Recent Trends in Certified Organic Tree Fruit in Washington State: 2017

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

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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 January 24, 2018.

Organic agriculture continues to be consumer driven. Globally, retail sales of organic food were $89.7 billion in 2016, up 10%. The U.S. was the largest single country market ($43 billion), followed by Germany ($10.4 billion), France ($7.8 billion), China ($6.3 billion), and Canada ($3.6 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).

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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
2013	49	43	8
2014	48	44	8
2015	51	39	8 (Asia)
2016	52	39	9 (Asia)

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

Source: World of Organic Agriculture

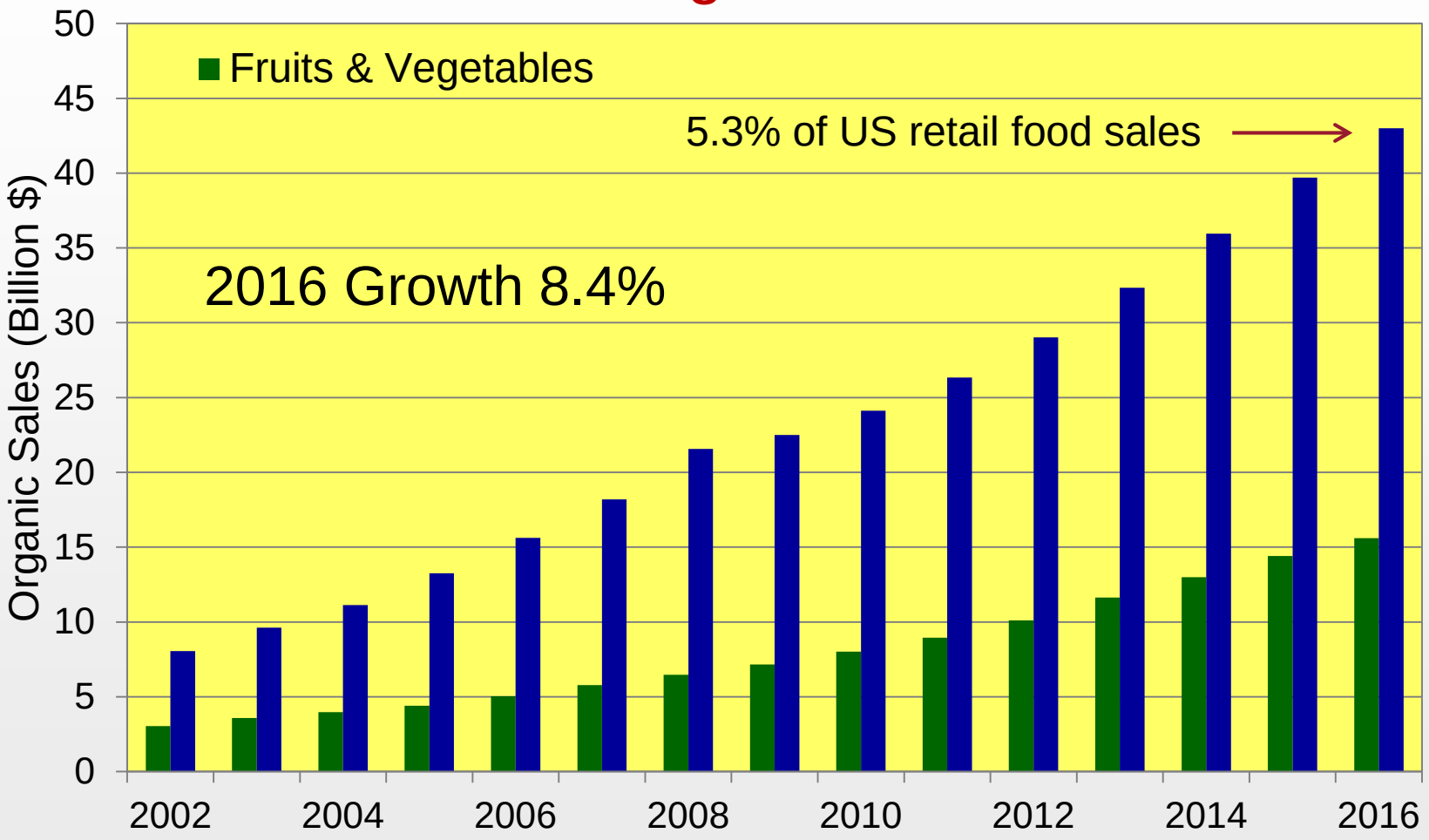
The next slide (6) shows the growth in retail sales of organic food in the U.S. since 2002. Growth dipped during the recession but did not stop, and has rebounded to 10-12% per year. Growth of the fruit and vegetable category was much more stable (slide 7), confirming that these products are very core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

More data on the organic food sector are becoming available (slides 8 to 10). Organic fruit sales grew faster than organic vegetables since 2011. Both volume and sales $ of organic fruit in the U.S. increased faster than overall organic food in 2017. The top 3 organic fruits account for 70% of all organic fruit sales, compared with 43% for the top 3 conventional fruits. Berries, apples, and bananas have been the top 3 selling organic fruits.

Total U.S. fresh apple consumption is slowly rising with population. In 2016, WA organic apples accounted for over 8% of U.S. fresh apple consumption. With the organic crop projected to grow to 18 million boxes by 2020, this would equal some 14% of U.S. fresh apple consumption and would likely be displacing conventional apple sales (slide 11).

