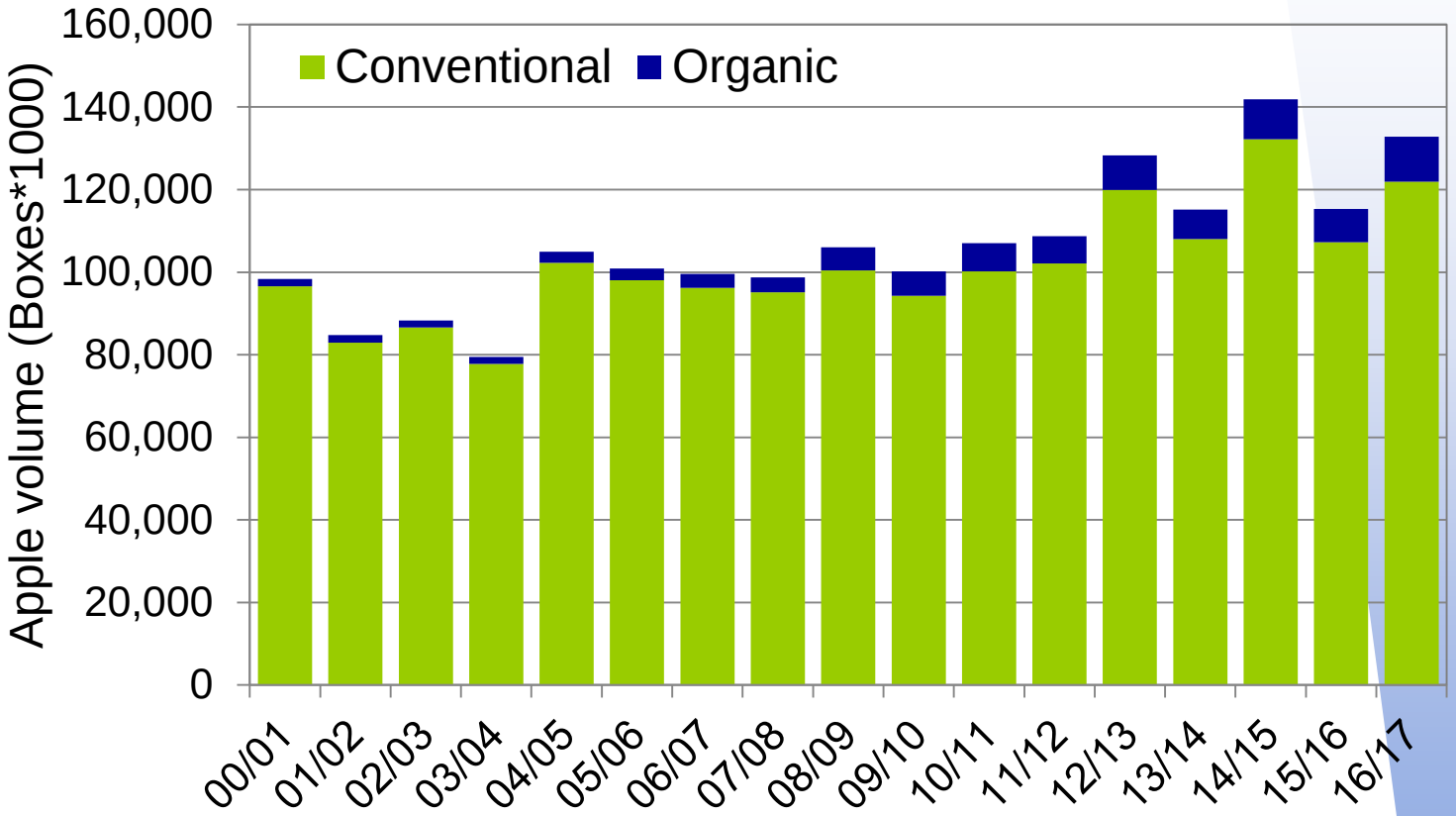
- Total shipped organic boxes / total certified acres
- Does not account for processor or other diverted fruit

In 2016, certified organic apples represented about 11% of all bearing apple acres in the state. This has translated to about 8% of the fresh shipments of apples (slides 35 and 36), with an unknown amount of organic fruit going to the processor market or being sold as conventional for various reasons.

A general upward trend of shipments has occurred since a big jump in 2008 (slide 37), despite slight declines in acreage after 2009. This can be attributed to newer high-yielding plantings coming into production, as well as less fruit being diverted to conventional or other markets. The increase has been driven by dramatic rises in ‘Gala’ and ‘Fuji’ shipments, with these expected to ship about 3.7 million and 2.4 million boxes, respectively, for the 2016 crop, which set a new record (slides 38, 39). The rise of organic ‘Honeycrisp’ production is also evident. Despite the rapid rise in supply, prices have also risen during this period (slide 37).

Washington Apple Volume

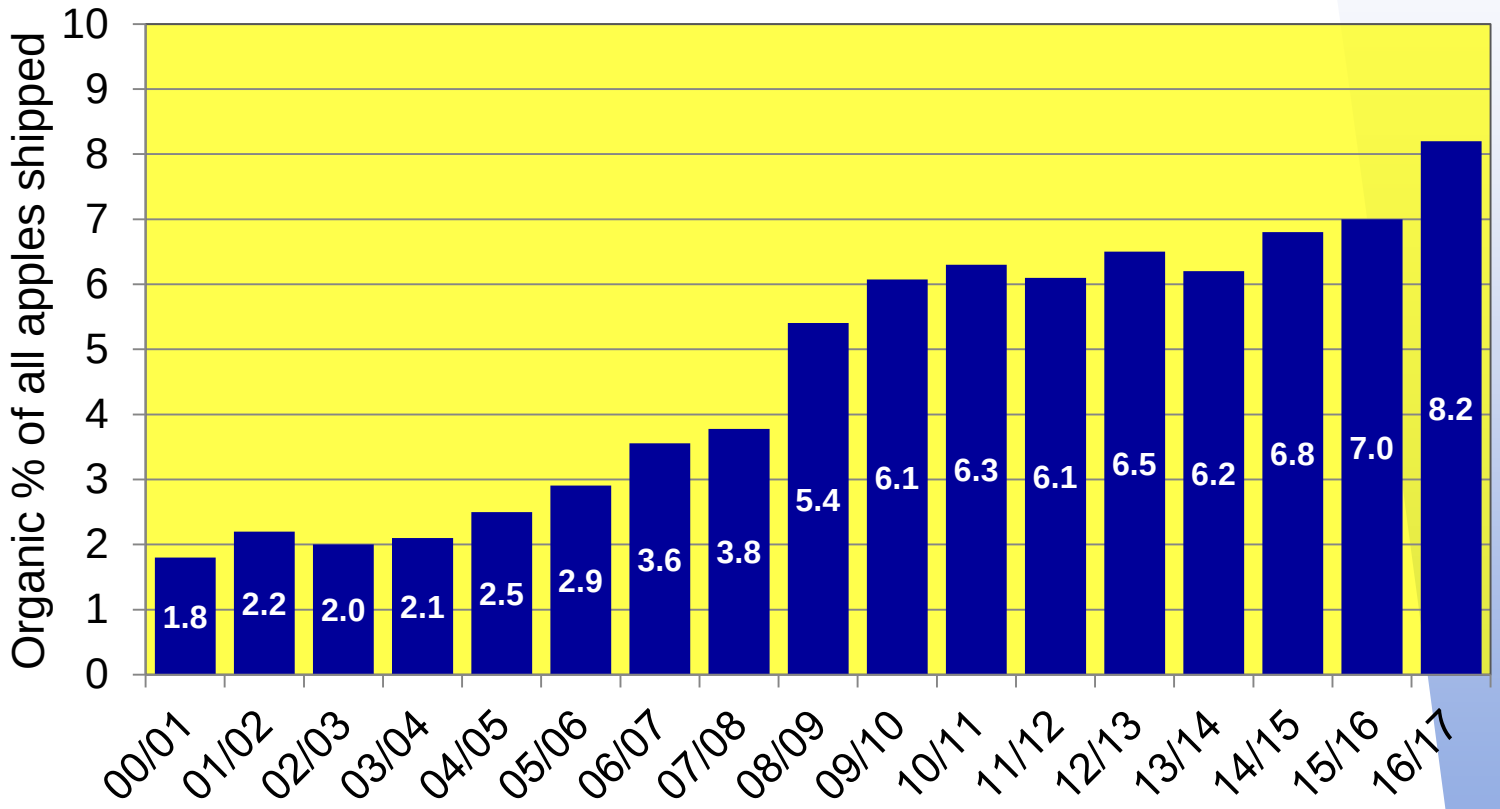
Conventional and Organic



Data: WSTFA, WVTA, WGCH

Organic Share of Apple Shipments

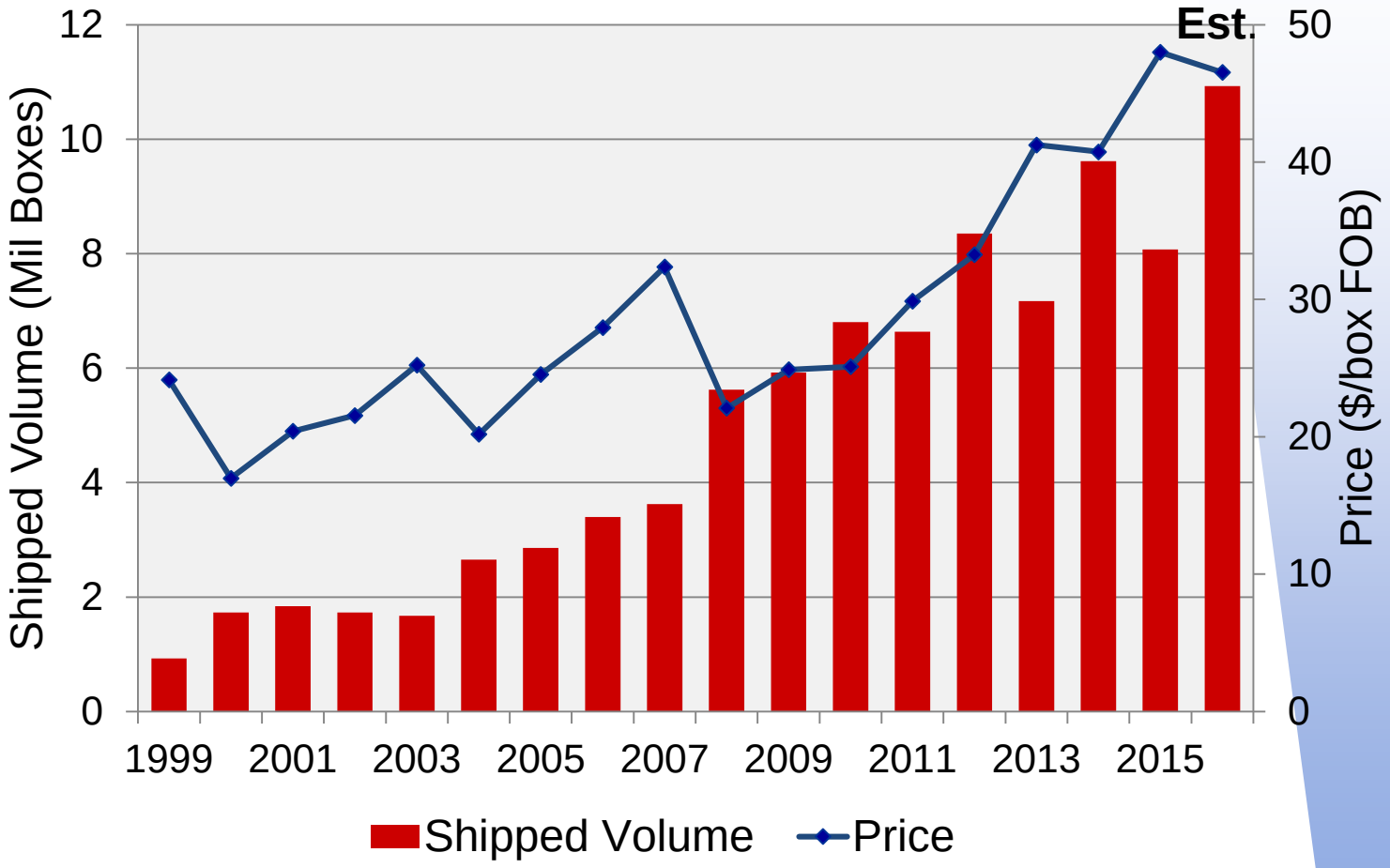
Washington State



Data: WSTFA, WVTA, WGCH

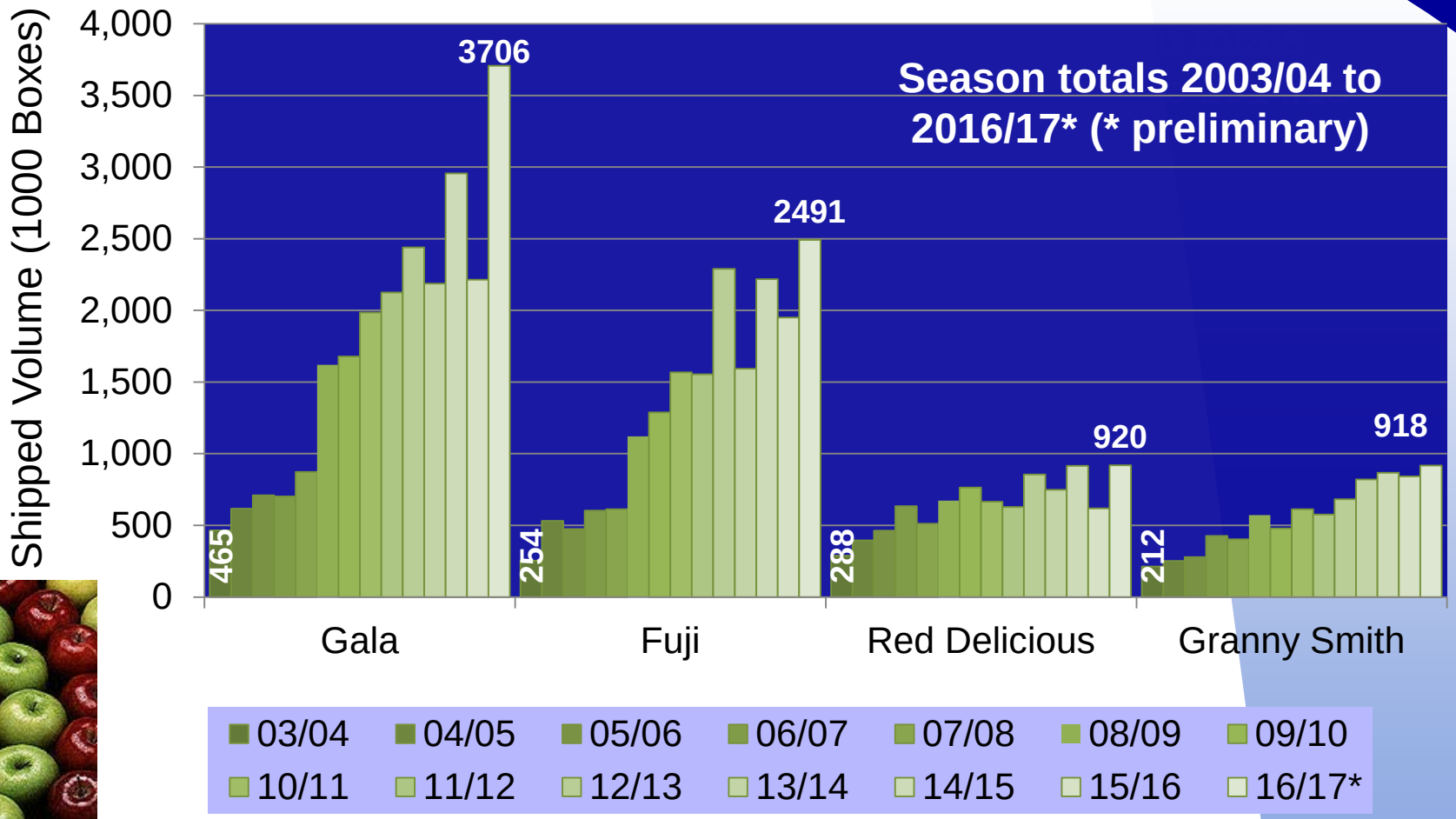
Organic Apple Sales

Volume and Price Trends - WA



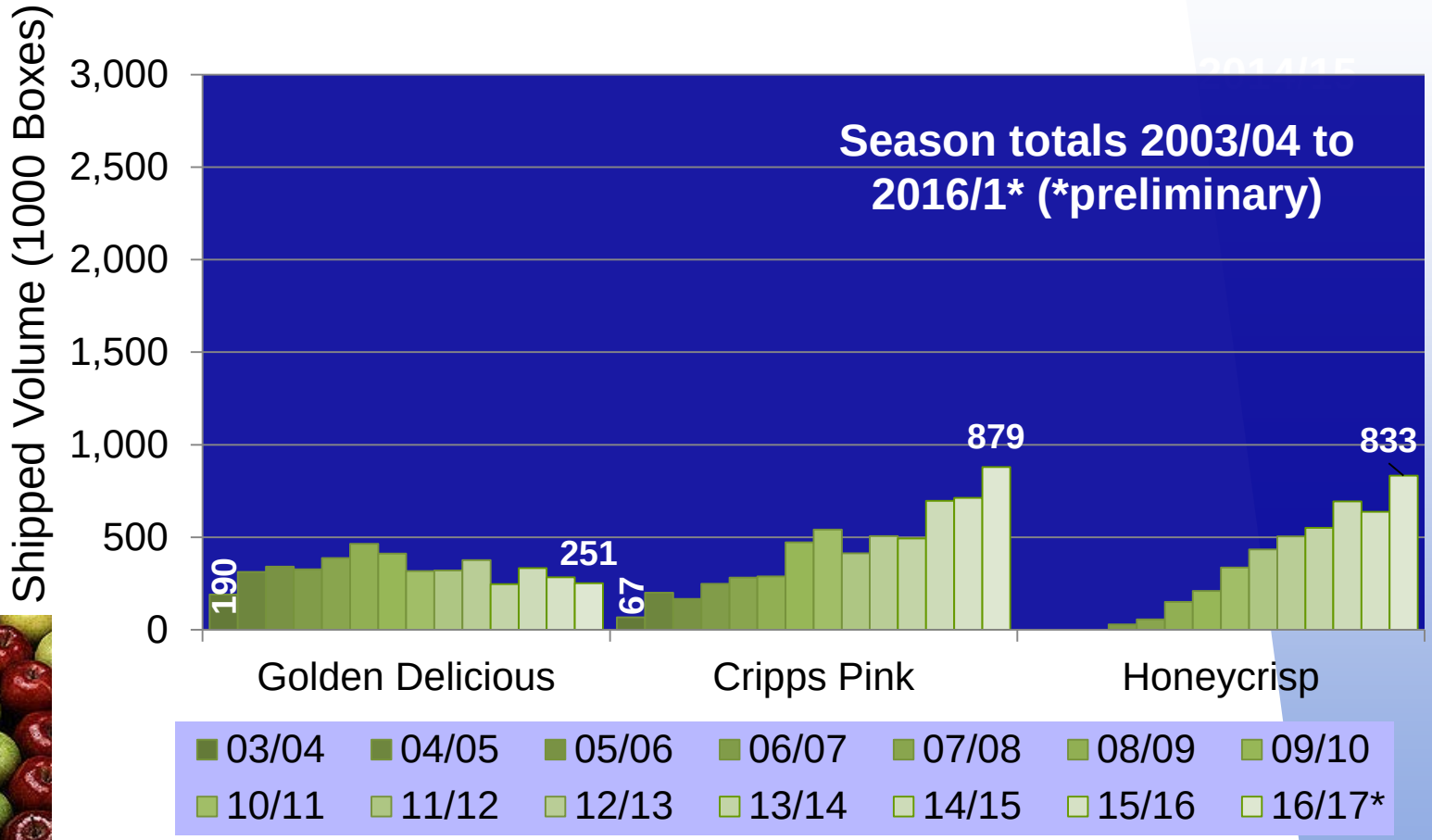
40 lb box. Data: WSTFA, WVTA, WGCH; organic season average FOB history; priced boxes all grades ,sizes, storage