Consumer Demand

Growth of US Organic Food Sales

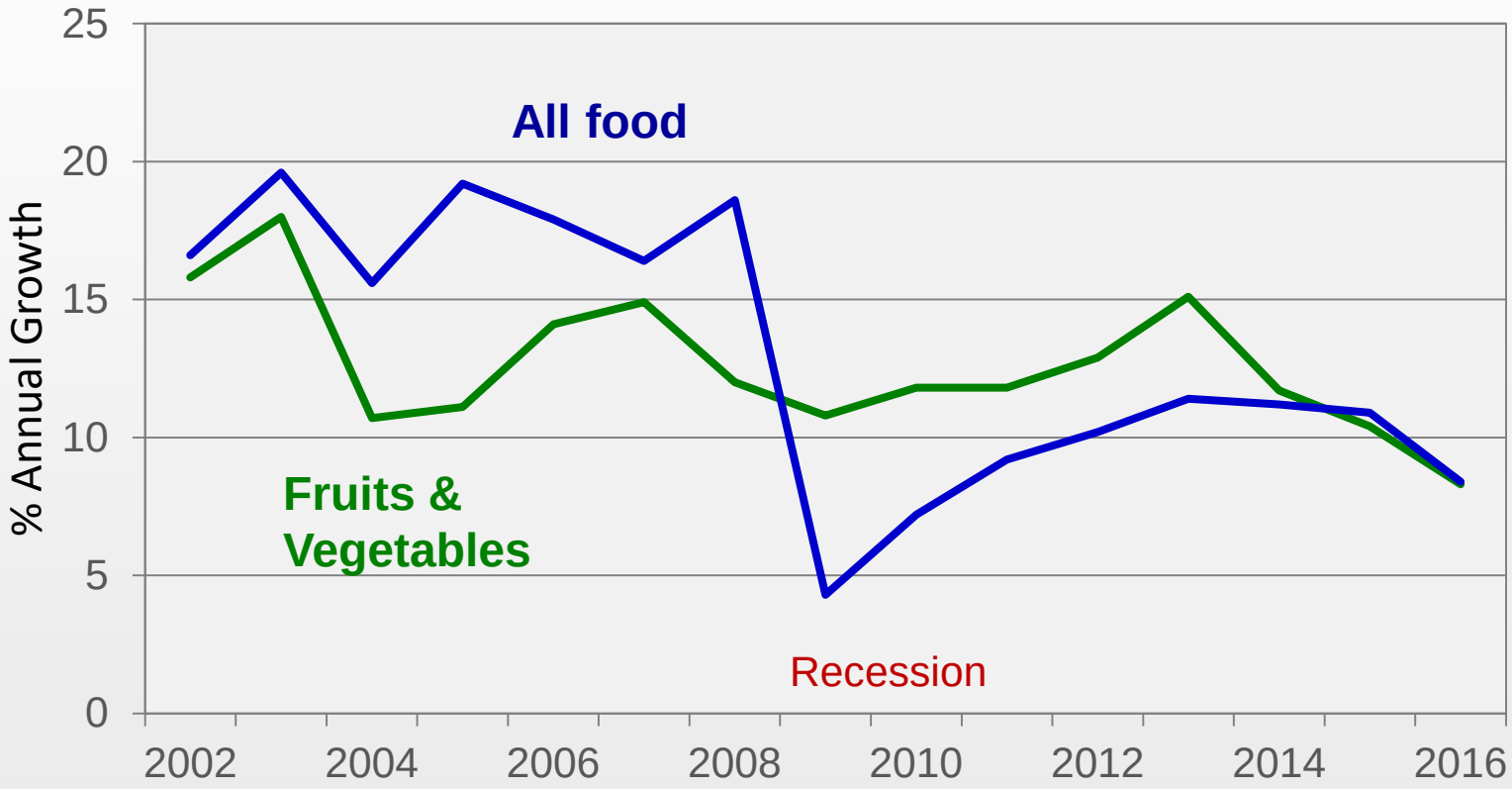


Organic fruits and vegetable sales were 36% of all organic food sales; >10% of all fruits and vegetables sales ($) in U.S. in 2016 were organic.

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

Recent Data

- Organic fresh fruit sales $1.6 billion in 2017, volume and sales up 12.6% from 2016 *(Nielsen FreshFacts);* organic fruit sales up 11.5% 2016 vs 2015 *(IRI/Freshlook)*
- Mass market grocery stores selling organic apples in 2007, <60%; in 2017, 99% *(Nielsen FreshFacts)*
- Surveys suggest a consumer price barrier at 25% premium at retail *(Nielsen FreshFacts)*
- Costco considering carrying organic-only for 2-3 apple varieties year-round *(WSTFA meeting)*
- Western US organic distributor: Number of specialty apple varieties increased from 15 in 2006 to 66 in 2017 *(OGC Inc.)*

U.S. Fresh Fruit Sales, 2017

	Conventional Fruit	Share of Dollars (%)
1	Berries	17.5
2	Citrus	13.8
3	Apples	12.1
4	Grapes	11.5
5	Value-Added Fruit	10.9
6	Bananas	10.4
7	Avocados	6.7
8	Melons	5.0
9	Stone Fruits	3.7
10	Cherries	3.3
11	Specialty Fruits	2.6
12	Pears	1.4
13	Pineapples	1.2
14	Other Fresh Fruits	0.1

43%

	Organic Fruit	Share of Dollars (%)
1	Berries	36.9
2	Apples	18.7
3	Bananas	14.4
4	Citrus	8.5
5	Grapes	7.5
6	Avocados	5.4
7	Stone Fruits	2.1
8	Pears	1.8
9	Cherries	1.5
10	Specialty Fruits	1.5
11	Value-Added Fruit	1.0
12	Melons	0.4
13	Pineapples	0.3

70%

Source: Nielsen Fresh (FCA universe) – Latest 52 weeks ending 10/28/17

Fresh Fruit Sales

Share of US Total

Rank			% Share	
2015	2017	Organic	2015	2017
1	1	Berries	35.8	36.9
2	2	Apples	24.3	18.7
3	3	Bananas	12.6	14.4
6*	4	Citrus	3.3*	8.5
4	5	Grapes	8.3	7.5
7	6	Avocado	6.7	5.4
--	7	Stone fruits	--	2.1
7	8	Pears	2.3	1.8
15	9	Cherries	0.5	1.5

*oranges only

Sources:
IRI/Freshlook Marketing, last 52 weeks ending 11/1/15
The Nielsen Co., last 52 weeks ending 10/28/17

How Big Can This Get?

- Organic produce sales growing ~10% per year
- OTA – 2016, organic = 5.3% of food sales; hit 20% ?
- US annual fresh apple consumption = 128.6 mil 40 lb box; is gradually rising
- 2016 WA organic apples = 10.82 mil box shipped; 90^{+}% of US supply; 8.4% of US fresh apple consumption; 2017 estimate = 14.8 mil box; 2020 = 18 mil ?? (14%)
- 2016 WA organic apple price premium = 86% FOB, ~60% at retail; if retail price (or premium) drops, demand is likely to increase.

Estimates of global area of organic horticultural crops, including tree fruits, have been made previously by the authors to help track trends. The most recent data (2016) 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. Organic tree fruit represented about 1.2% of all organic agricultural land globally, with temperate tree fruits having 36% of all organic tree fruit area (slide 13). Tropical/ subtropical tree fruits are the largest category of organic tree fruit. All temperate tree fruits expanded in 2016, while the area with no details declined (slide 14). Organic apricots reached 4% of global apricot area. Apple had the largest area for a specific fruit, followed by avocado and banana.

Area trends over time (slides 15 and 17) show a consistent growth, except for the downturn in apple driven largely by Poland (slide 16) and erratic pear data. Europe accounts for about 44% organic temperate tree fruit area (Italy 22,378 ha; Poland 18,616 ha; France 13,544 ha). China has the largest area for a country (97,880 ha), with Turkey (16,260 ha) and the U.S. (11,670 ha) as other important producers. Europe accounted for 61% of the organic apple area (slide 18), with China at 23%.

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Global Organic Tree Fruit Area

Organic tree fruit crops 701,600 ha
~1.2% of organic agriculture land

	Hectares* 2016	% of organic tree fruit	% change from 2015	% of all global
Temperate	254,600	36	-14	2
Citrus	90,694	13	+28	1
Tropical/ Subtropical	356,119	51	-5	1.0

*certified + transition

1 hectare (ha) = 2.47 acres

Most decline in temperate fruit for 2016 was in China.

Source: World of Organic Agriculture; FAO

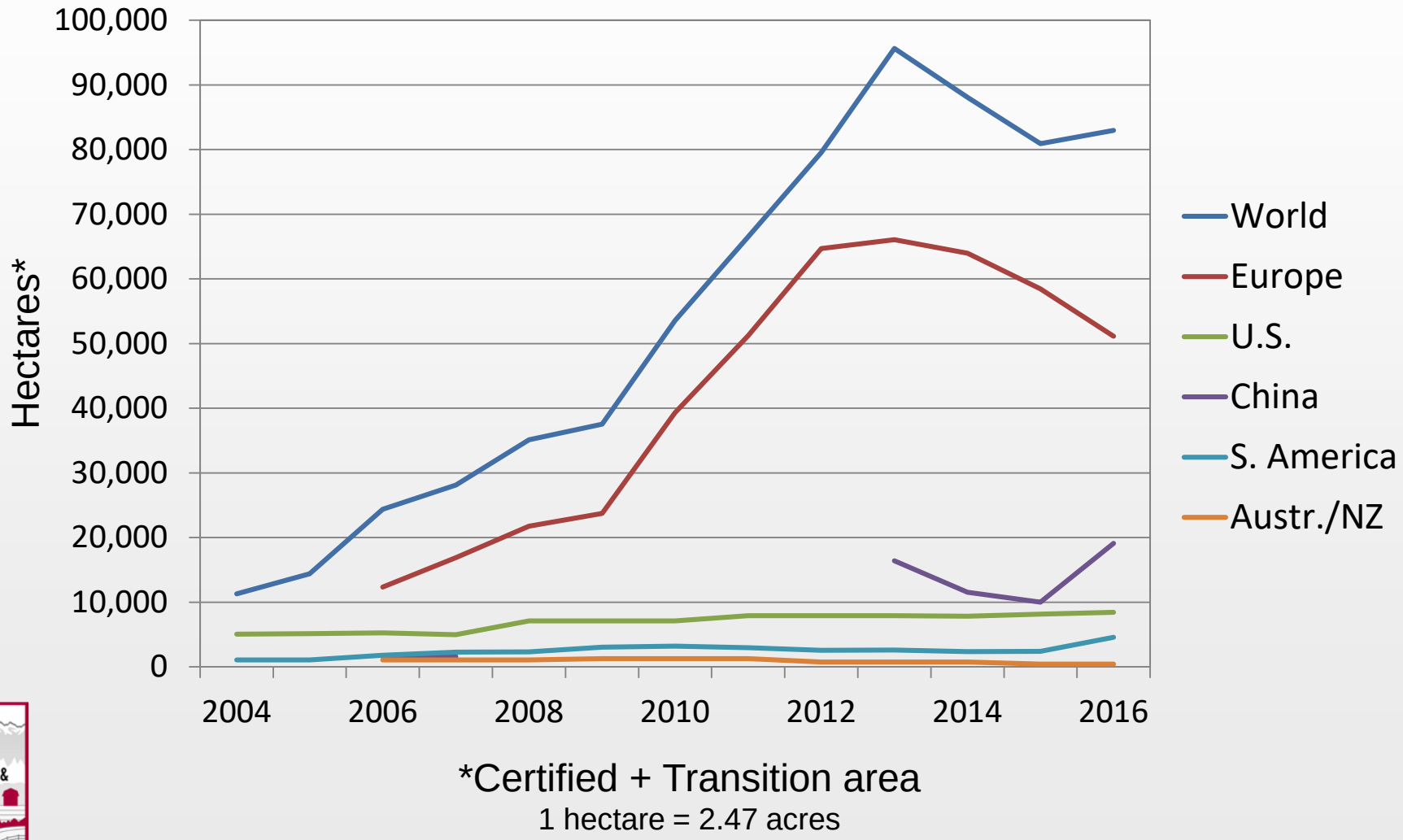
Global Organic Tree Fruit Area

	Hectares* 2016	% change from 2015	% of organic category	% of all global#
Apple	82,983	+2.5	33	1.6
Apricot	22,940	+25.9	9	4.0
Cherry	15,924	+30.0	6	2.4
Peach/Nect.	10,877	+10.4	4	0.7
Pear	15,376	+52.1	6	1.0
Plum	15,871	+20.3	6	0.6
Other, no details	90,629		36	
Banana	58,407	-3.3	16	0.6
Orange	35,120	+100	39	0.9