Total Shipped Organic Volume
by year and variety, Washington State



Data: WSTFA, WGCH, WVTA

Total Shipped Organic Volume
by year and variety, Washington State



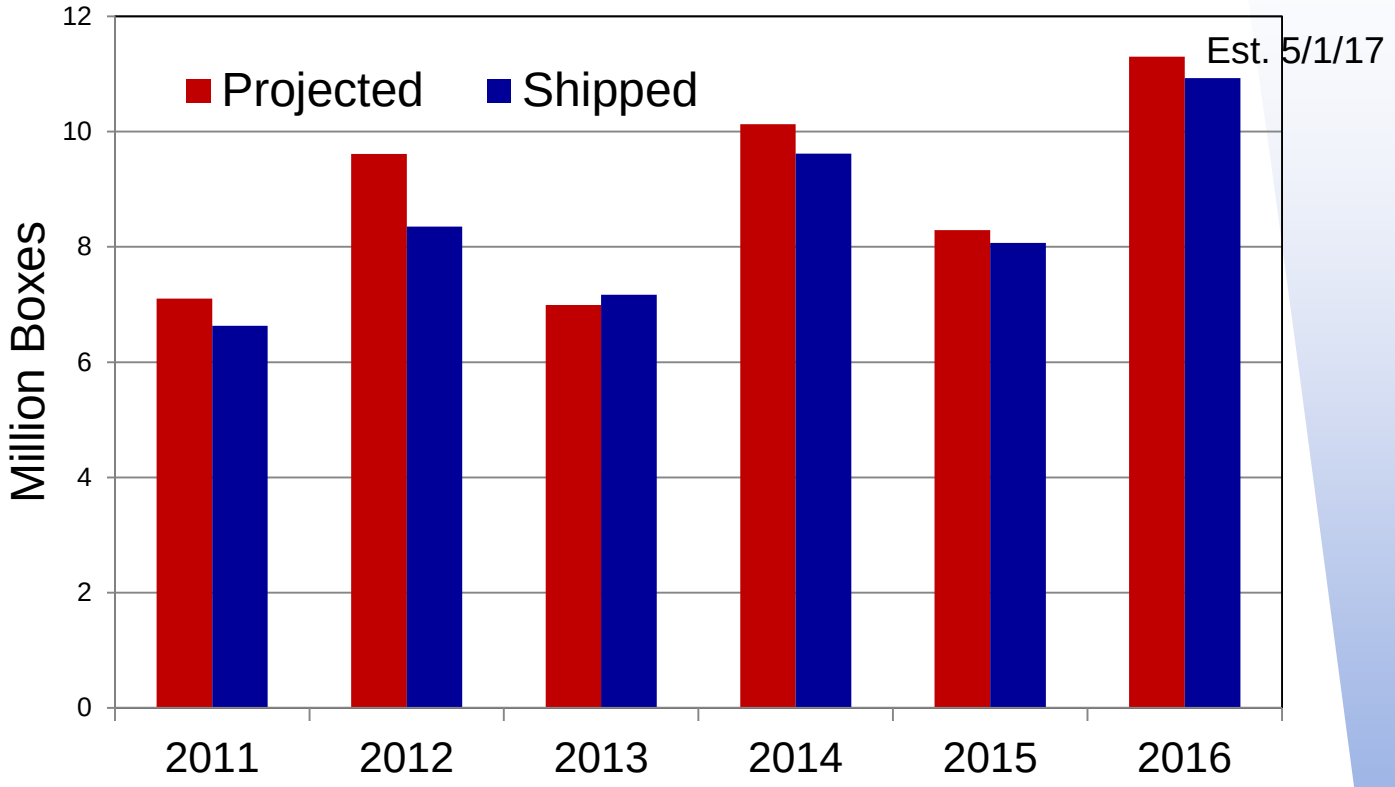

ARS Photo

Data: WSTFA, WGCH, WVTA

The 2016 crop was the largest ever for organic apples, estimated at 11.3 million boxes (slide 41). This was 11% higher than the previous record in 2014, and 36% higher than the smaller 2015 crop (due to alternate bearing). Season-to-date shipments for the whole crop at the end of April 2017 were well ahead of the 2014 crop. ‘Red Delicious’ and ‘Golden Delicious’ were behind, while most other varieties were ahead, particularly ‘Gala’ and ‘Fuji’.

Storing organic apples longer will be critical for marketing the larger crop in coming years. New post-harvest technology is continually be tried, some of which is proving quite successful. The opportunity to sell more WA organic apples is illustrated by the sources of organic apples in groceries identified by USDA-AMS in August 2016 (slide 42).

Washington Organic Apple Crops



Comparison of recent organic apple crop size estimates (December 1) with actual season-end volume shipped.

Data: WSTFA, WVTA, WGCH

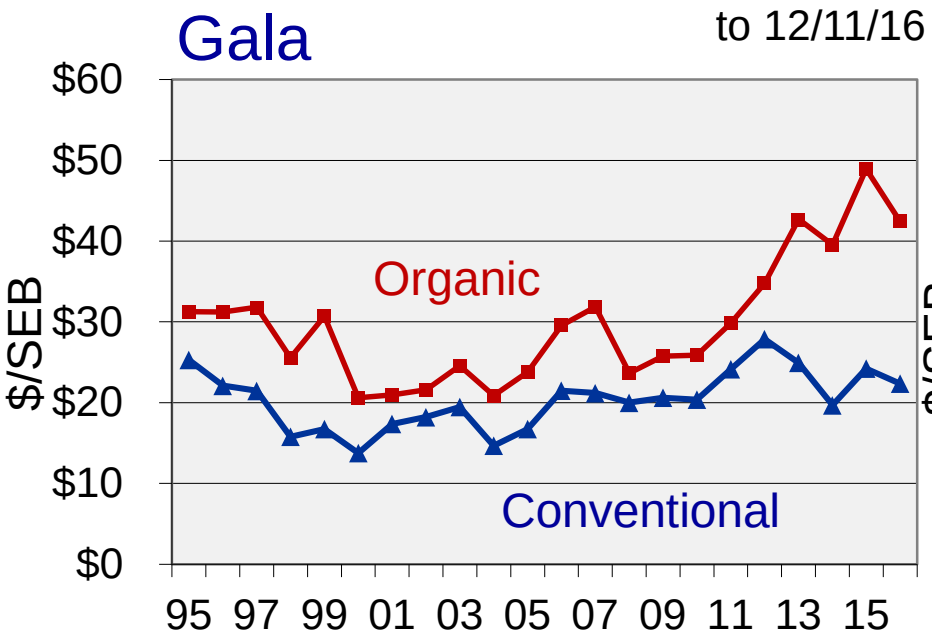
Organic Apples in U.S. Market
August 2016

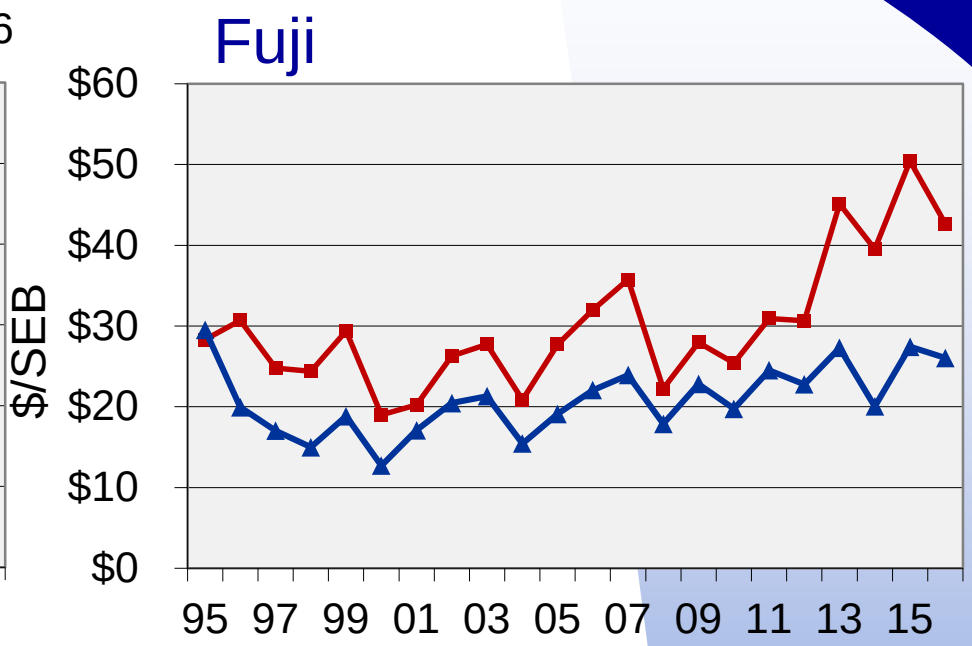
	Red D	Gala	Fuji	Brae	Pink	Zestar!®
Baltimore	WA					
Boston	ARG	WA	ARG	NZ	ARG	
Chicago	ARG	NZ	NZ	ARG	ARG	
San Fran.		CA, WA	CH, NZ		CH	OR
WA=Washington; CA=California; OR=Oregon; ARG=Argentina; CH=Chile; NZ=New Zealand						

USDA-AMS national specialty crops organic summary, Aug. 11, 2016
https://www.ams.usda.gov/mnreports/fvdorganic.pdf

Prices for organic tree fruit have been collected by the industry starting in the mid-1990s, and now include most of the crop (reporting is voluntary). Organic prices are almost always higher than conventional, but the magnitude of the difference varies from year to year. However, the direction of price change from year to year was generally the same between the two, until after the 2012 crop, indicating that market forces are becoming less similar. Both organic and conventional experience some alternate bearing which affects supply and price. The prices on the following slides (44 to 47) are for fresh packed apples (40 lb box) for all sizes and grades, domestic and export. Organic price premiums are plotted in slide 48 as both the absolute dollar amount as well as the percent difference. The dollar premium per box has been at record levels in recent years.

Price Trends
Washington Apples

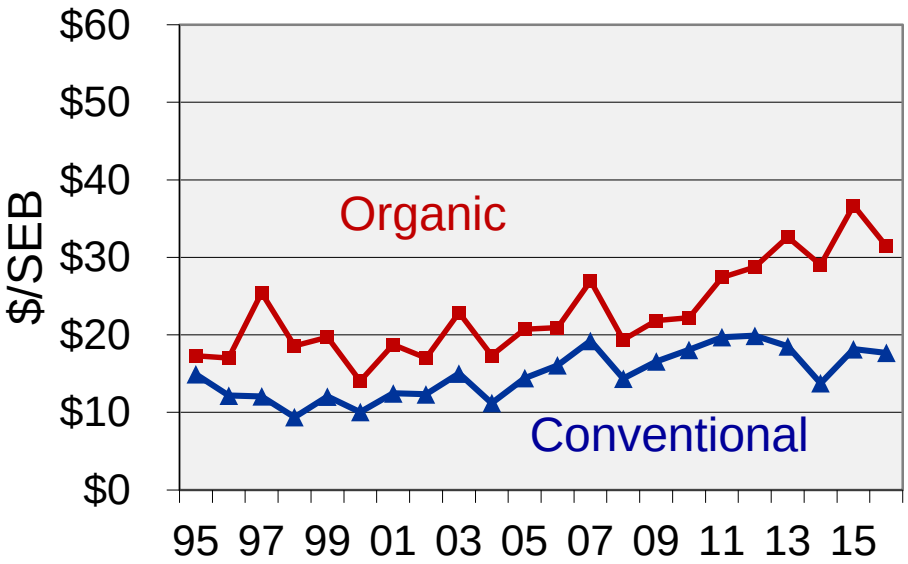




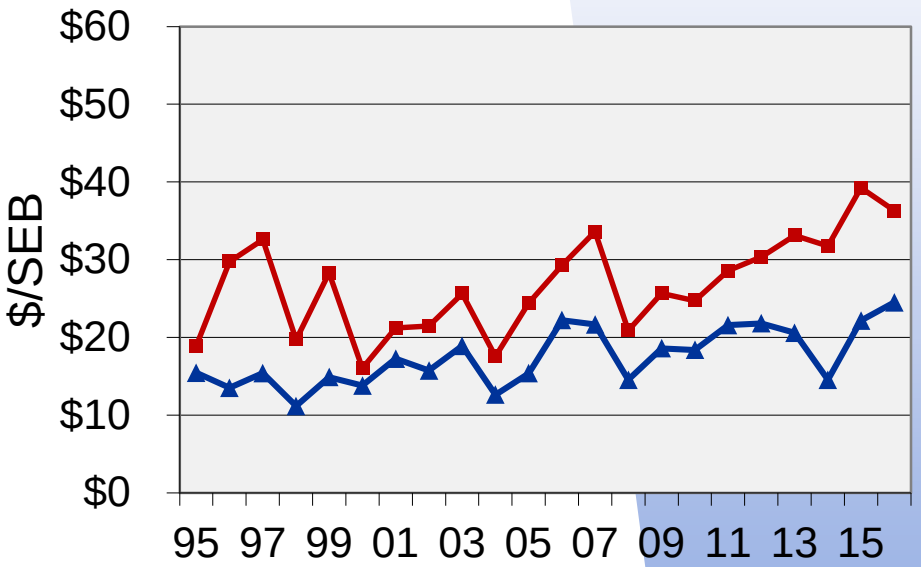
***SEB=standard equivalent box of 40 lb**. Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season approx. Sept 1 to end of Aug.*

Price Trends
Washington Apples

Red Delicious to 12/11/16



Golden Delicious

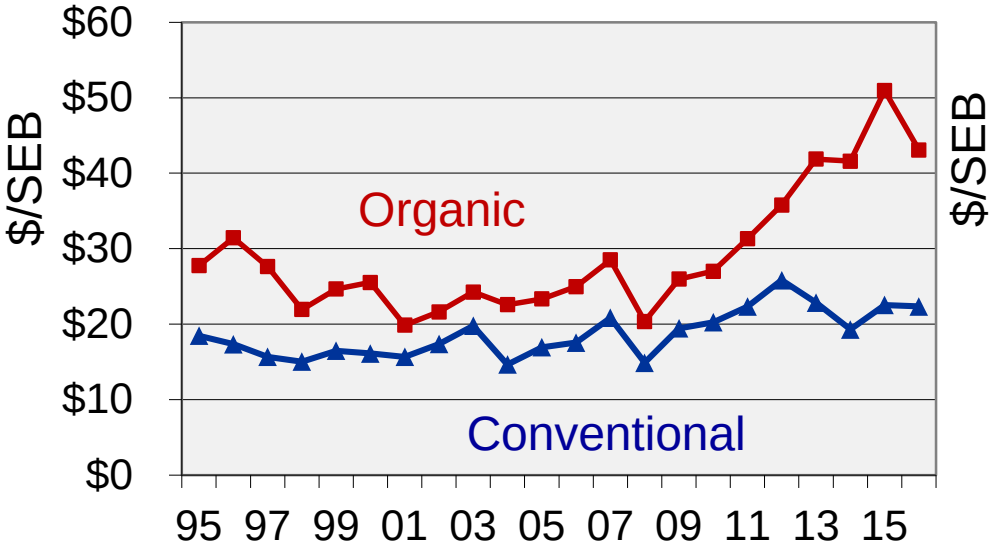


Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season approx. Sept 1 to end of Aug.