*certified + transition; # using 2015 FAO global data

Source: World of Organic Agriculture; FAO

Organic Apple Trends
Expansion of Global Area

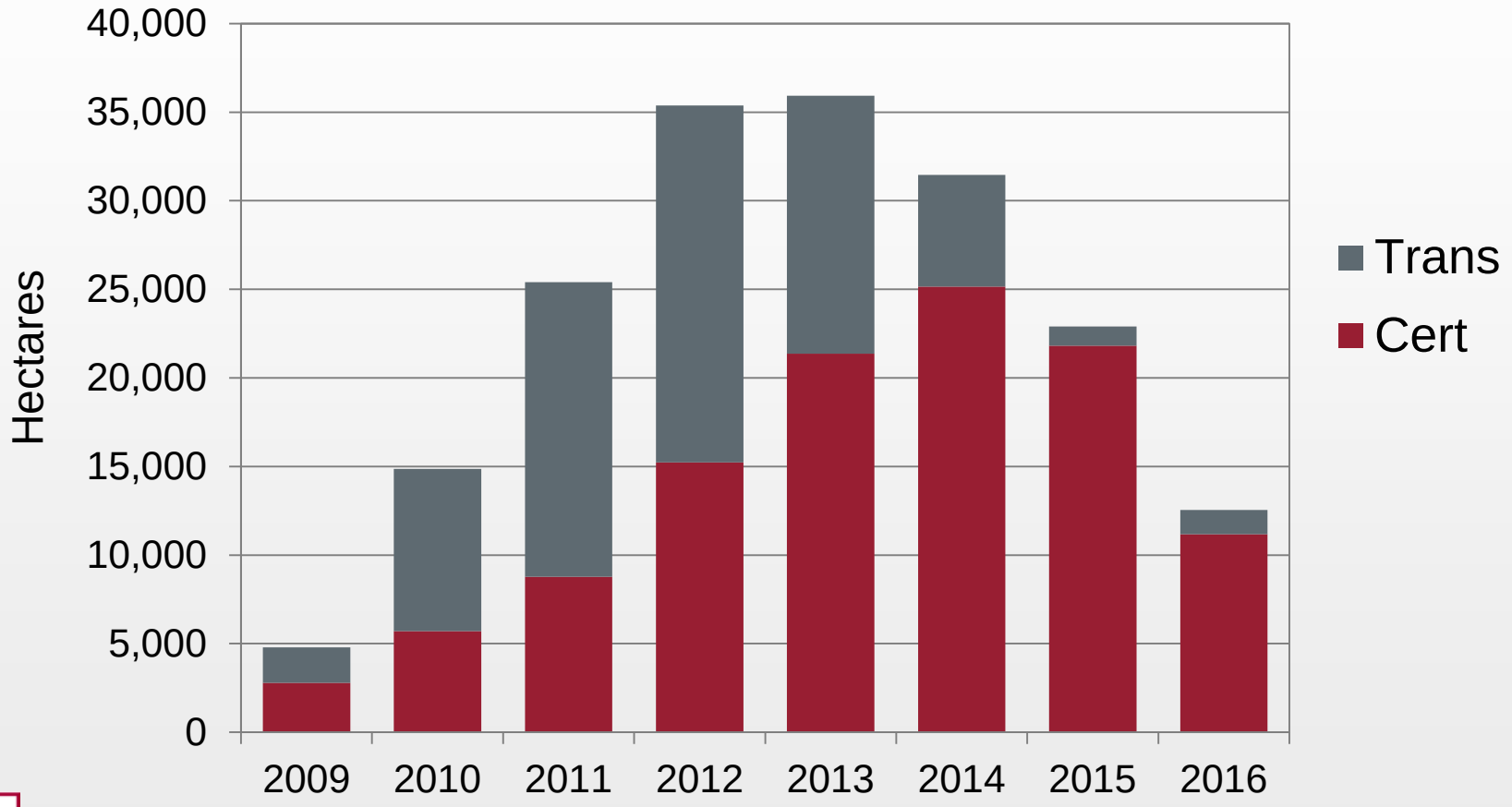


*Certified + Transition area

1 hectare = 2.47 acres

Data courtesy of H. Willer, FiBL

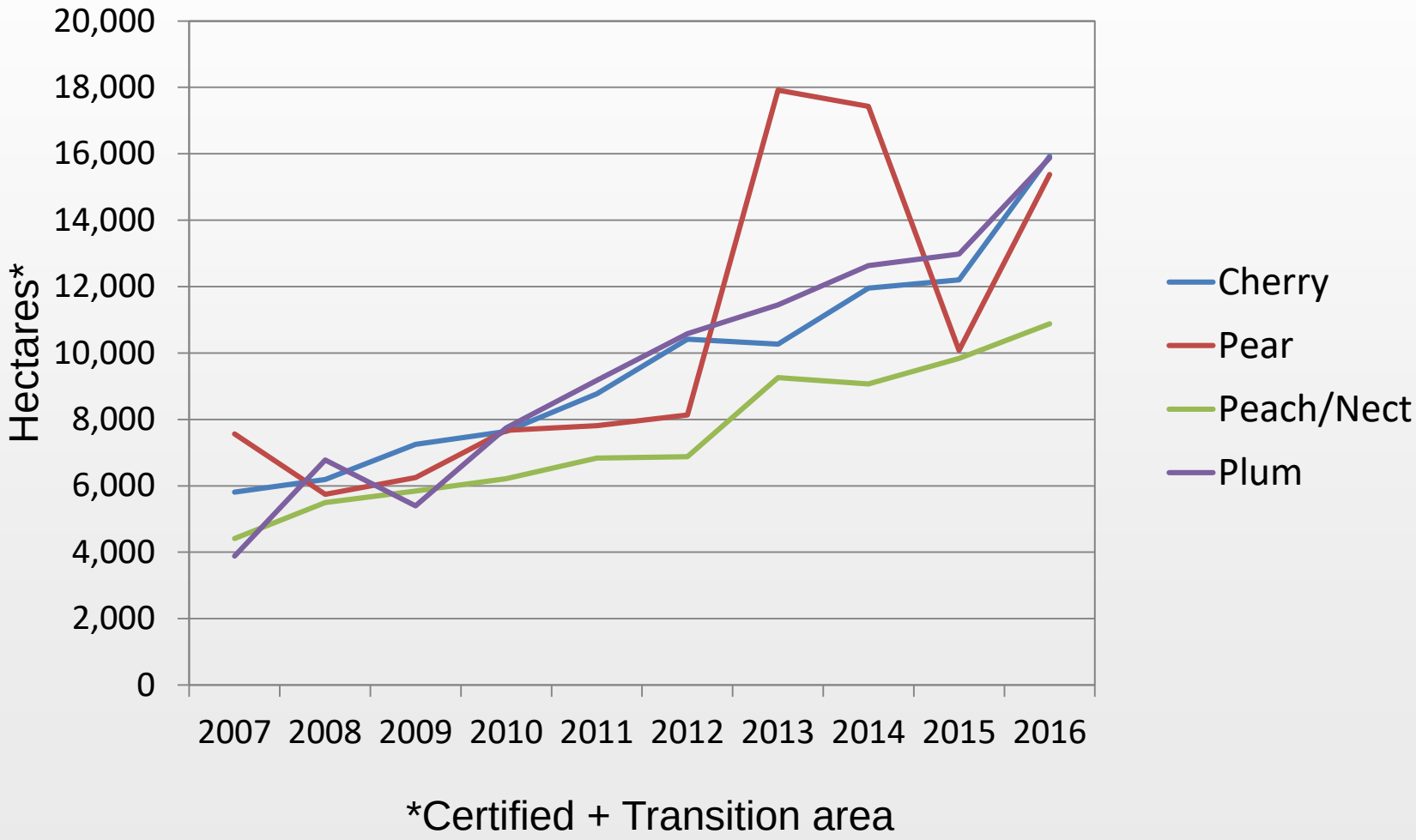
Organic Apple Area in Poland



Decline of organic apple area in Poland explains much of the EU decline.

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	82,983	+3
US	8,443*	+3
Europe	51,144	-12
Poland	12,541	-45
Germany	5,233	+2
Italy	5,182	+21
France	7,974	+15
Turkey	3,747	-22
China	19,117	+91
Argentina	2,045	+57
Chile	1,291	+14
New Zealand	450	0

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

Europe is the leading region for producing organic tree fruits.

- 61% of world organic apple area

WA organic <u>apples, 2016</u>

- 6,555 ha cert.
- 78% of US area
- 8% of world certified area, but higher % of production

Data courtesy of H. Willer, FiBL; WSDA, OTCO, CCOF for WA

Detailed, accurate data on the area of organic tree fruit production in the U.S. are not collected regularly. No new data for 2017 are available. The results in the following tables through 2016 (slides 20 to 22) 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 2016 Organic Production Survey, Washington State is the major producer of organic apples, pears, and cherries. It has 68% of the reported organic apple acres, producing 93% of the reported fresh fruit volume in the country. It also has 69% of the organic pear acres and 78% of the volume, and 86% of the sweet cherry acreage and 91% of the volume. A similar situation exists for peaches/nectarines and plums/prunes in California.

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

	2015 (acres)		2016 (acres)		
	WA	CA	WA	CA	US estimate*
Apple	14,283	3,460	16,191	3,186	20,855
Pear	2,050	761	2,243	682	3,230
Apricot	260	449	251	442	526
Cherry	2,056	470	2,078	433	2,511
Nectarine	395	990	379	1,047	1,437
Peach	553	1,675	553	1,761	2,948

** Data from 2016 Certified Organic Survey were corrected for WA and CA certifier data.*

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

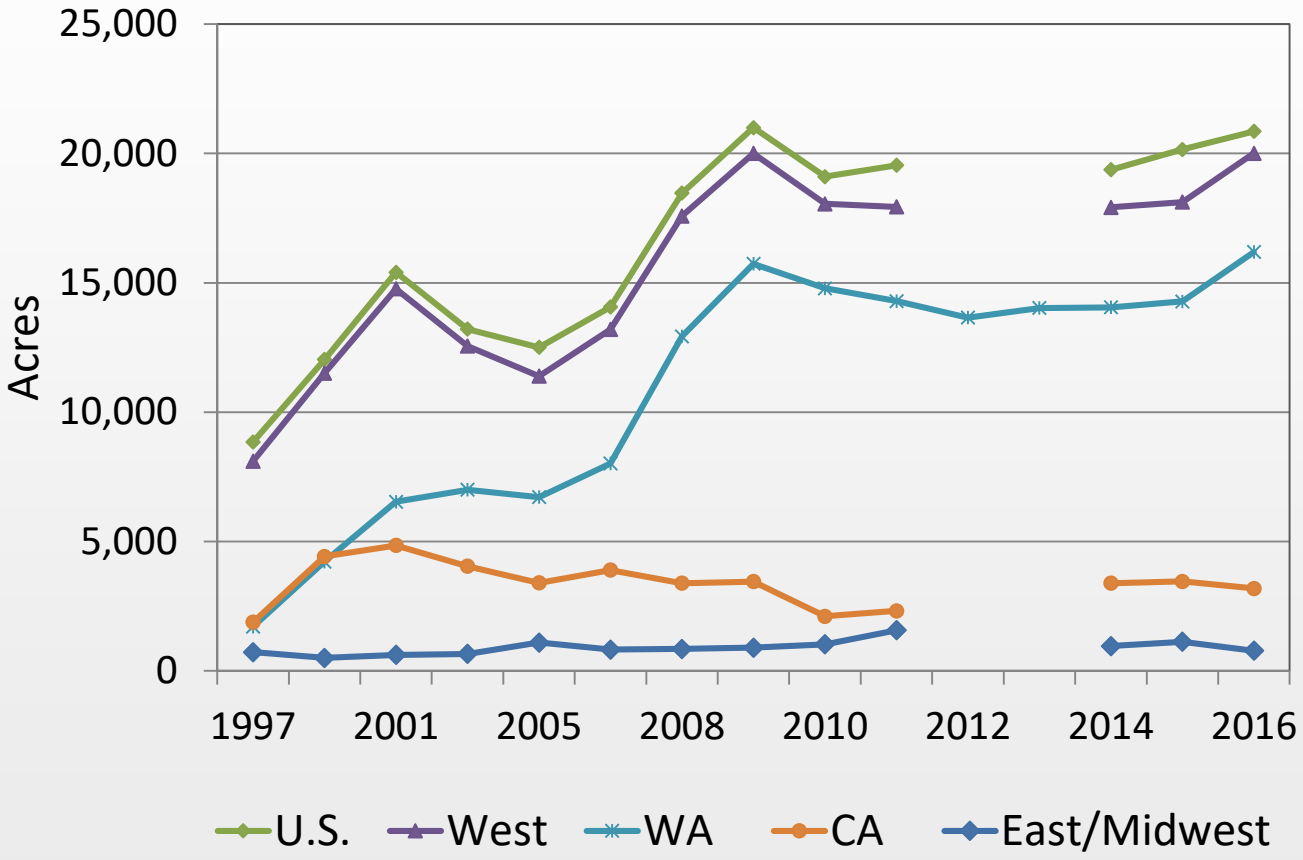
US Organic Apple Area
(acres, estimated)