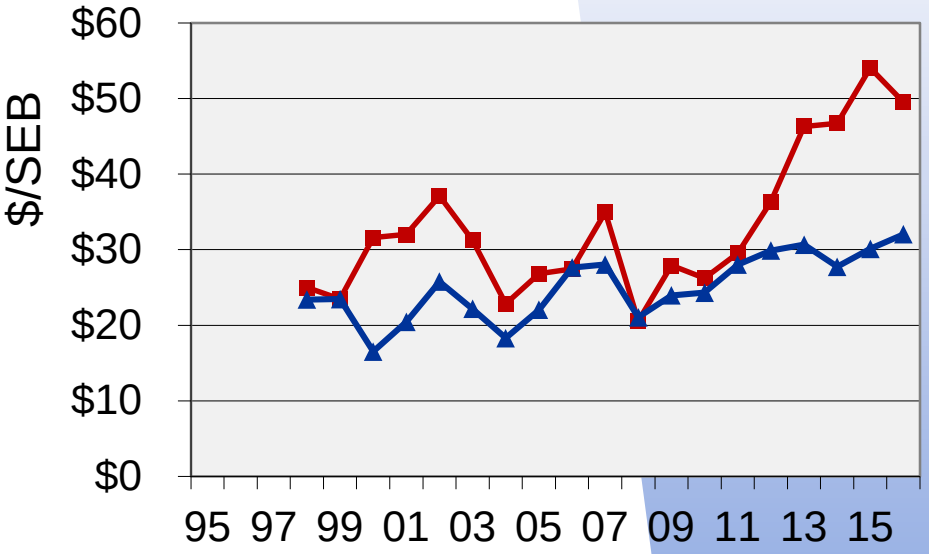
Price Trends
Washington Apples

Granny Smith

to 12/11/16



Cripps Pink

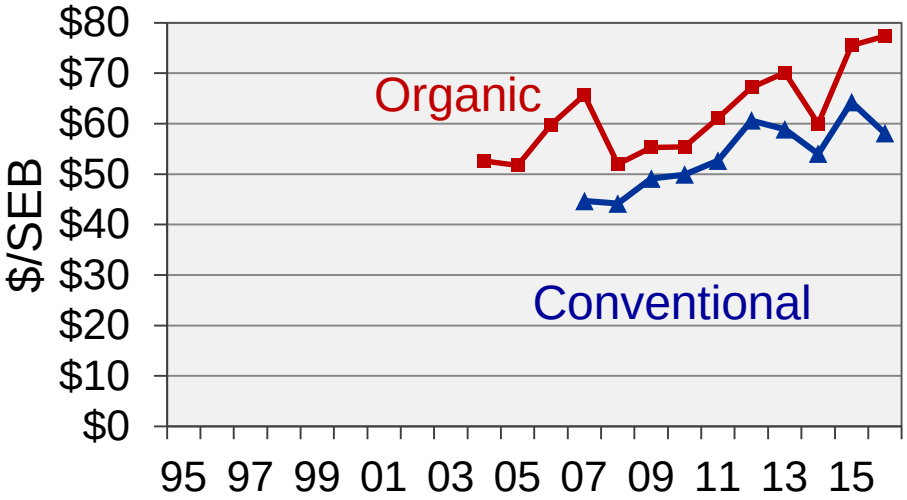


Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season runs approx. Sept 1 to end of Aug.

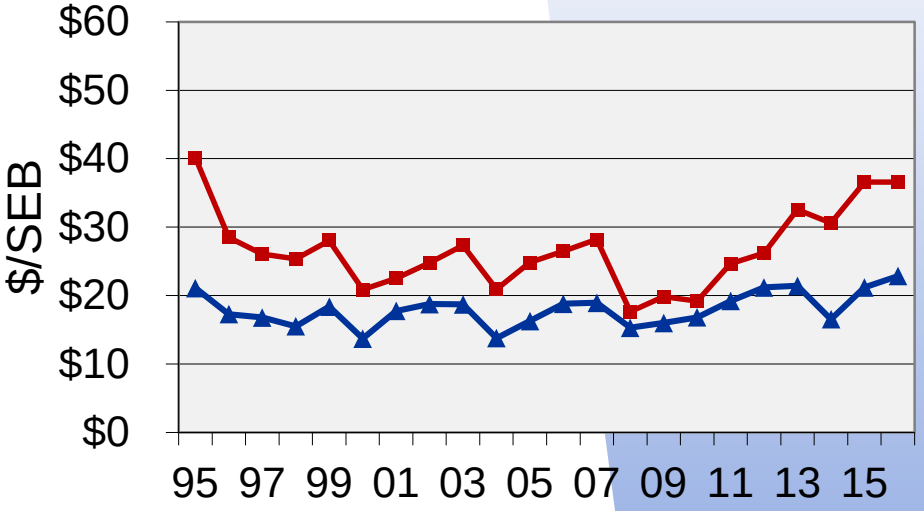
Price Trends
Washington Apples

Honeycrisp

to 12/11/16



Braeburn



Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season runs approx. Sept 1 to end of Aug.

Organic Premiums
Washington Apples

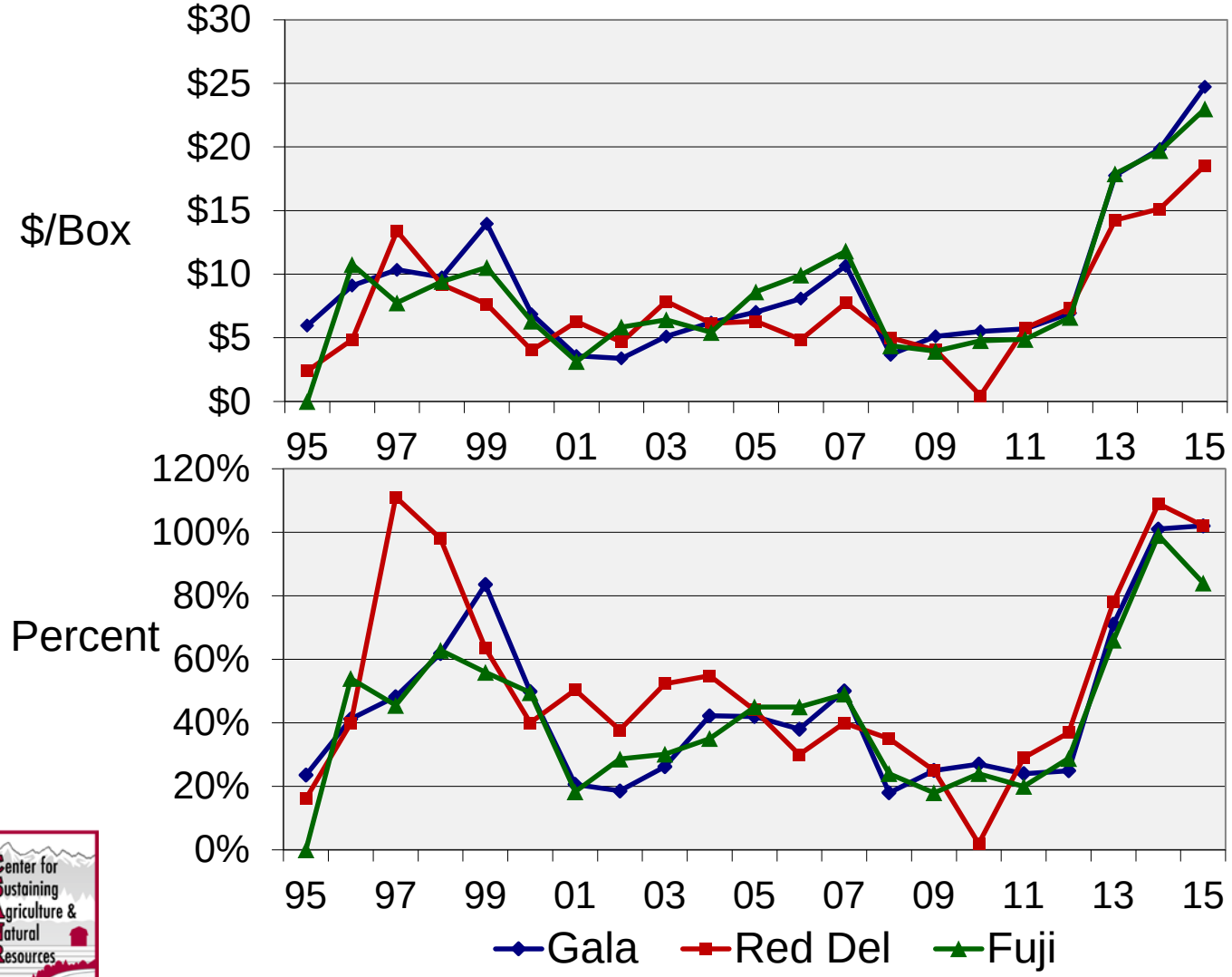


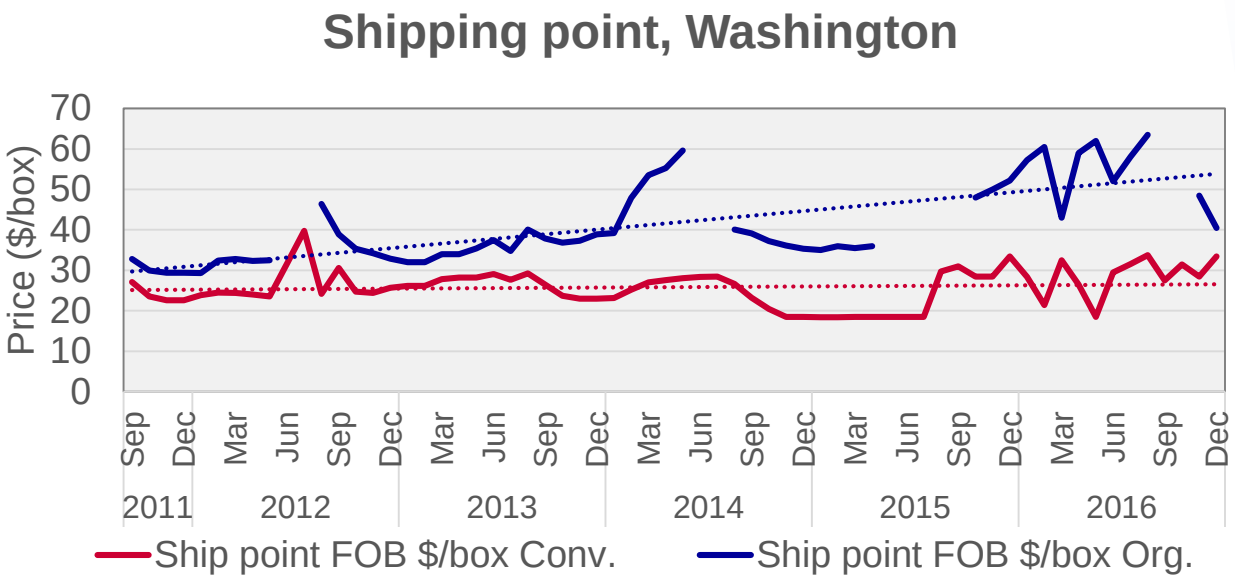

Photo: B. Barritt

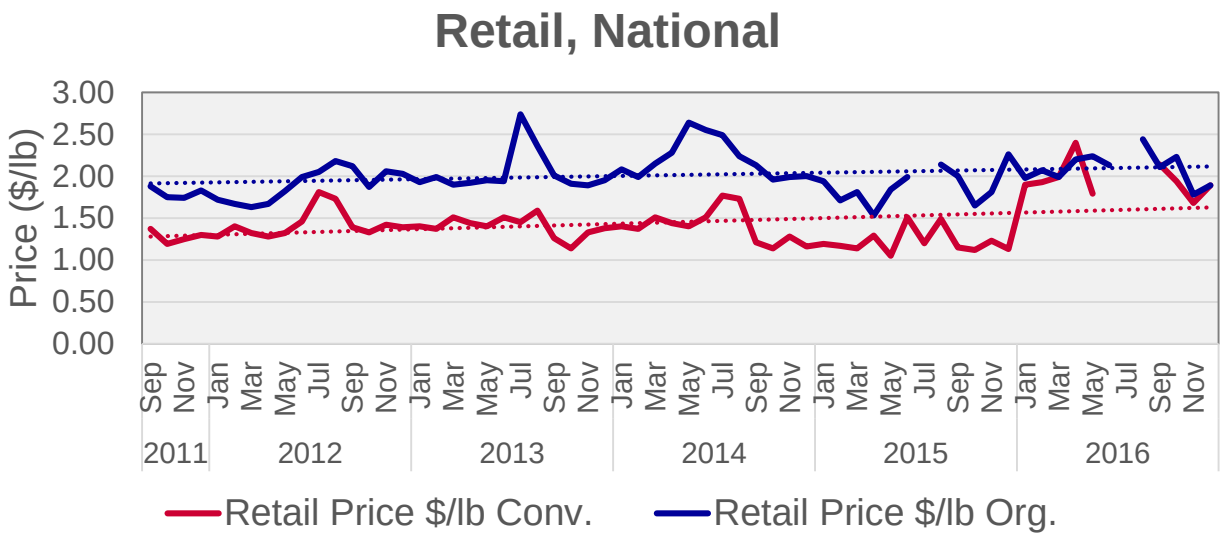
Premiums are expressed as the price difference between organic and conventional, as $ per box, or as a percent.

Data: WSTFA, WGCH. Annual data points represent season averages: season runs approx. Sept 1 to end of Aug.

The USDA Agricultural Marketing Service (AMS) tracks data reported to them for various commodity prices at the point of shipment (FOB) and the retail price (based on grocery store advertisements). In slides 50 and 51, monthly price trends over 5 marketing seasons are plotted for 'Gala' and 'Fuji' apple, for both conventional and organic. A dotted trend line is also included to make the general trend more obvious. For 'Gala', organic shipping point prices are trending up, while conventional prices are flat. In contrast, retails prices are trending up for both types. For 'Fuji', organic shipping point prices are trending up considerably more than conventional, while organic retail prices are trending up and conventional prices trending down. Given that the cost of production is generally trending upwards, the implication for conventional growers is that prices will no longer cover costs at some point, while organic growers should be able to cover increasing costs. Gaps in the shipping point data point out where the WA supply of organic apples has been sold out.

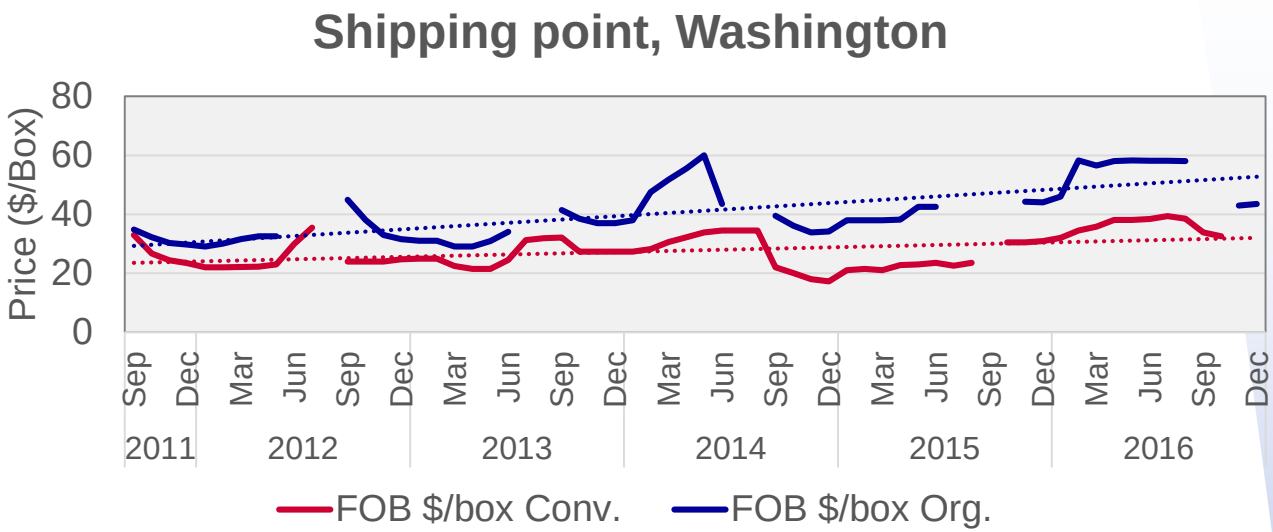
Organic Gala Apples

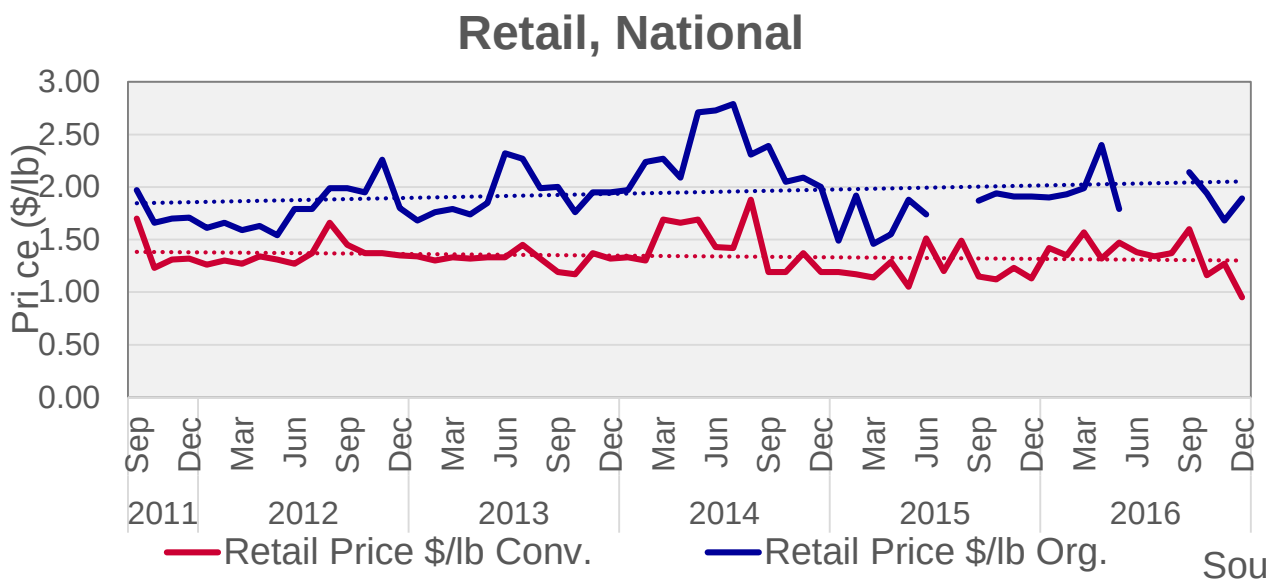




Source: USDA-AMS

Organic Fuji Apples





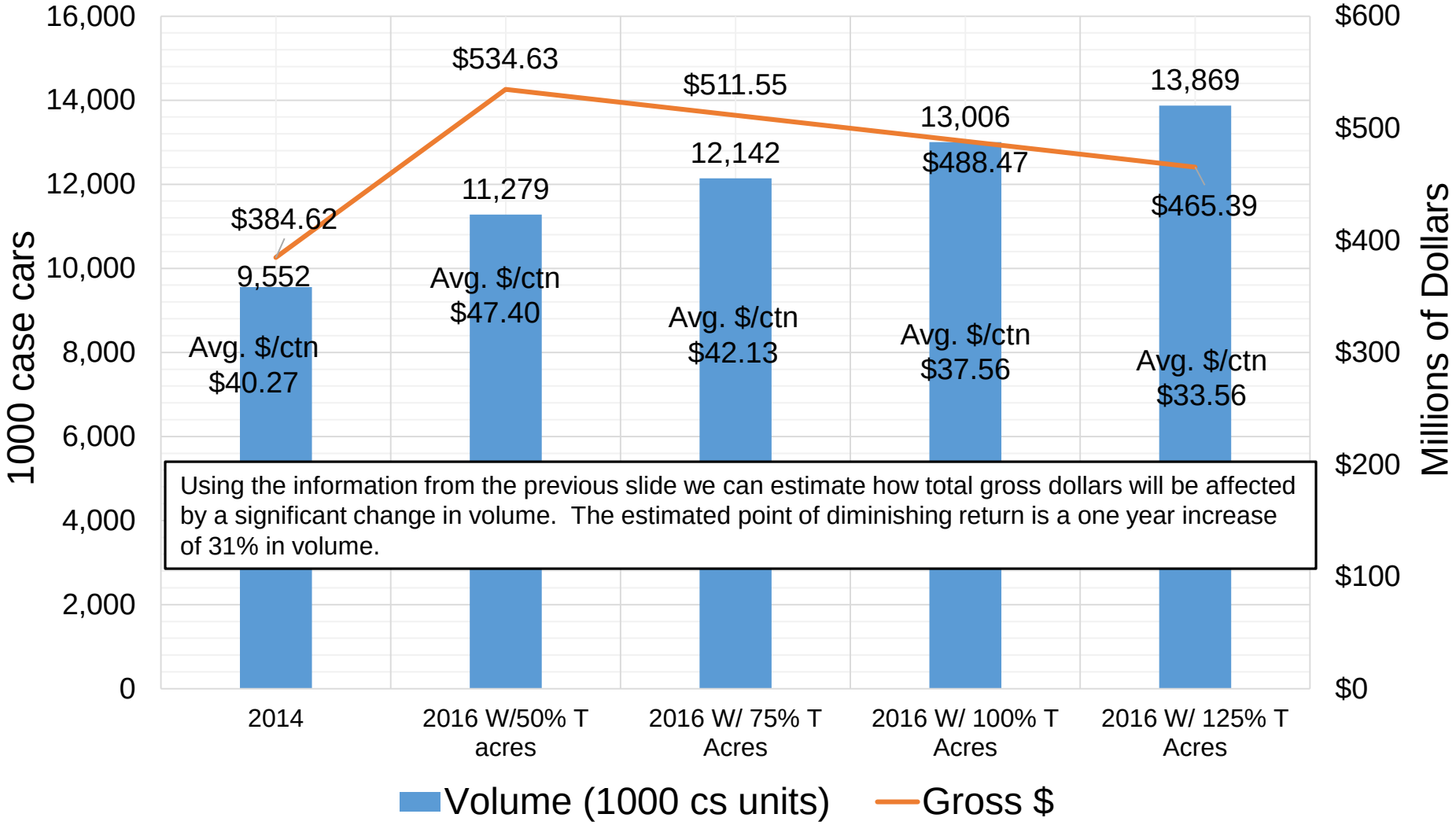
Source: USDA-AMS

Various projections have been made regarding likely organic apple volumes in the coming years and potential impacts on price. In one scenario from Matt Miles at First Fruits Marketing, the relationship between the increase in shipped volume from increased new acres, price, and total crop value were estimated (slide 53). As volume increases, the per box price and total crop value decline, suggesting that a more measured expansion would be economically optimal. The 2016 crop appears close to the '50% of transition acres' scenario, while average prices may be lower than projected.

In another projection (slide 54), increased supply (red line) was predicted based on the estimated acres in transition, as well as the biennial bearing. Demand (blue lines) was grown at different rates (10-15% per year) based on historical growth and projections from various marketing studies. 2018 is the year in which supply may exceed demand. But given that supply has been constrained for years, estimates of true demand may be low.

WA State Organic Fresh Crop Apple Production

Potential crop size and gross dollars for 2016



Using the information from the previous slide we can estimate how total gross dollars will be affected by a significant change in volume. The estimated point of diminishing return is a one year increase of 31% in volume.

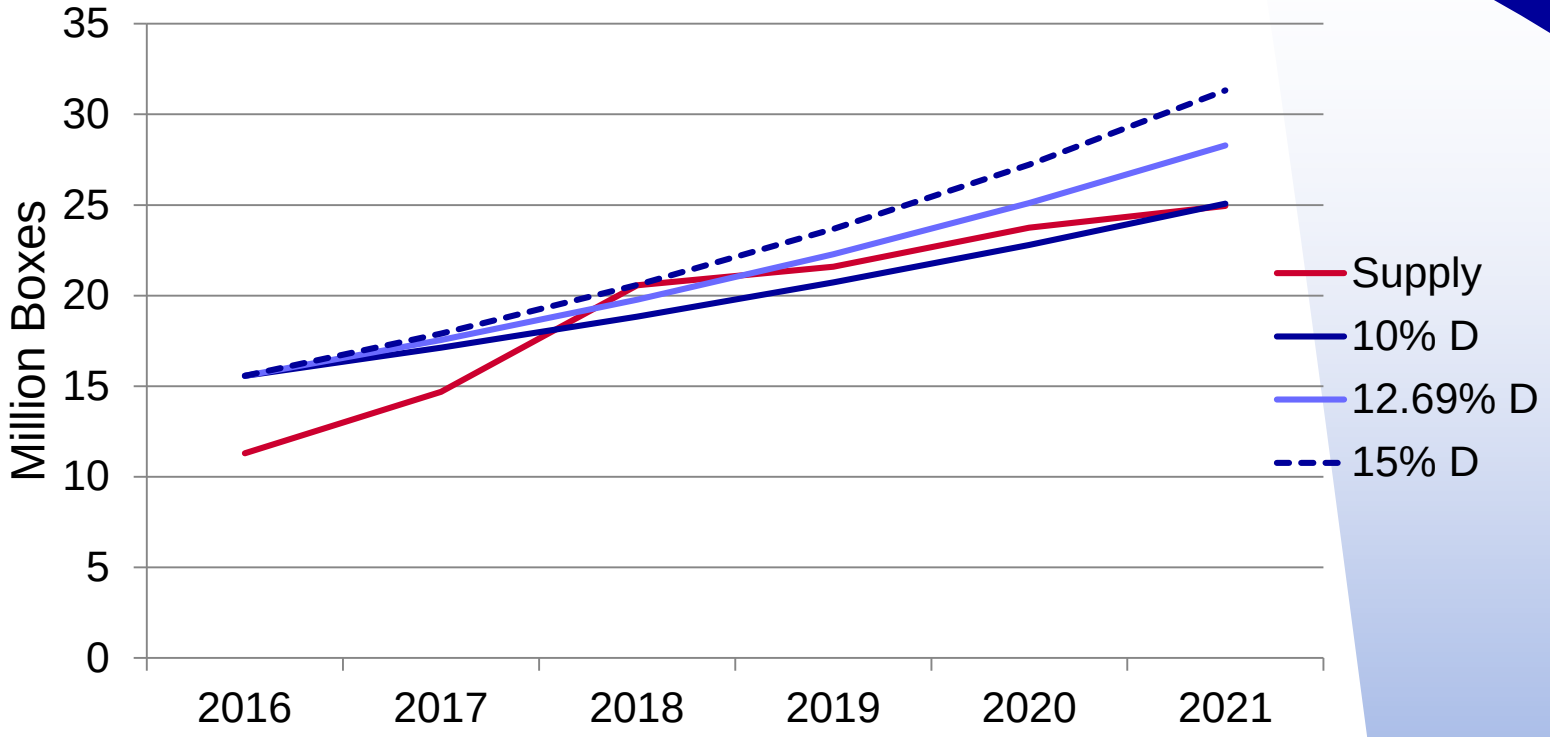
Crop year data from Washington State Tree Fruit Association

Transitional acreage date from:
WSU Extension / Center for Sustaining Agriculture and Natural Resources

FIRSTFRUITS MARKETING OF WASHINGTON

Courtesy: Matt Miles

Organic Apple Supply and Demand Projection

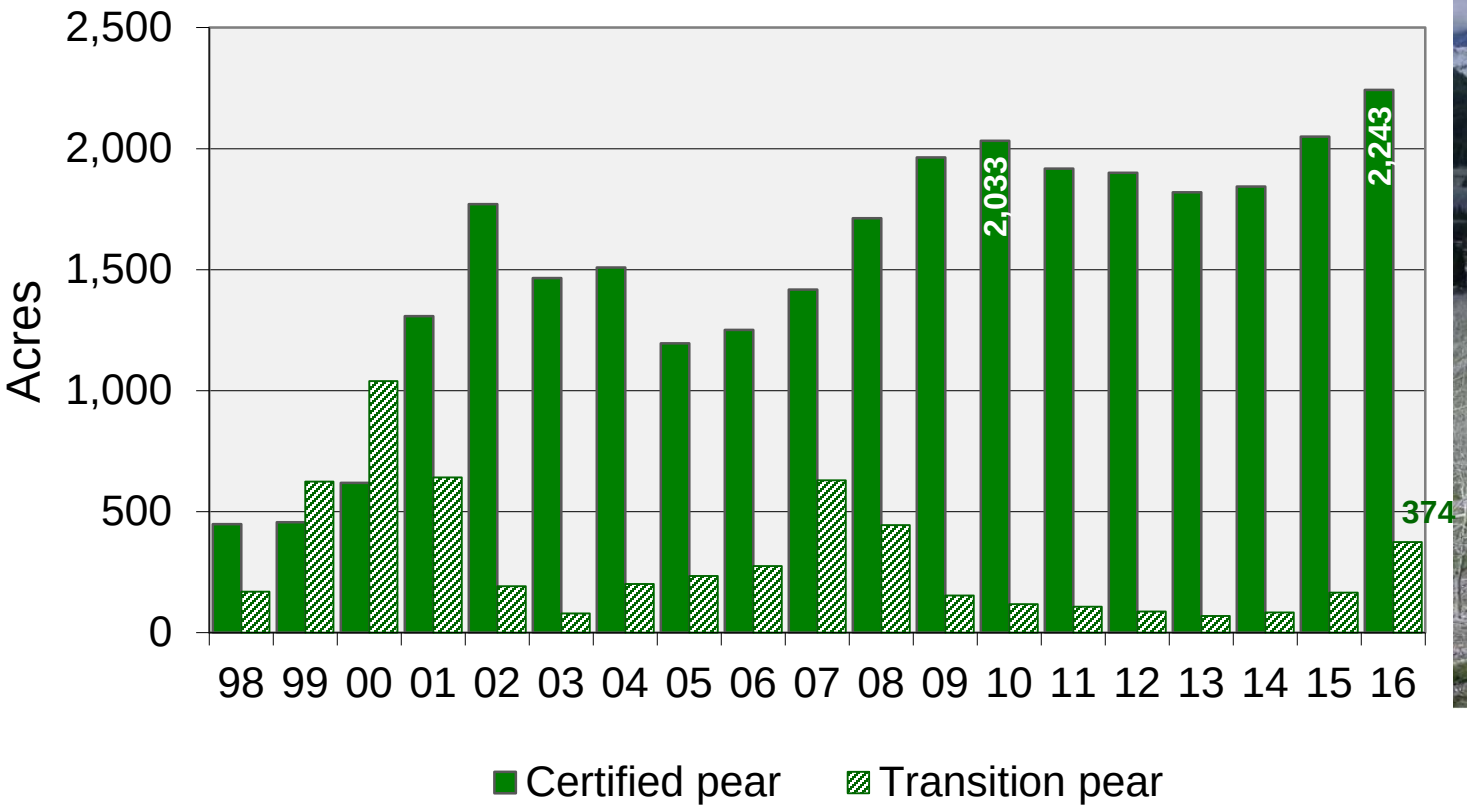


- Assumes alternate bearing; even years "on"
- Annual demand growth of between 10-15% per year (3 scenarios: 10% D, 12.69% D, 15% D)
- Supply (red line) may exceed demand in 2018, depending on growth

"Global Organic Food and Beverage Market 2015-2019" – 12.69% growth; TechSci Research, 2016-2021 – 14% growth

Similar data as for apple are presented for organic pear in Washington in the next slides (56 to 64). Organic pear area has tended to be more stable over time than apple or cherry. Only a few pear varieties are currently in demand by the market, and pear consumption in general in the U.S. is much lower than apple. Pear orchards tend to be kept in production for many years (over 50 years is not uncommon) and renewal to the hottest new variety or planting system is still limited. While fire blight is a serious threat to all pear producers in Washington, it is relatively less so than in most other parts of the country, leading to a large percent of all organic pears being produced here or in California. Washington is the leading producer of conventional and organic pears in the U.S. Organic pear prices and volume have risen since 2009 in a pattern similar to apple.

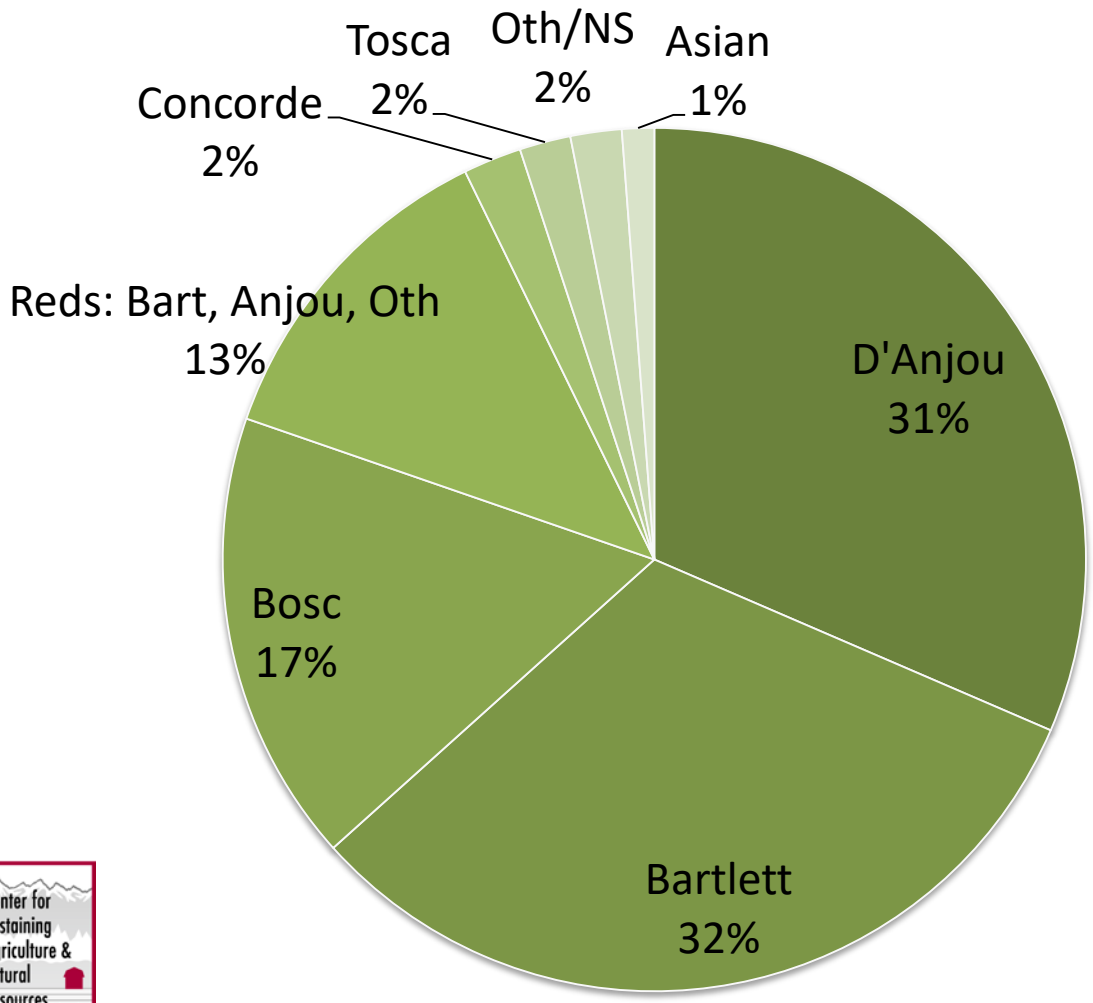
Organic Pear Acreage
Washington State



2016 organic = 10.8% of total WA pear acreage
(based on WA-NASS 2015 value of 20,80 pear acres)