State	2000	2001	2005	2008	2011	2014	2015	2016
WA*	4,228	6,540	6,721	12,936	14,296	14,052	14,283	16,191
CA*	4,423	4,853	3,402	3,393	2,322	3,392	3,460	3,186
AZ	1,795	1,715	865	816	354	?	?	?
CO	431	635	202	164	509	194	176	219
OR	350	350	123	136	234	262	143	322
Other West	281	677	83	139	96	17	59	634
West total	11,508	14,770	11,396	17,584	17,934	17,917	18,121	20,029
Midwest	419	567	708	655	1,207	319	563	486
NY & NE	83	52	392	193	361	645	555	277
S & SE	28	15	8	33	40	11	10	34
US Total	12,038	15,404	12,504	18,465	19,542	19,370	20,156	20,874
*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 and CA is from CDFA

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The acreages of different organic tree fruits in Washington over time are shown in slide 24. While accounting for about 27% of all certified organic acres in the state, organic tree fruit generates over half of the farmgate value of all organic products grown in the state (slide 25). Storage, packing, and marketing add another $100 million of value each year. Estimates for the value of organic tree fruit that is processed could not be determined, but demand for these products is growing (e.g., juice, puree, sliced apples). Organic apples dominate the organic tree fruit sector for area, production, and value, and sales value has been rapidly increasing (slide 26). Organic apples and pears set record sales values ($) with the 2016 crop.

Organic Tree Fruit Acres
Washington State

	--- Certified acres ---								Trans acres†
	2010	2011	2012	2013	2014	2015	2016	2017	2017
Apple	14,790	14,296	13,657	14,030	14,052	14,283	16,191	22,116	5,244
Pear	2,033	1,917	1,900	1,820	1,843	2,050	2,243	2,763	343
Cherry	2,147	1,827	1,792	1,850	1,939	2,056	2,078	2,546	216
Apricot*	299	296	266	285	299	260	251	216	10
Nectarine	550	528	488	464	440	395	379	357	7
Peach	701	619	618	594	580	553	553	580	1
Plum/Prune*	125	92	89	64	58	56	76	45	6
Mixed stone	13	17	45	22	17	32	--	1	--
Total*	20,658	19,592	18,855	19,129	19,228	19,685	21,771	28,624	5,827

*apricot includes aprium; plum includes prune, pluot and plumcot; totals do not include mixed tree fruit;
†only those acres registered with a certifier; 2017 certified value includes a small number of acres pending certification

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Organic tree fruit accounted for about 12% of all tree fruit acres in Washington State in 2017.

Combined certifier data

Value of WA Organic Tree Fruits

	Sales Year Farmgate Value			Crop Year Packed Value					
	2009	2010	2011	2011	2012	2013	2014	2015	2016
---------- Million $ ----------									
Apple	77.85	96.28	121.04	198.55	277.40	317.0	391.9	398.1	471.6
Pear	8.87	8.66	11.87	22.71	27.04	31.4	37.6	38.2	44.1
Cherry	9.92	10.05	17.09	15.31	16.15	17.9	25.4	27.3	25.4
Other	5.05	7.49	10.95	>11.0	?	?	?	?	?
Total	101.69	122.48	160.95	>248	>320	>343	>455	>464	>541

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.

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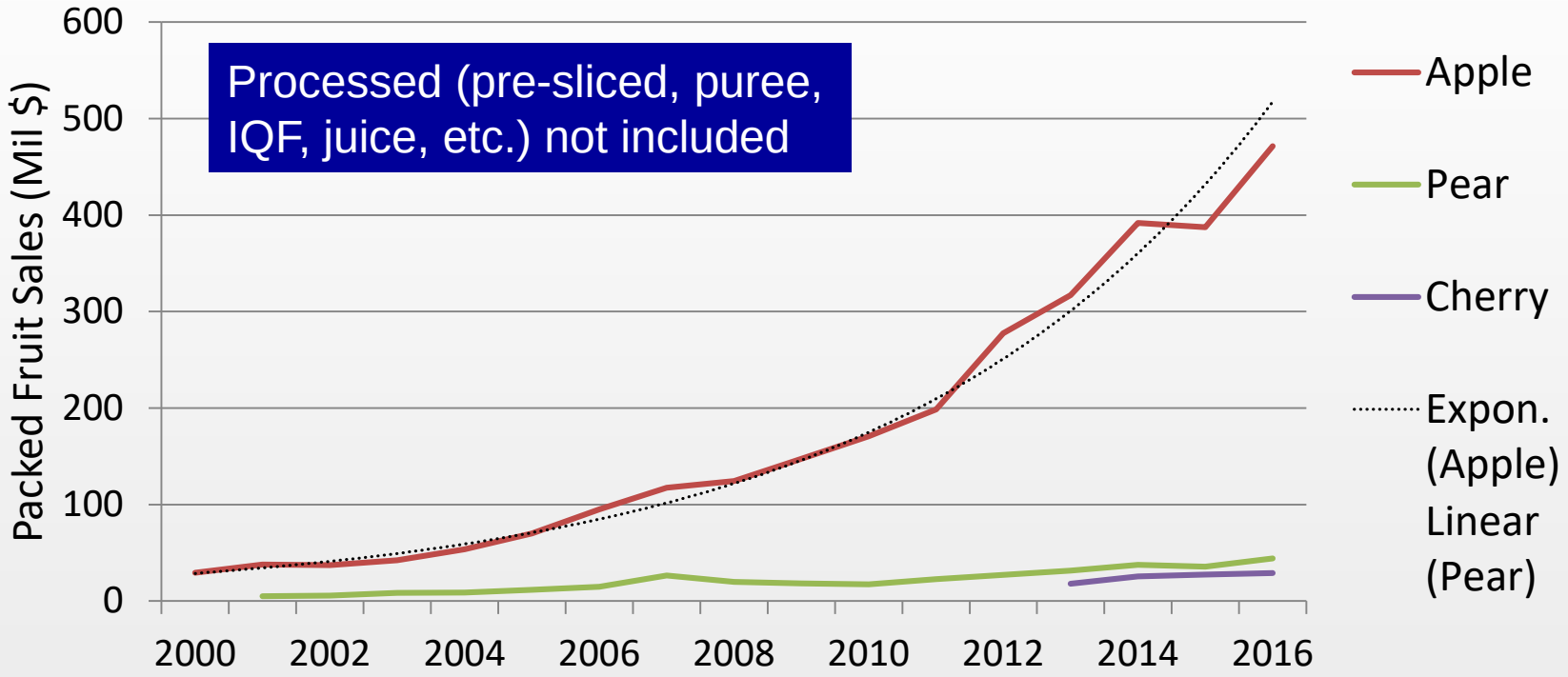
Data: WSDA, WGCH, WVTA

Value of Fresh
WA Organic Apples and Pears



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 28. 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 29). The change in area of cultivars over time can be seen in slides 30 and 31. In addition, many new and specialty cultivars are being grown organically, including some for hard cider production (slide 32). No records indicated acres of Cosmic Crisp® under organic management yet.