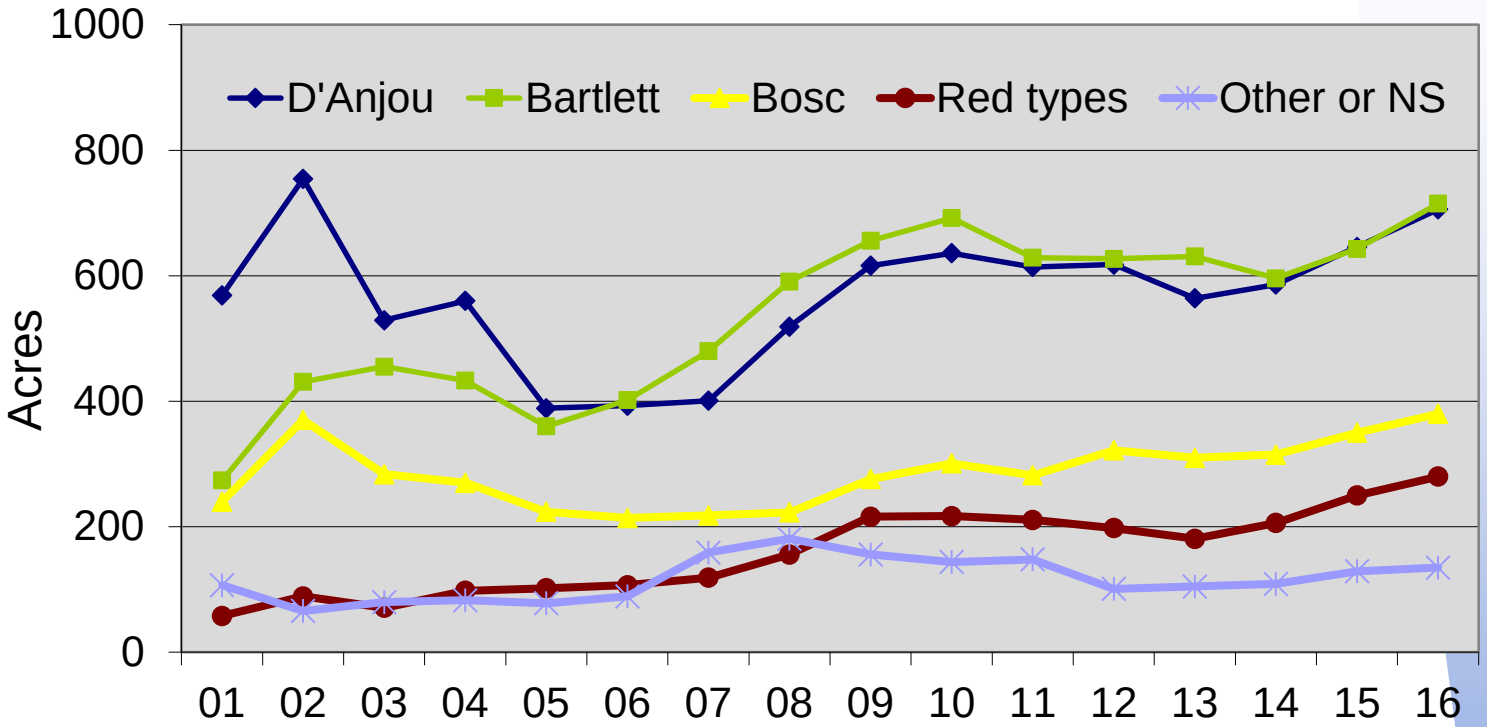
Combined certifier data

Organic Pear Acres by Variety
Washington 2016



Combined certifier data; NS = not specified

Organic Pear Variety Trend
Washington State



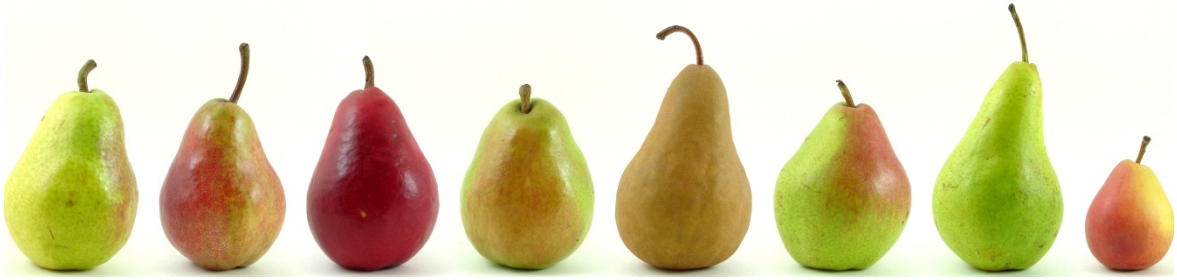


Photo: Agyle

Center for Sustaining Agriculture & Natural Resources

Combined certifier data

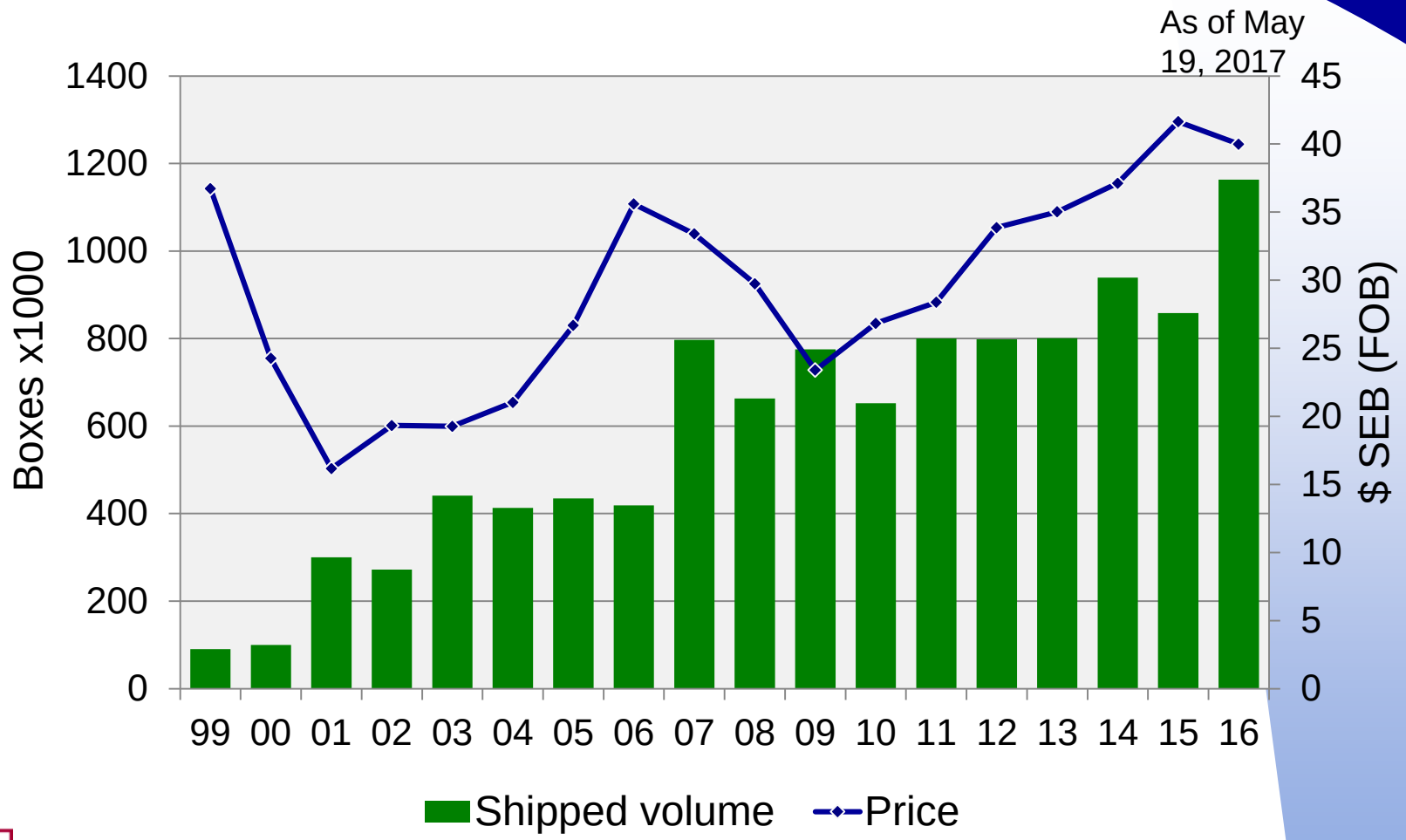
Organic Specialty Pears
Washington State 2016

- Over 25 varieties of organic pears and Asian pears grown in WA, from small to larger quantities.
- >25 ac: Concorde, Starkrimson, Tosca, Asian
- Small areas: Comice, Forelle, Red Clapp, Seckel, Conference, Perry varieties, others
- **Varieties are listed on the WSDA producer list:**

http://agr.wa.gov/FoodAnimal/Organic/docs/wsda_cert_org_producers.pdf

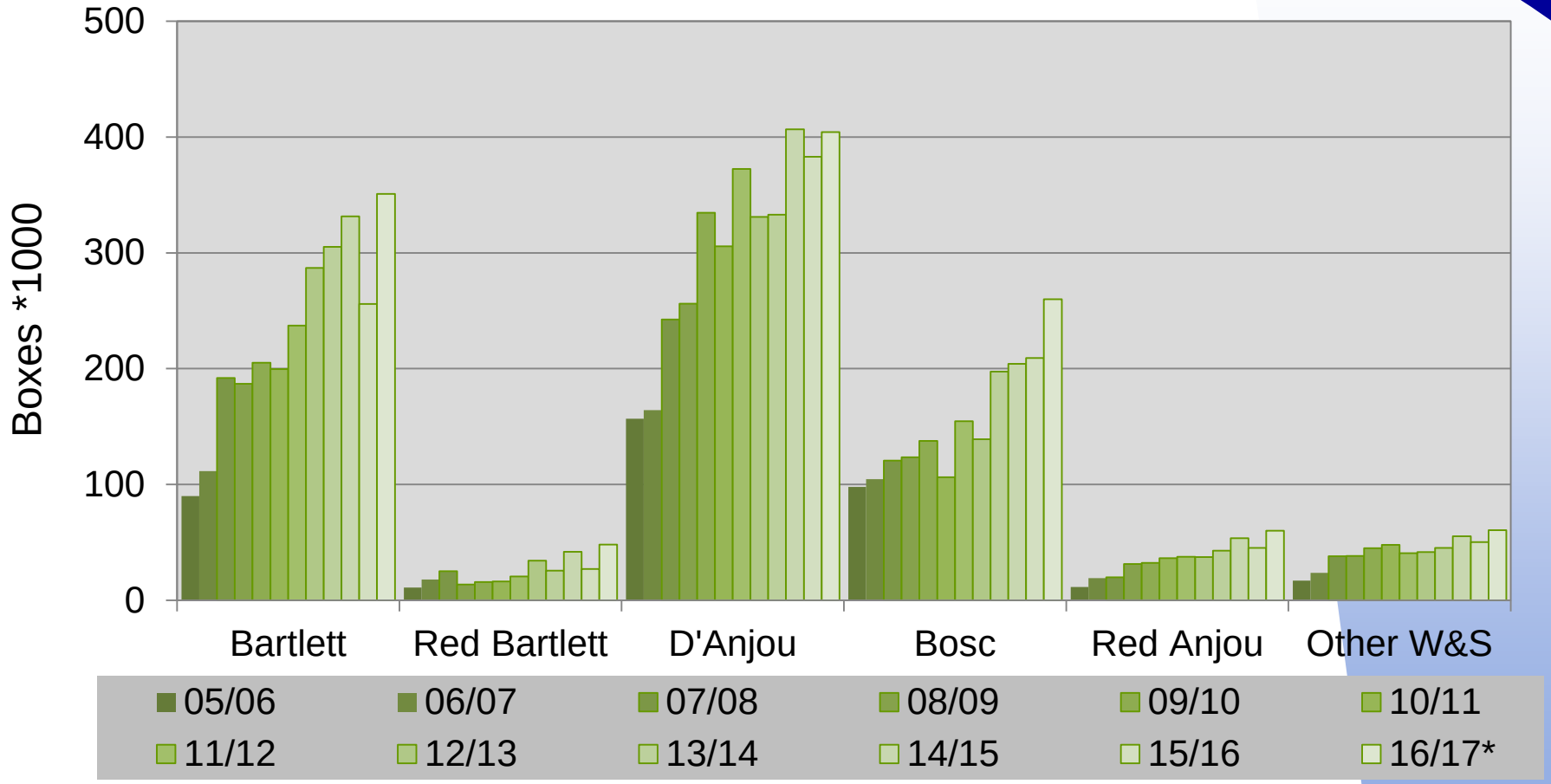
WSDA data

Organic Pear Sales
Volume and Price Trends



SEB = Standard Equivalent Box of 44 lb.
Data Sources: WSTFA, WGCHA & WVTA

Shipped Organic Pear Volume
by year and variety, WA and OR



Oregon volume ~2% of total NW organic pear volume

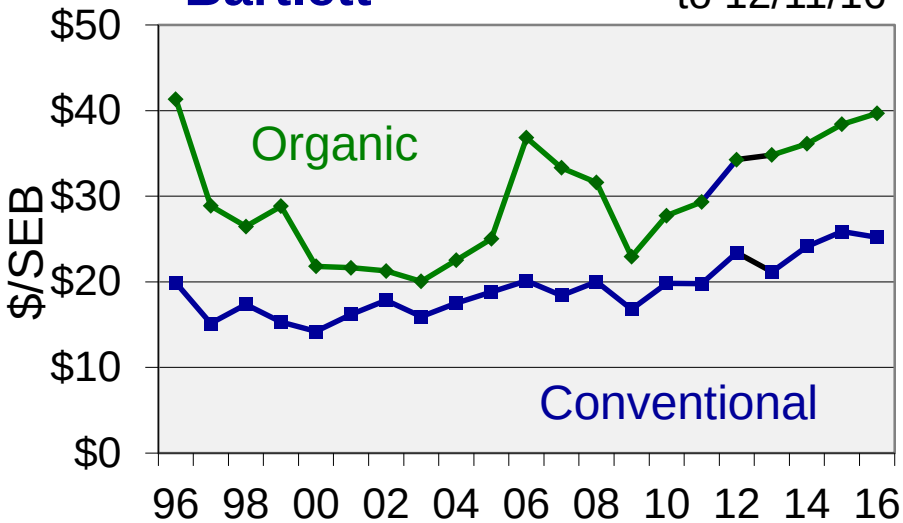
*2016 volume as of 6/2/17

Standard Equivalent Box = 44 lb. Data Sources: WSTFA, PBNW, WGCH, WVTA (11/12-13/14

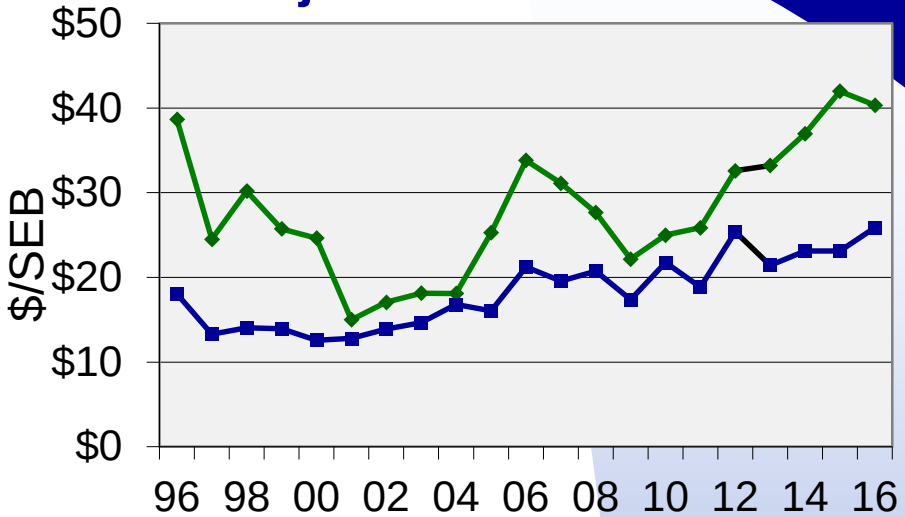
Price Trends
Washington Pears

Bartlett

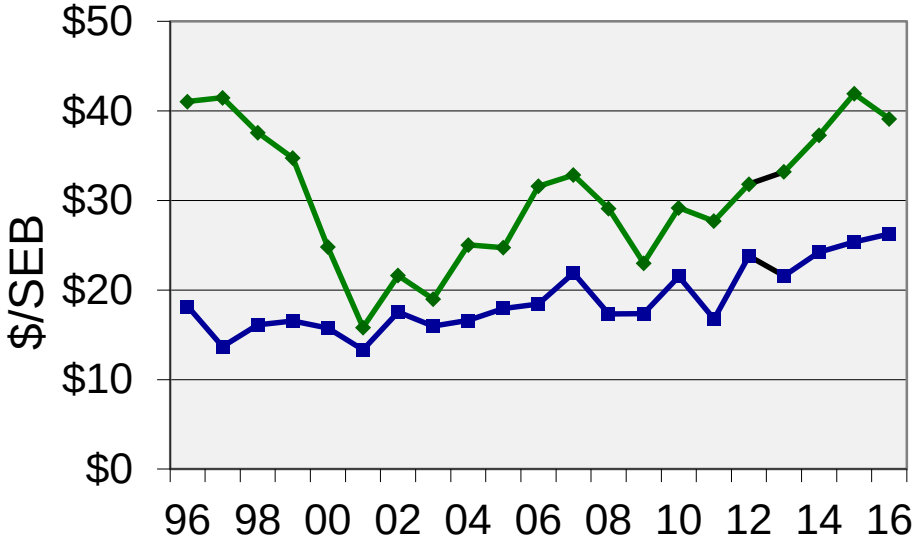
to 12/11/16

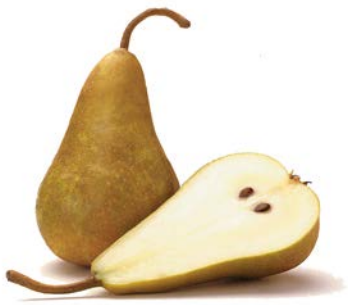


D'Anjou



Bosc

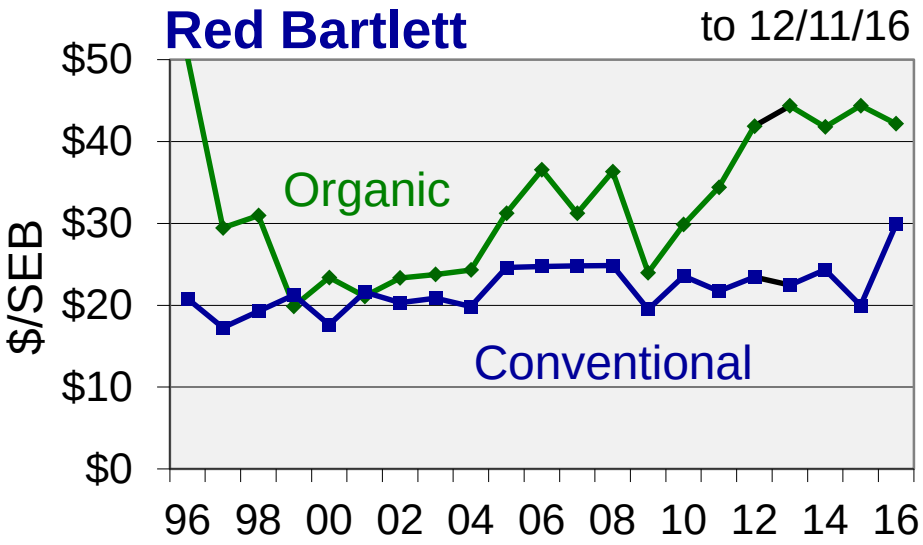


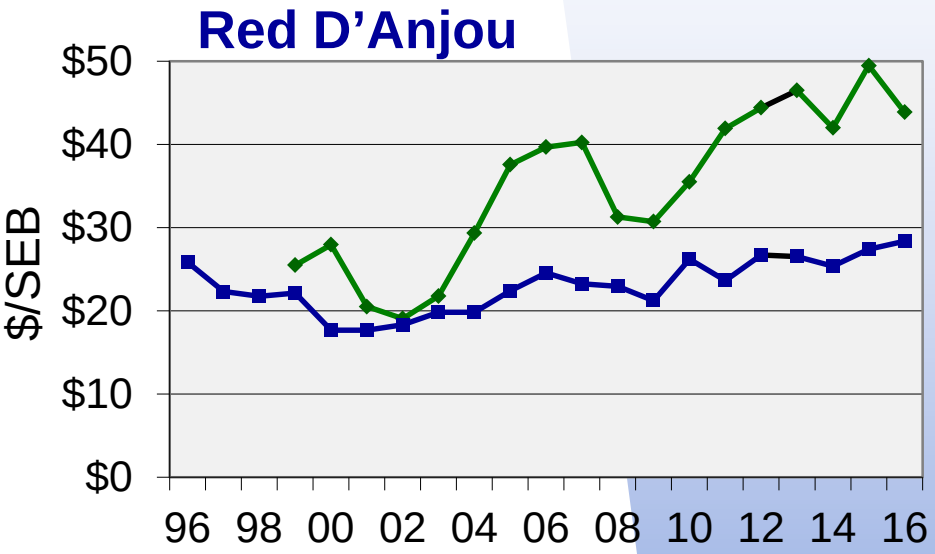


Bosc photo: US Pear

SEB = Standard Equivalent Box; Data: WSTFA, WGCH.
Annual data points represent FOB season price averages.

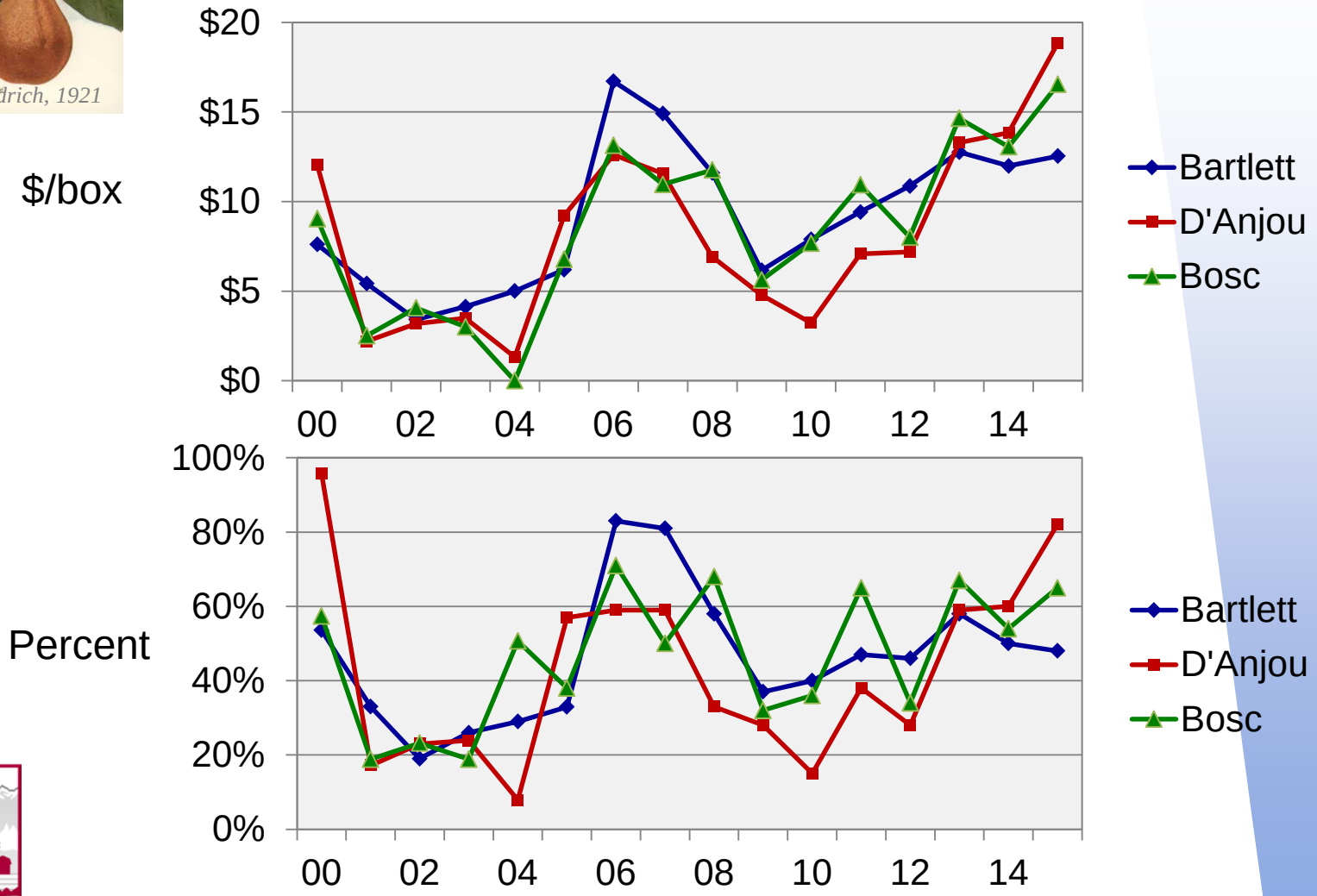
Price Trends
Washington Pears





SEB = Standard Equivalent Box; Data: WSTFA, WGCH.
Annual data points represent FOB season price averages.

Organic Premiums
Washington Pears

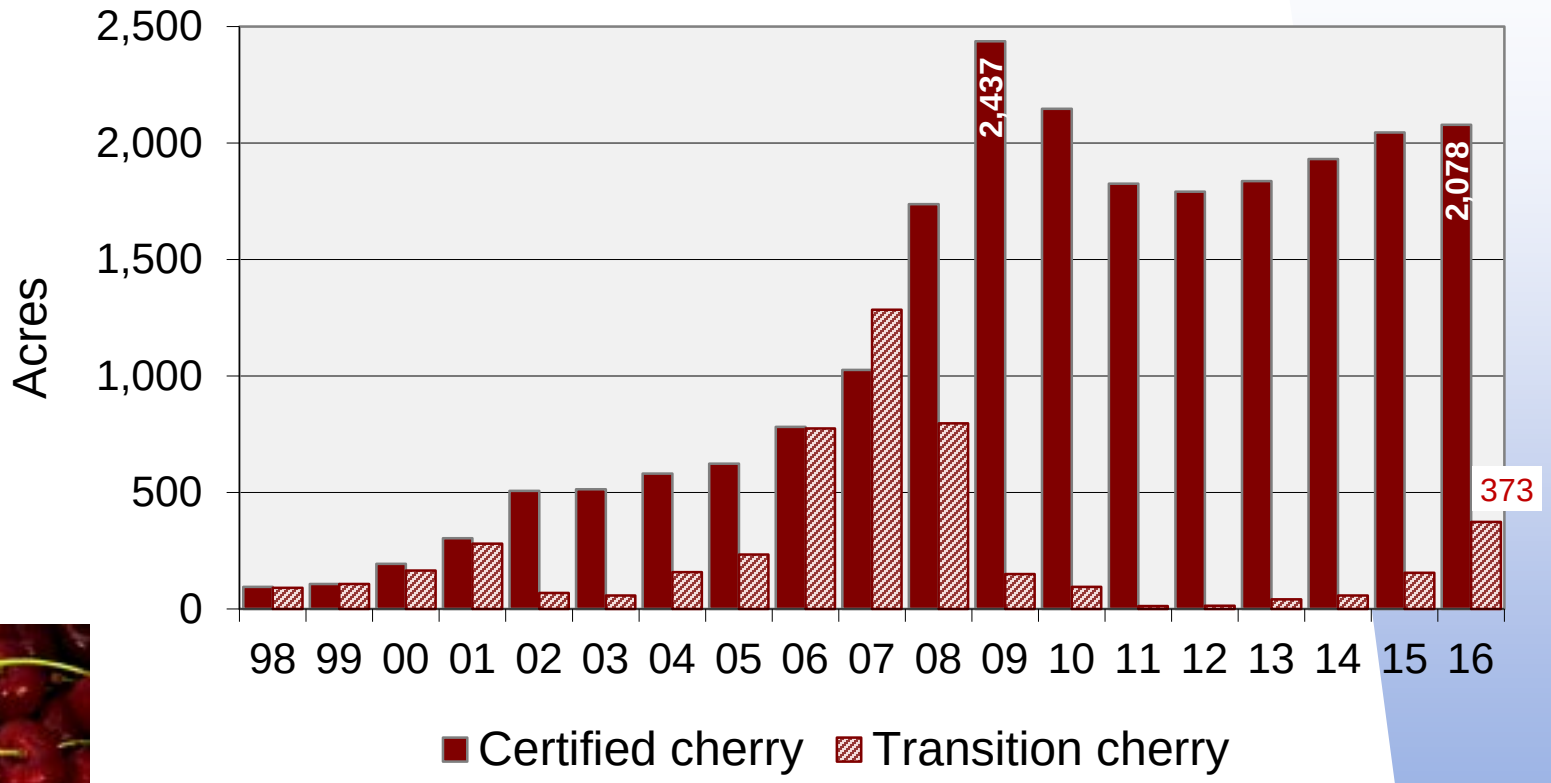


SEB = Standard Equivalent Box; Data: WSTFA, WGCH.
Annual data points represent FOB season price averages.

Washington leads the nation in sweet cherry production, both for conventional and organic. A key quarantine pest, the western Cherry Fruit Fly, was a major barrier to organic cherry production for many years. The development of the GF-120 control protocol (a biologically based insecticide) by Tim Smith, WSU Extension, led to major increases in organic cherry area in the mid-2000s. In 2008, the new pest, Spotted Wing Drosophila, was found in the state for the first time and has expanded statewide. This pest was not controlled by GF-120 and thus organic pest management was seriously disrupted. Growers rely on Entrust® insecticide and reliance on this sole product poses risk of resistance.

Similar data as for apple and pear are presented for organic sweet cherry in Washington in the next slides (66 to 70). Globally, organic cherry volume is rising faster than area, with the U.S., Turkey, and Italy the leading producers (slide 71). Slide 72 shows the area trend for other organic soft fruit (peaches, etc.); no other data were available. Washington is second to California in the production of most of these other organic soft fruits.

Organic Cherry Acreage
Washington State (sweet + tart)

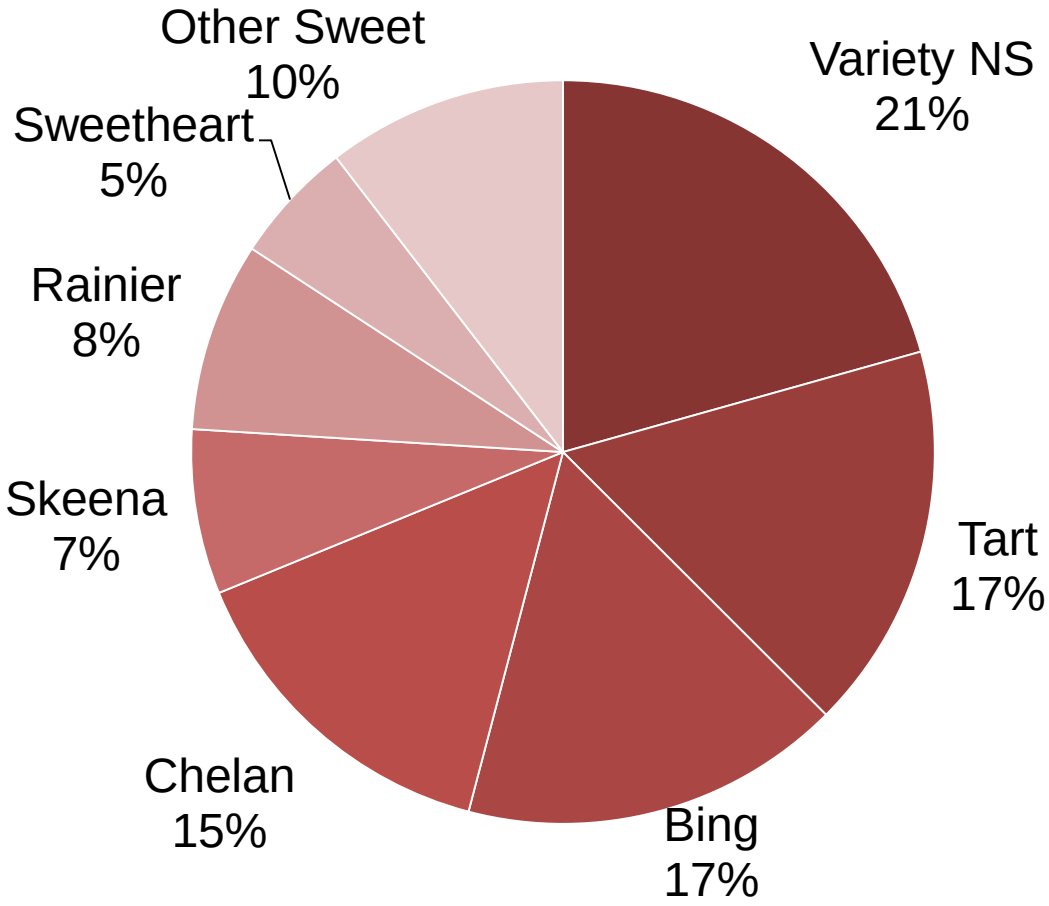


2016 organic = 5.6% of total WA cherry area
(based on 2015 WA-NASS estimate of 37,1000 acres)

Combined certifier data

Organic Cherry Variety Acres

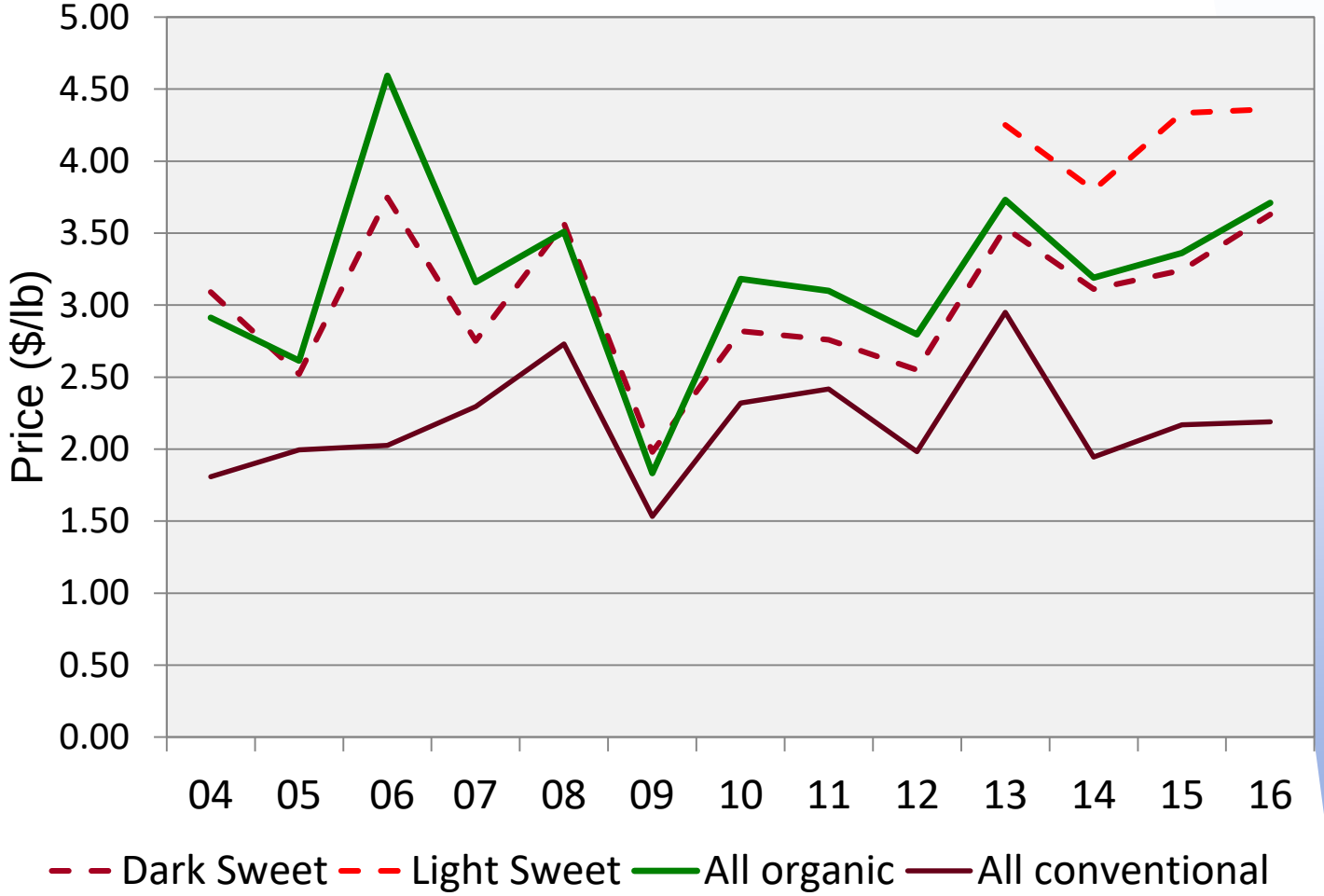
Washington State 2016



21% of cherries not reported by variety in 2016 compared to 57% in 2008

Combined certifier data; NS = not specified

WA Organic Sweet Cherry Prices



Data: WSTFA, WGCH. Annual data points represent FOB season price averages.