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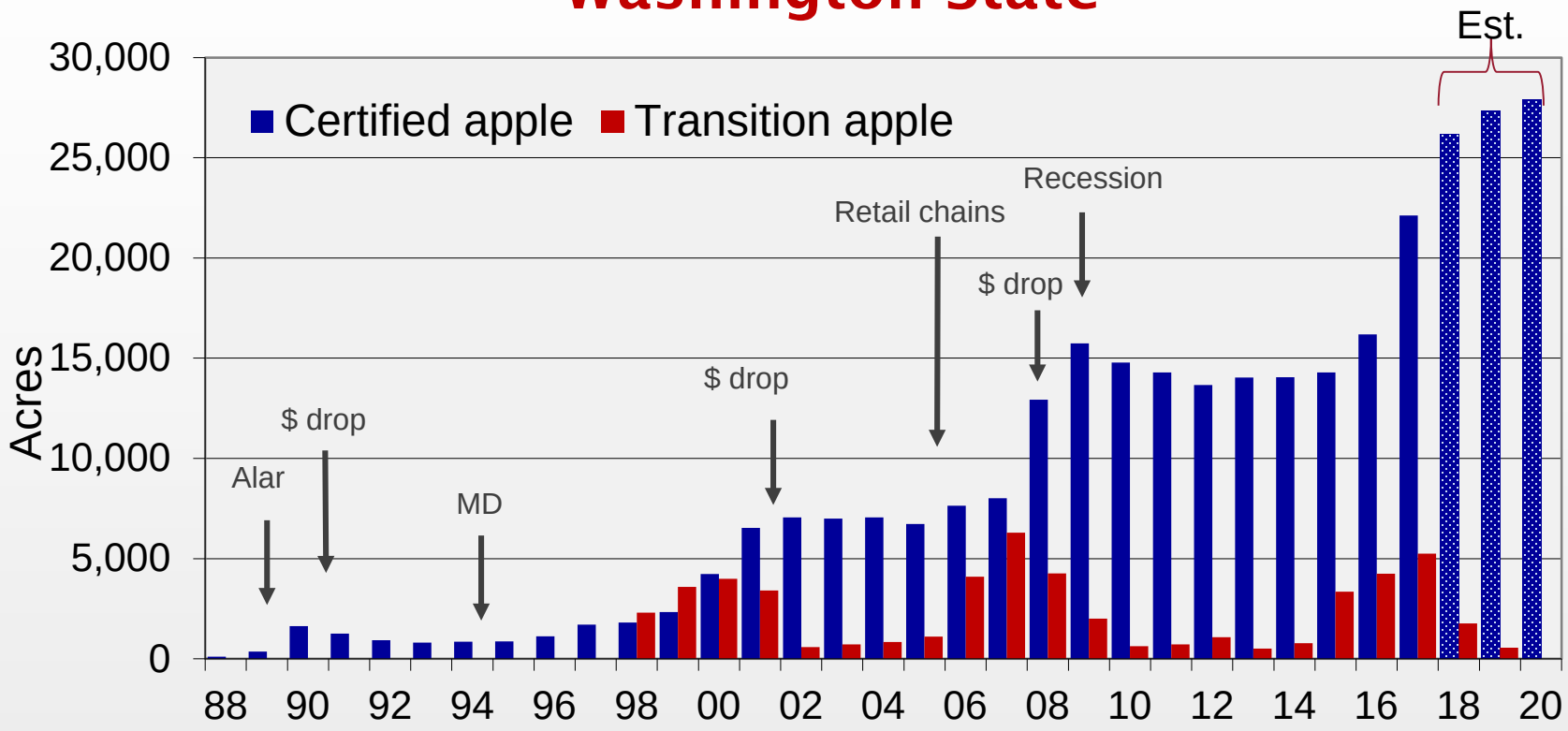
Photo: F. Peryea

Organic Apple Acreage
Washington State

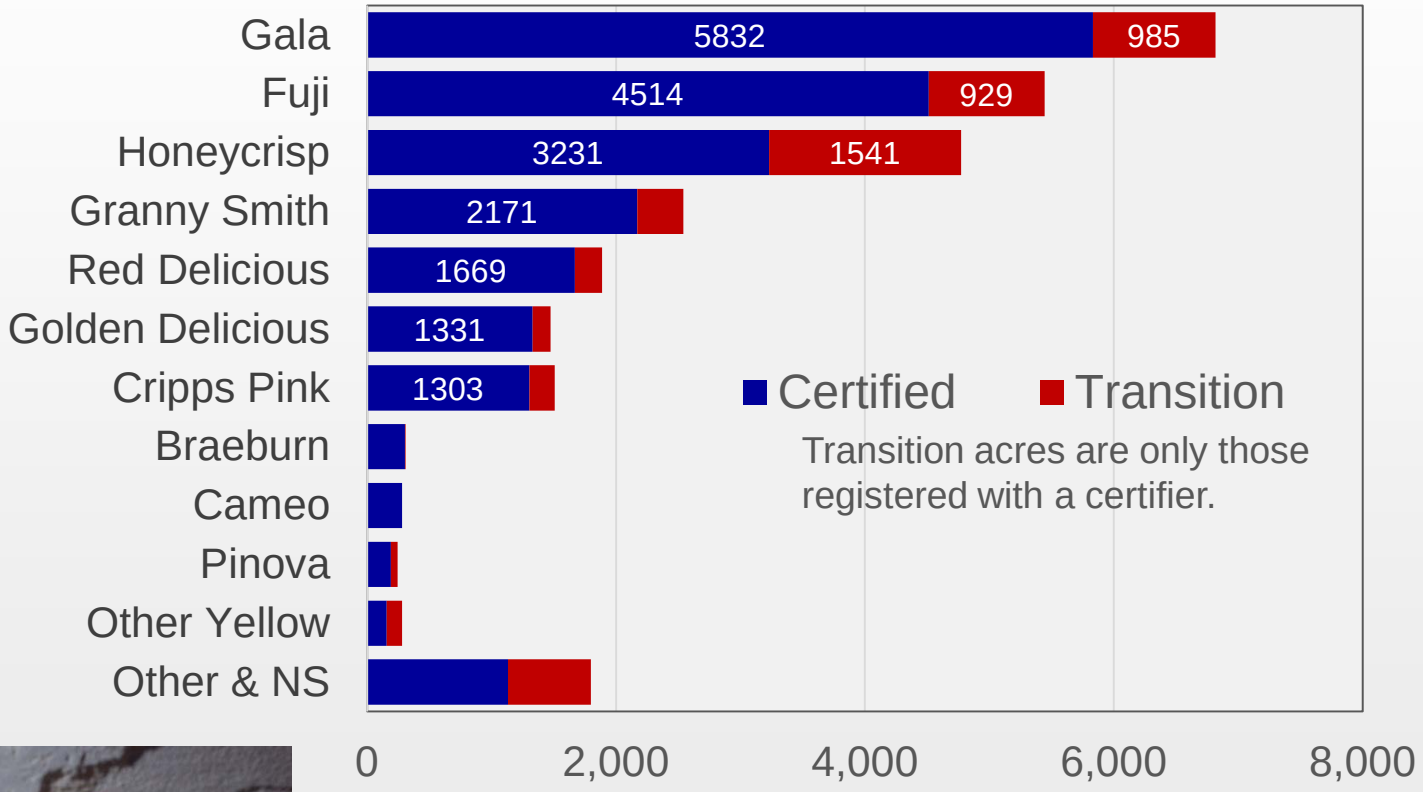


Cert. organic apples = 12% of WA apple bearing acreage (based on 2017 NASS value of 179,146 acres)