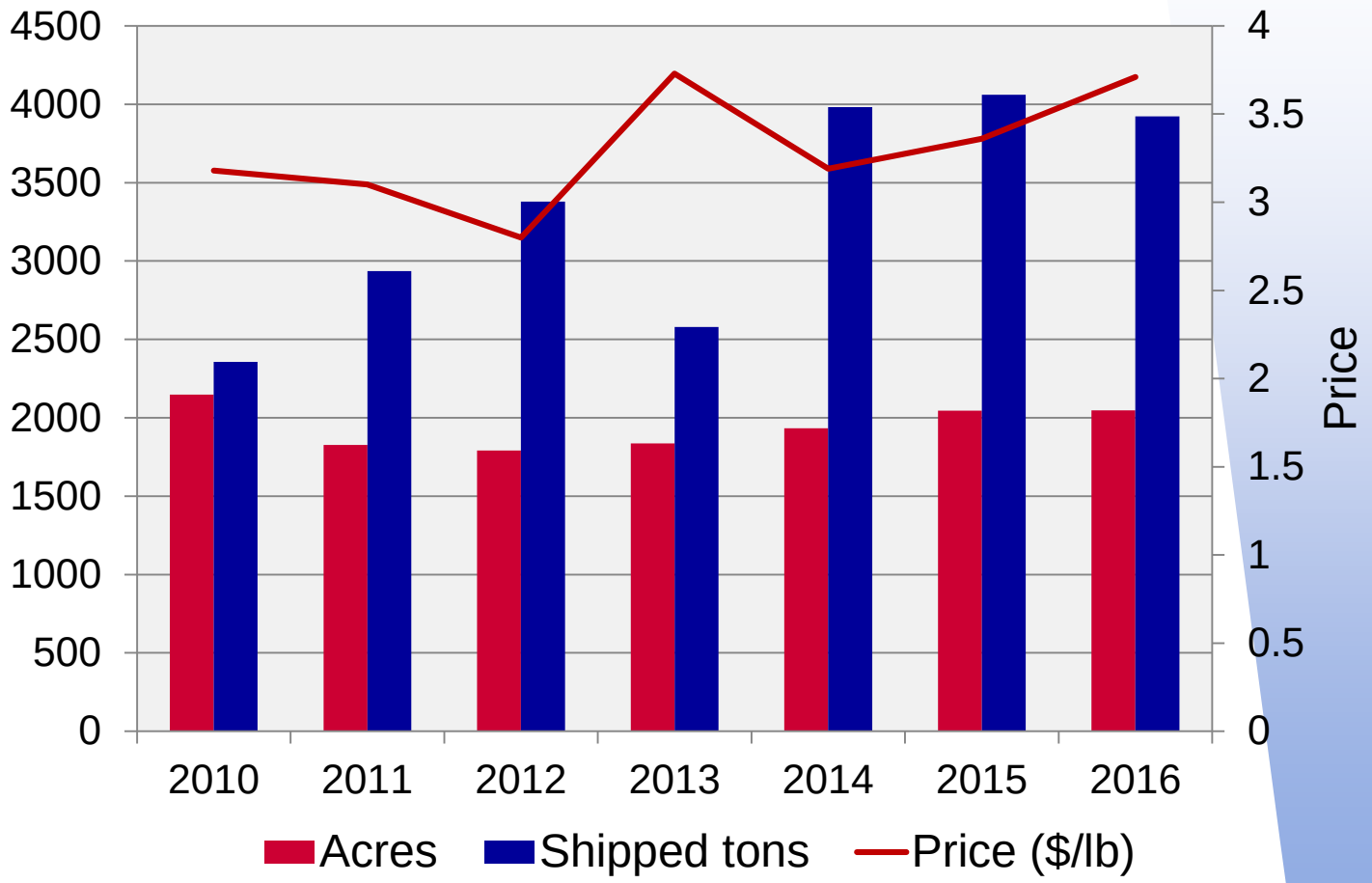
WA Organic Cherries

	2013		2014		2015		2016	
	ORG	CONV	ORG	CONV	ORG	CONV	ORG	CONV
Dark Sweet								
Volume (1000 box*)	232	11,992	352	19,428	361	16,646	349	14,795
% of crop	90	93	85	94	89	94	86	94
Light Sweet								
Volume (1000 box*)	34	1,237	61	1,786	60	1,517	58	1,289
% of crop	10	7	15	6	11	6	14	6
Organic Share of all, %	2.0		1.9		2.3		2.5	
Calculated Yield (lb/ac packed)	2,809		4,122		3,970		3,833	

*Standard Equivalent Box: Dark Sweet = 20 lb; Light Sweet = 15 lb.

Data: WSTFA

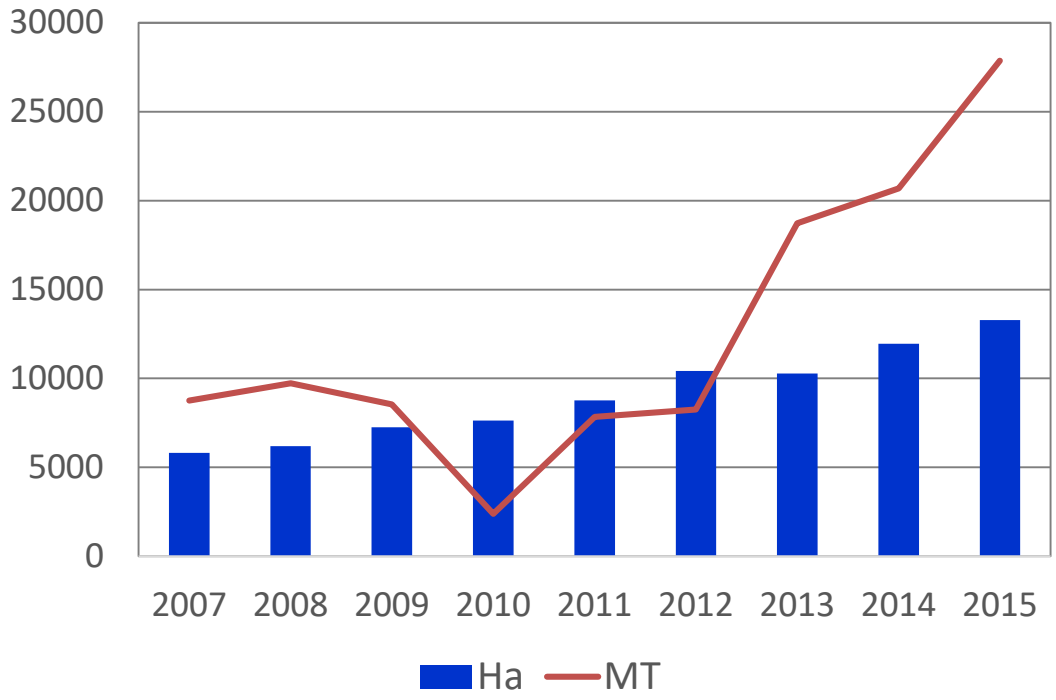
WA Organic Cherries



Data: WSTFA

Global Organic Cherries

Global Organic Cherry Trends – Area and Production Volume



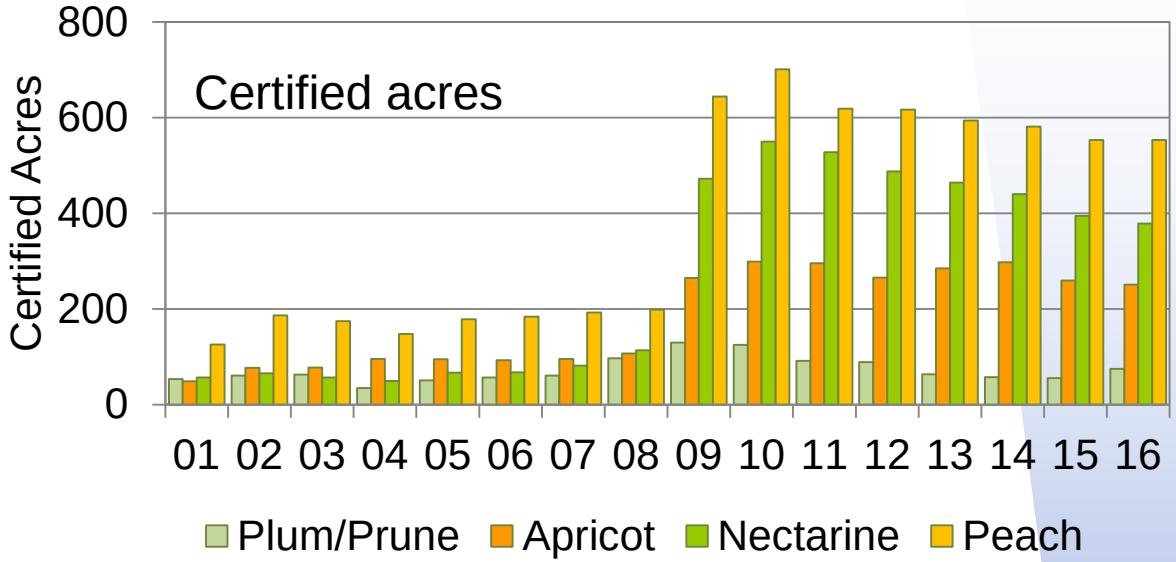
Estimated Organic Cherry Yields

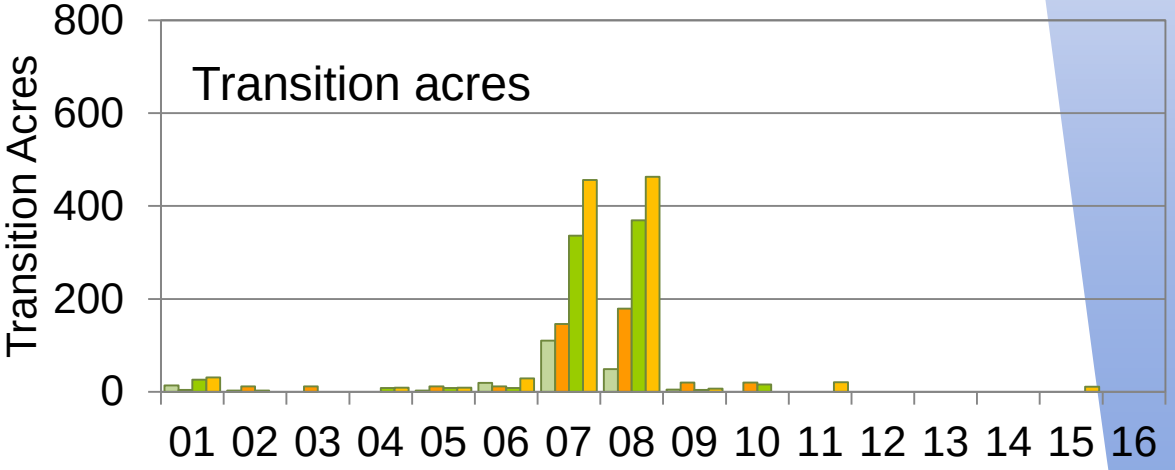
	Area (ha)	Production (MT)	Yield (MT/ha)
Turkey	3,165	6,832	2.16
Italy	2,776	6,035	2.17
Bulgaria	1,618	879	0.54
US	1,082	8,714	8.05
Poland	1,041	328	0.32
Spain	449	1,468	3.27
Hungary	491	1,228	2.50

Ha = hectares; MT = metric tons

Source: World of Organic Agriculture reports

Washington State
Other Stone Fruit Trends



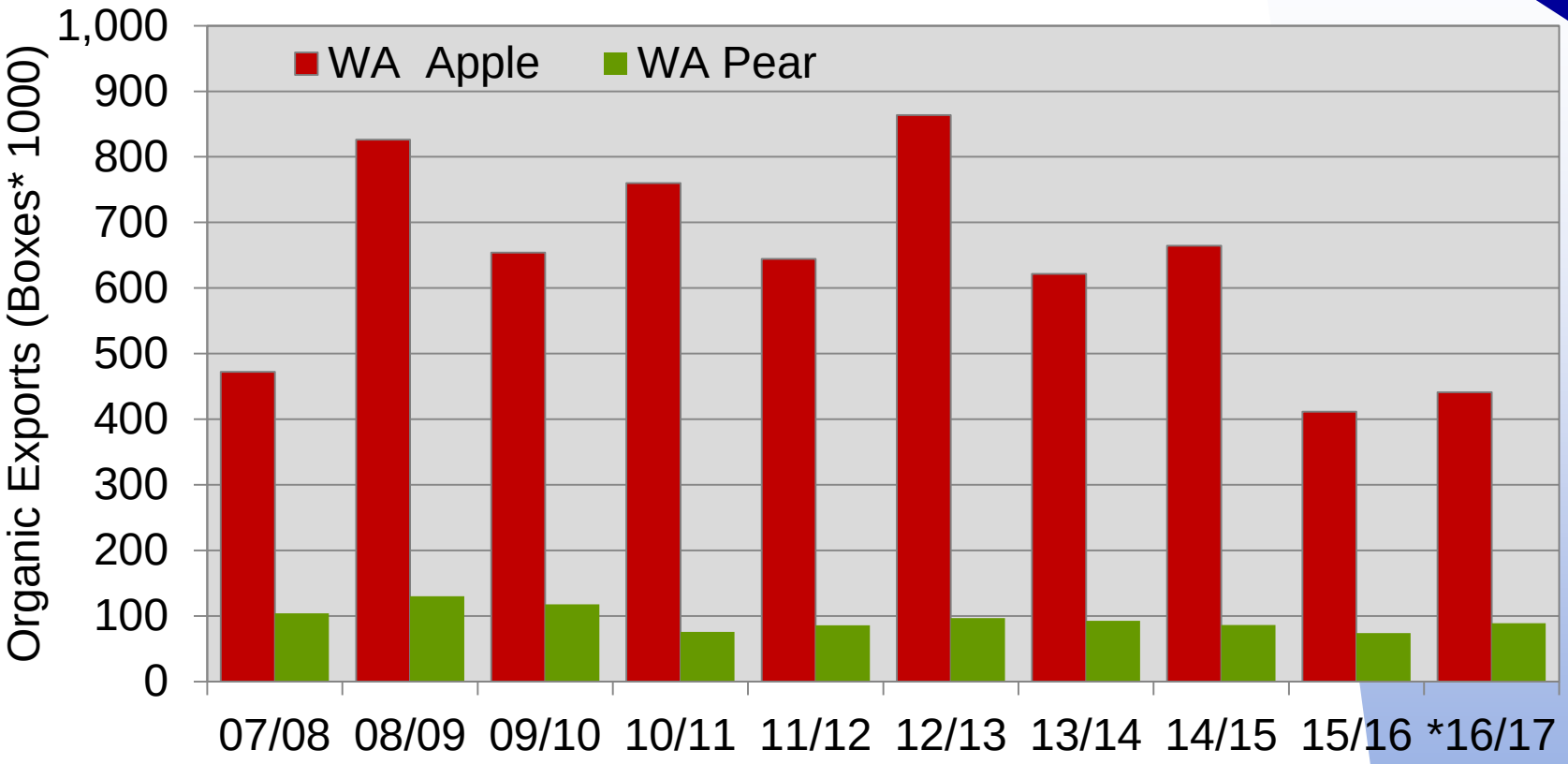


Combined certifier data

Exports of organic tree fruit from Washington have occurred for years, and have been relatively stable (slide 74). But markets have changed (slide 75). Considerable volumes were shipped to Europe, especially the UK, in previous years, but that has virtually ceased. Canada is by far the largest export destination for organic tree fruit from Washington, accounting for 76% and 84% of all organic apples and pears exported for the 2015 crop, respectively. Exports represented ~6% of both the 2015 organic apple and pear crops. ‘Gala’ apple and ‘d’Anjou’ pear are the leading organic tree fruit exports by volume (slides 76, 77).

Organic Apple and Pear Exports

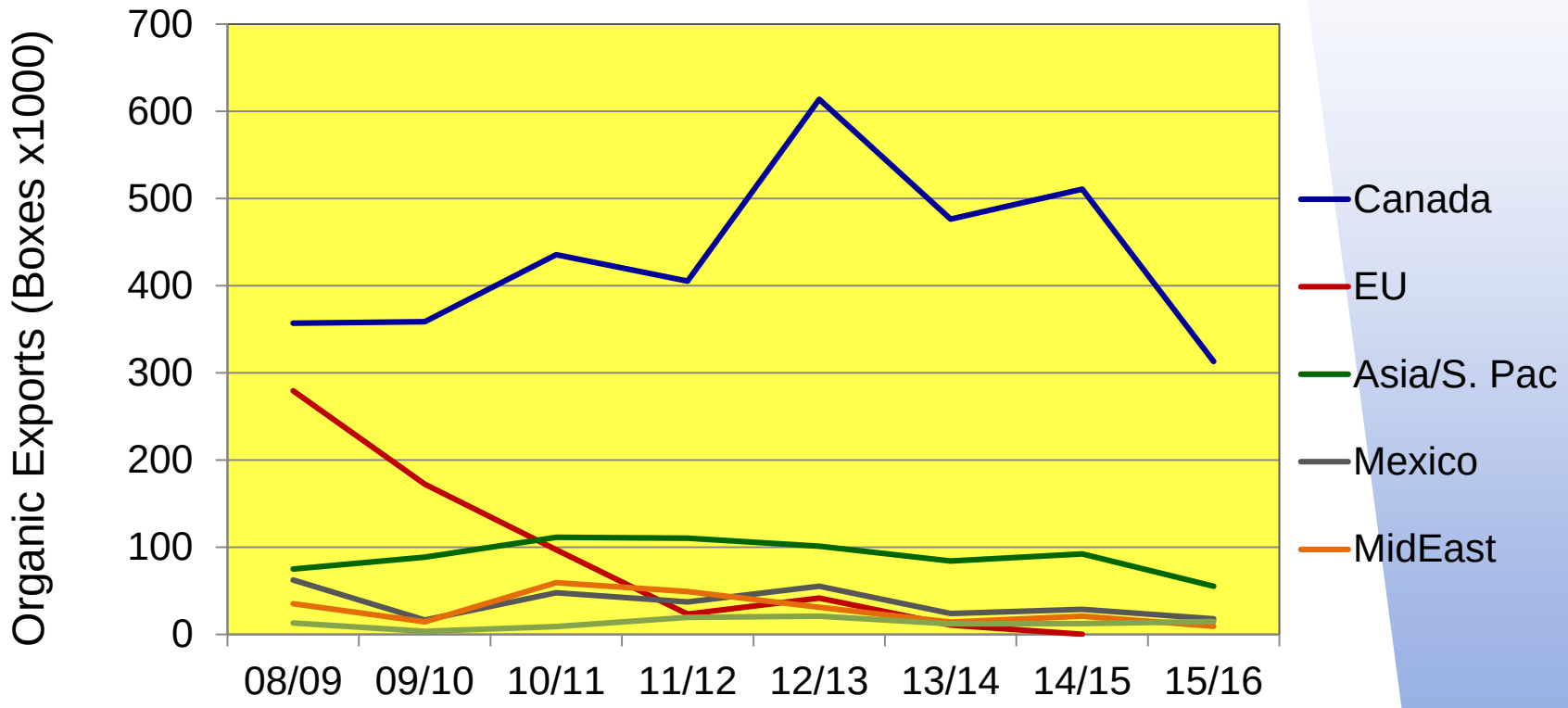
Washington State



Exports ~6% of both the 2015 organic apple and pear crops;
Canada, largest export destination; 76% of apples, 84% of pears;
*16/17 value as of 4/30/17

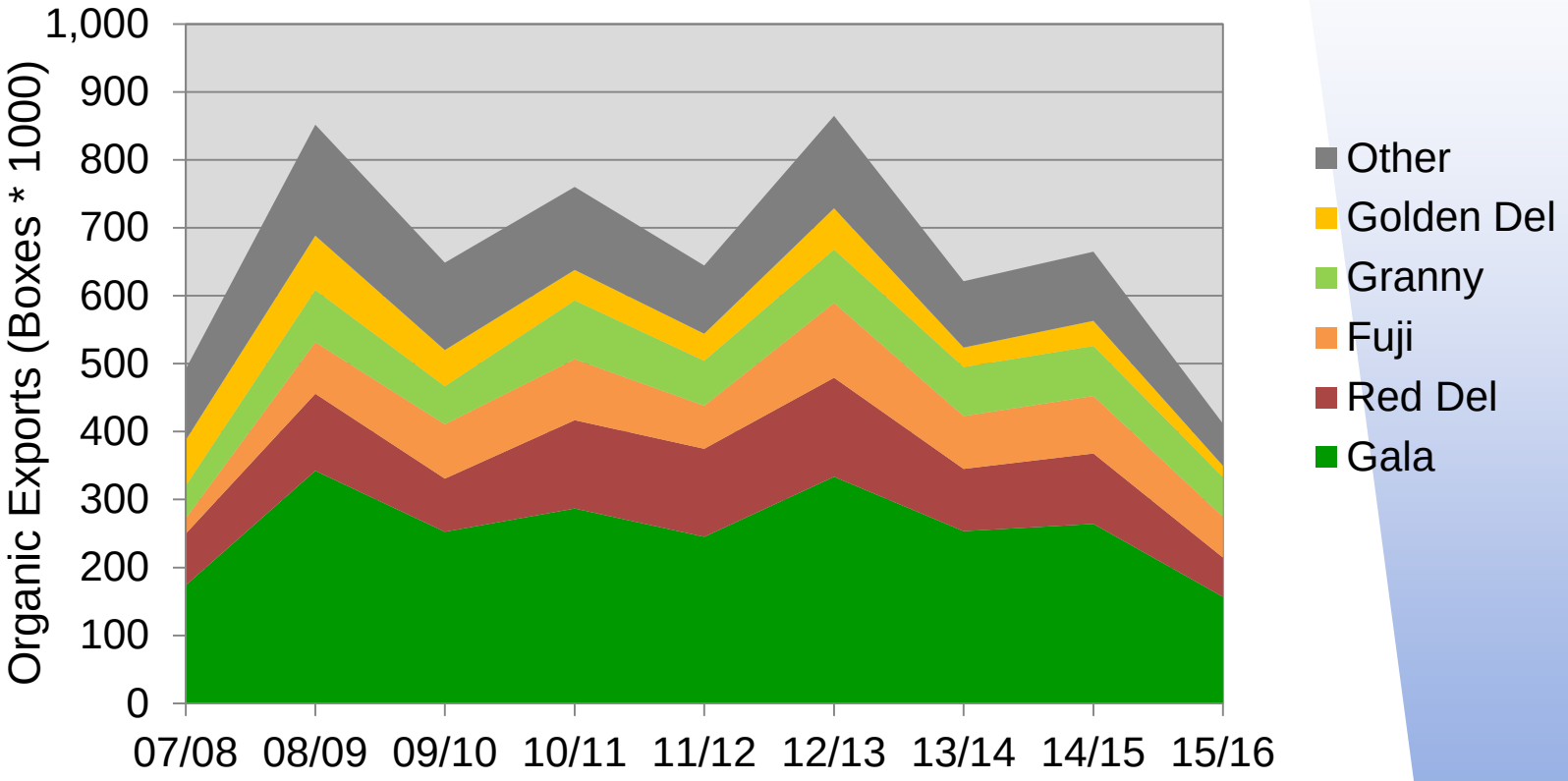
Data: WSTFA, WGCH. Export includes Canada.

Washington Organic Apple Top Export Destinations



Data: WSTFA, WVTA

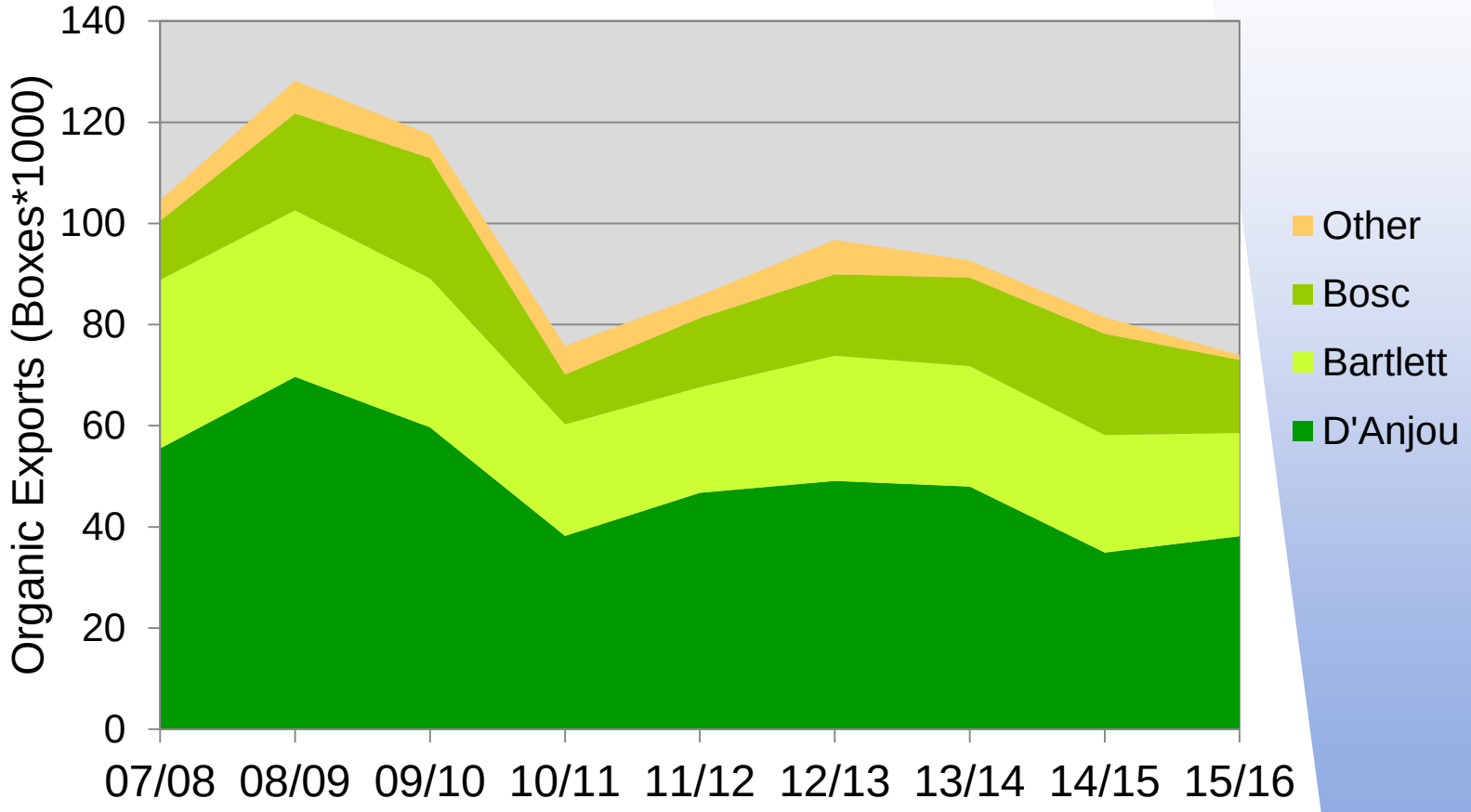
WA Organic Apple Exports by Variety



35-40% of exports = Gala

Data: WSTFA, WVTA

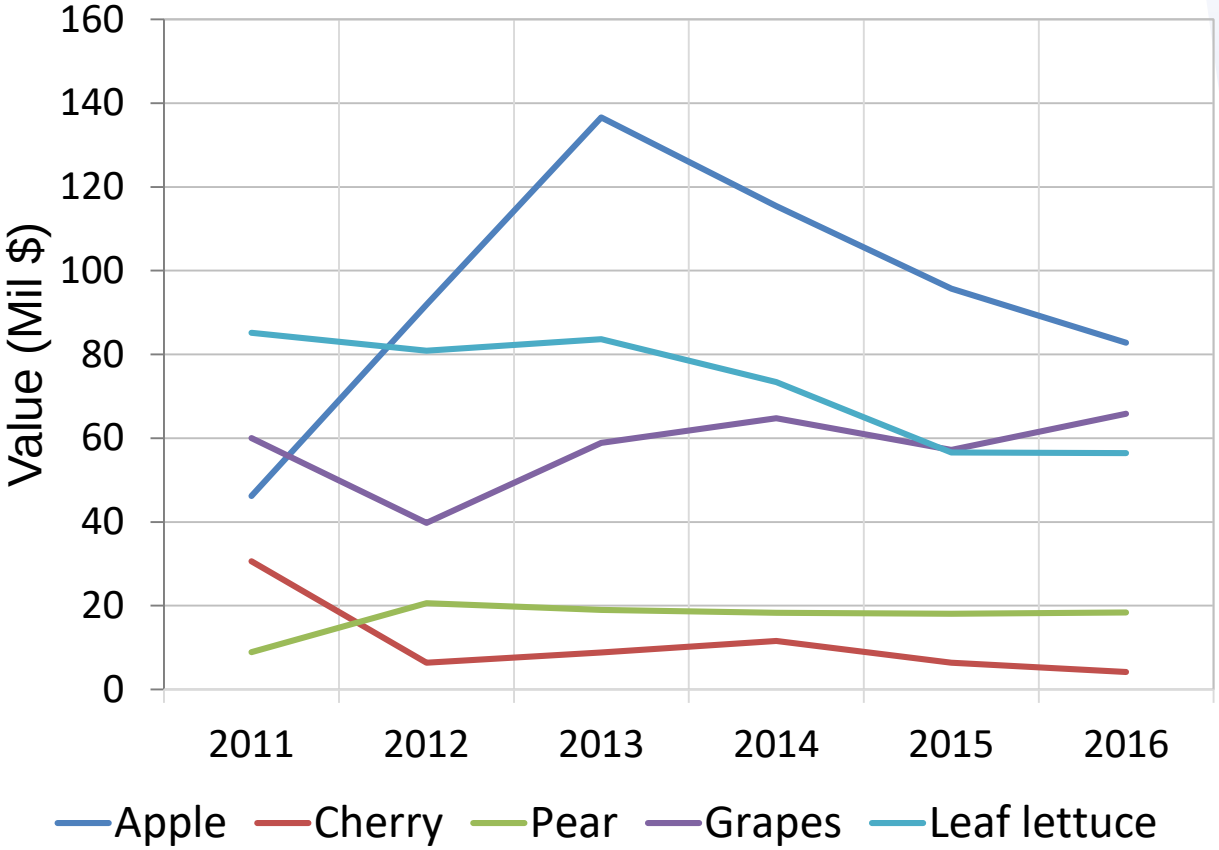
WA Organic Pear Exports by Variety



Data: WSTFA, WVTA

U.S. Organic Exports

Fresh fruits are an important U.S. organic export. Apples is the leading fresh fruit product, but exports have declined in recent years.



Source: USDA-FAS GATS

Additional data on the U.S. organic temperate fruit situation are presented in slides 80 and 81. These are estimates derived from the USDA-NASS organic survey as well as data directly from certifiers. Slide 80 shows that the U.S. has about 5% of the global organic grape area, 10% for apples and other tree fruits, and 11% for all berries.

The high concentration of organic fruit production (based on volume of product, not area) in WA and CA is clear from slide 81, with over 90% accounted for in these two states for most fruits.

USDA FAS collects data on organic product imports and exports. Apples have been a leading export product by value (slide 78). In recent years, the value of organic apple exports has declined while the value of imports has increased (slide 82). This is likely due to the influence of the strong U.S. dollar, and to increasing demand in the U.S. market for organic apples in late spring and summer when U.S. supplies of certain varieties are depleted.

US Organic Temperate Fruit

- Total certified area >32,000 ha (2014)
- >90% in semi-arid western U.S.
- CA, WA are leading states
- 8% apple, 40% blueberry of global organic area in U.S.
- Cannot accurately track national growth with current data; 2014 NASS data – incomplete, some errors.

Estimated U.S. Area of Temperate Fruits

	ha	% global
Grapes	15,000	5
Apples	7,850	
Other tree fruit	4,000	10
Berries	5,000	11

USDA-NASS, 2015; Willer & Lernoud, 2016

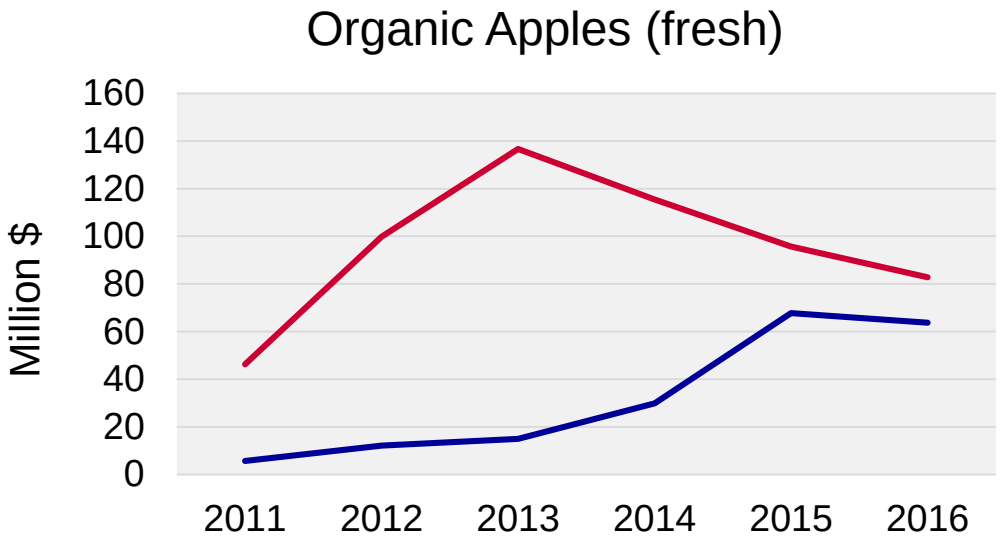
Concentration of U.S. Organic Fruit

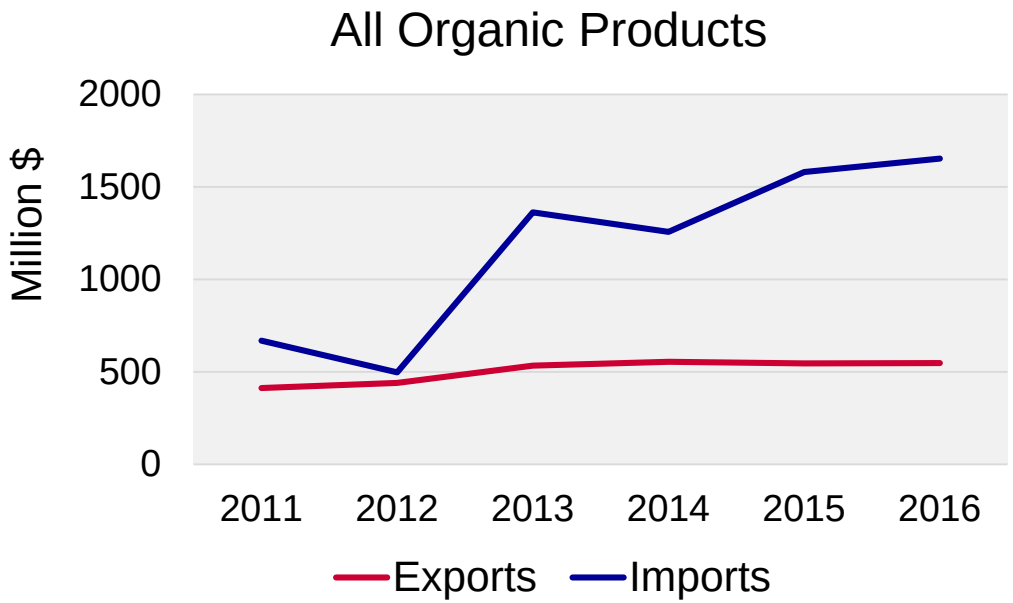
2015	U.S. Ac*	% of U.S. Production	
		WA	CA
Apple	15,763	88 (93 F)	7
Pear	2,286	81	11
Cherry, Sw	2,078	91	5
Peach/Nect	2,790	16	73
Plum/Prune	2,025	<1	99
Grape, all	27,912	5	91
Blueberry	5,706	33	34
Raspberry	1,091	2	96
Strawberry	4,031	<1	96

*certified acres; not adjusted for WA or CA certifier data. F=fresh

(USDA-NASS, 2016)

U.S. Organic Trade





2016

- Apples were 15% of export $, 4% of import $
- Apples, largest organic export value of any product
- Grapes, #2, Lettuce #3, Strawberries #4
- Since 2013, apple exports declining, imports increasing

Data: USDA-FAS

More information on Washington organic tree fruit statistics is available on-line at:

http://tfrec.cahnrs.wsu.edu/organicag/organic-agriculture/organic-statistics/
http://csanr.wsu.edu/pages/Organic_Statistics
http://www.nass.usda.gov/Statistics_by_State/Washington/Publications/Fruit/FruitTreeInventory2011.pdf

Citation: Kirby, E. and D. Granatstein. 2017. Recent trends in certified organic tree fruit: Washington State 2016. Organic Trend Series, Center for Sustaining Agriculture and Natural Resources, Washington State University, Wenatchee, WA. http://csanr.wsu.edu/pages/Organic_Statistics