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

Organic Apple Variety Acres
Washington 2017



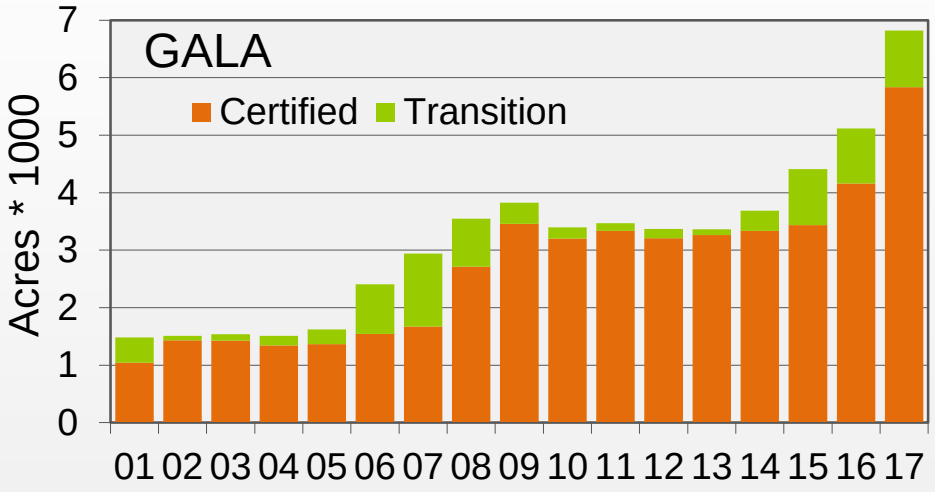
WA Fuji; ARS Photo

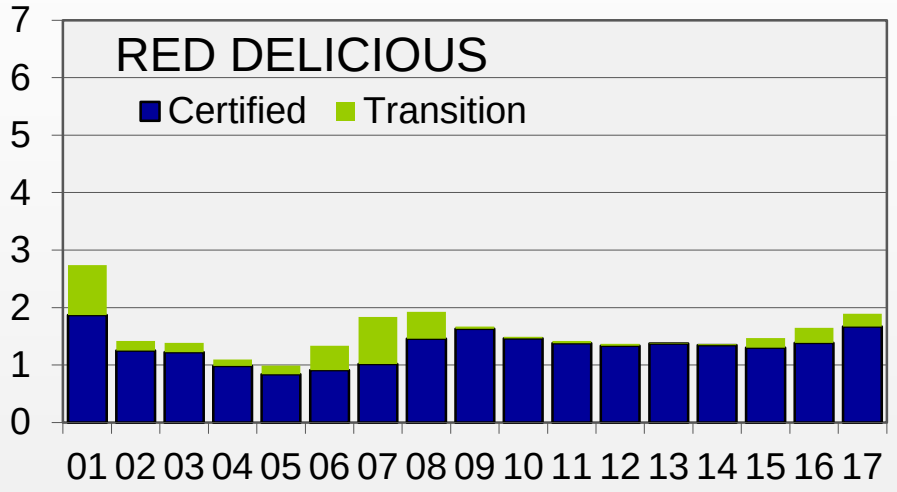
- Fuji and Gala = 47% of certified apple acres
- Honeycrisp tops Red and Granny since 2013

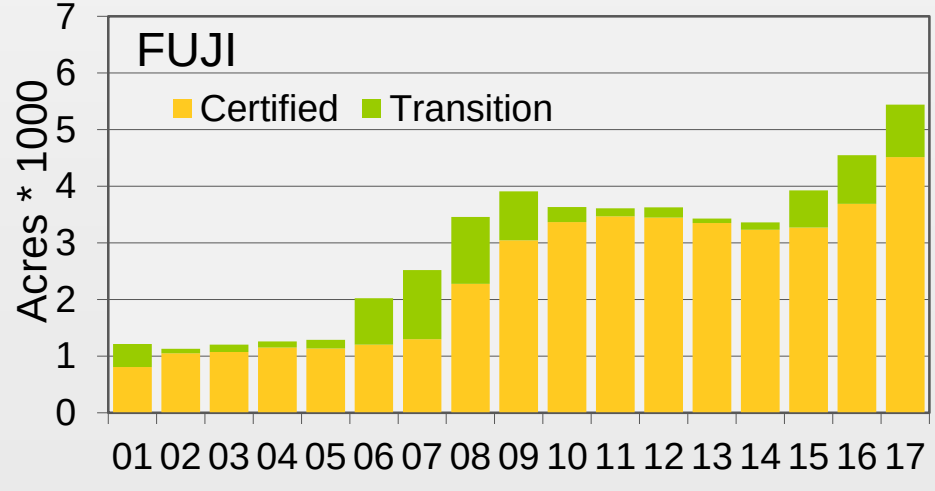
Cripps Pink includes Pink lady; Pinova includes Pinata and Sonata.

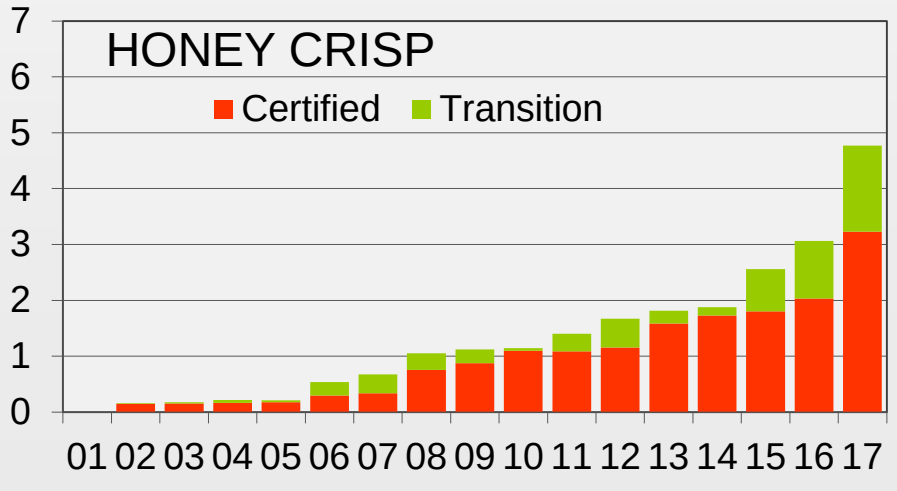
Organic Apple Varieties

Washington State Acres Trend



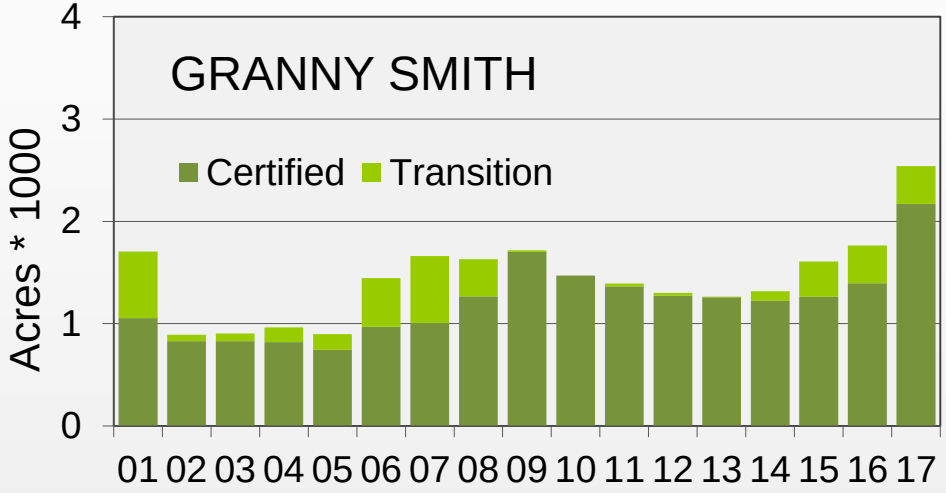


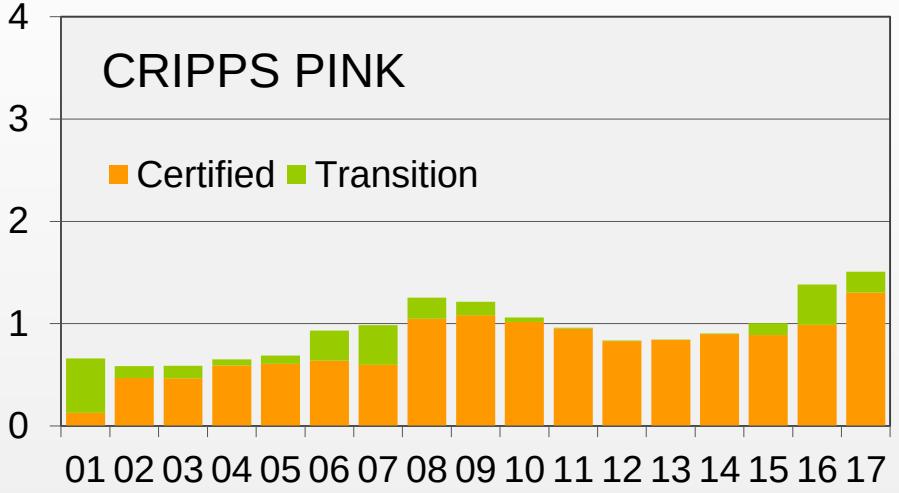


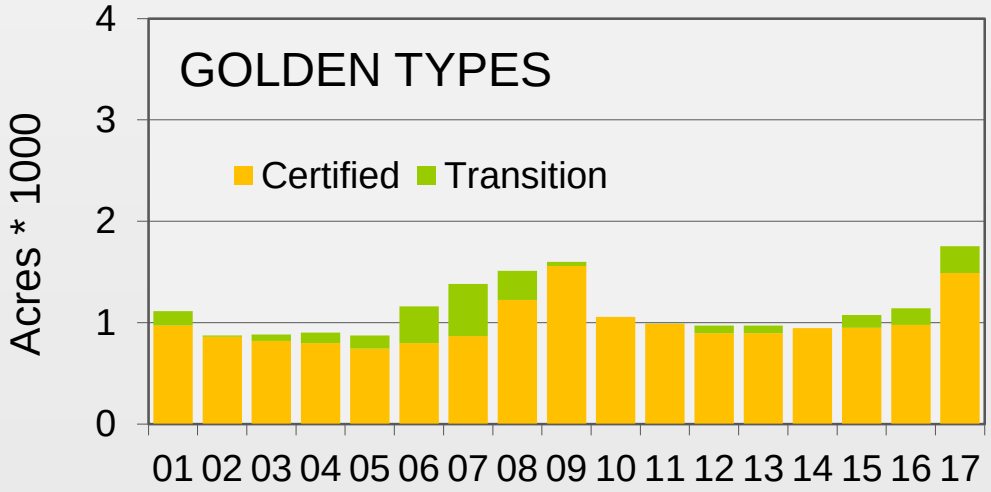


Combined certifier data

Organic Apple Varieties
Washington State Acres Trend



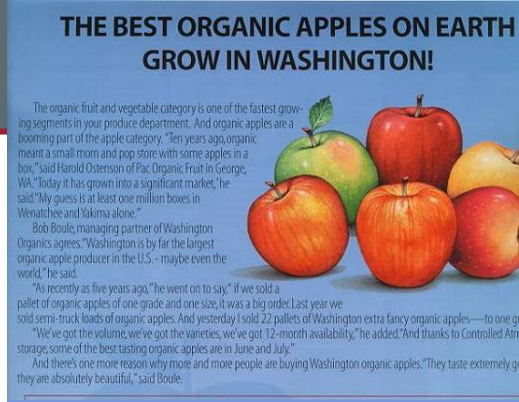




Center for Sustaining Agriculture & Natural Resources

Combined certifier data

Organic Specialty Apples
Washington State 2017


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

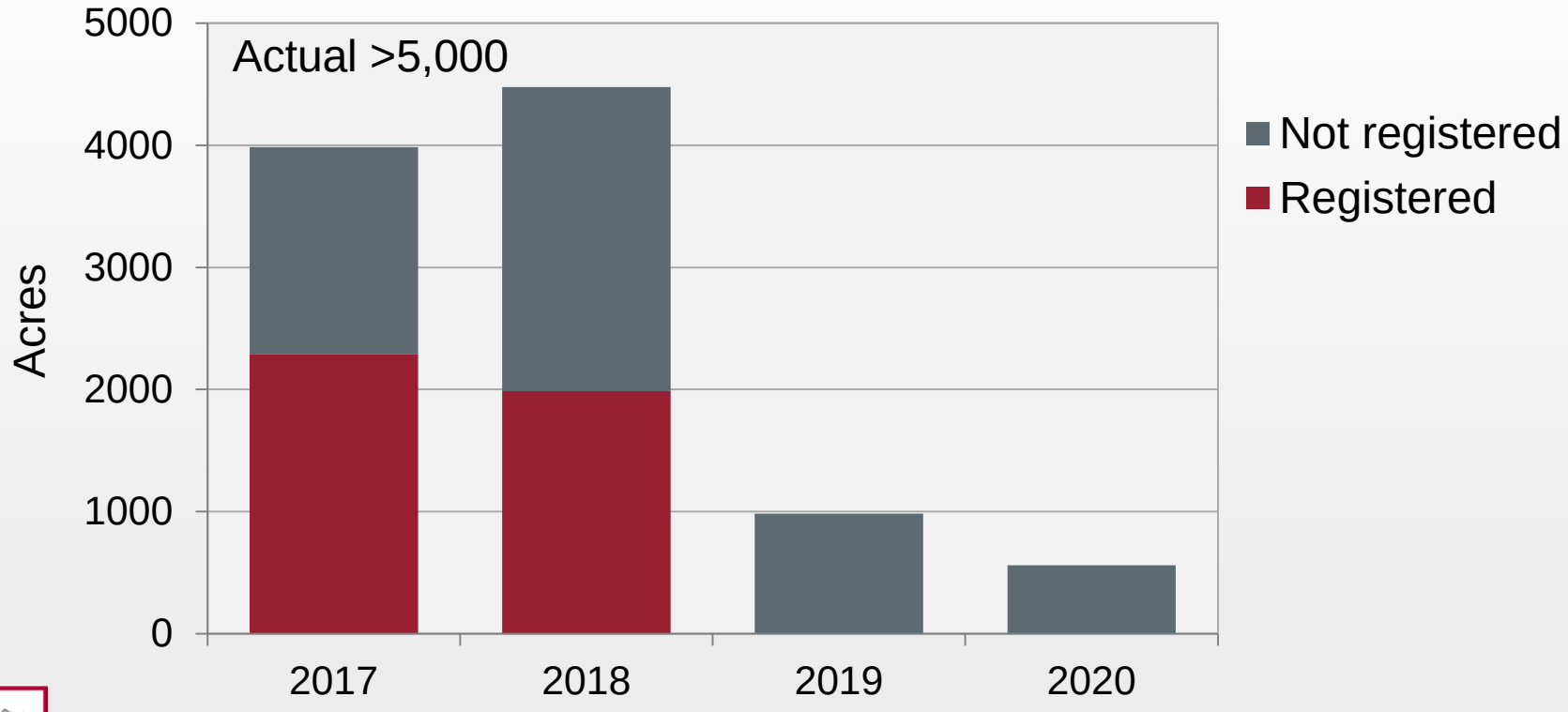
Varieties listed in WSDA producer directory:
http://agr.wa.gov/FoodAnimal/Organic/docs/wsda_cert_org_producers.pdf

Combined certifier data

A large number of apple acres are in transition to organic, with ‘Gala’, ‘Fuji’, and ‘Honeycrisp’ dominating (slide 34). 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 (slide 35). At the same time, organic apple yields appear to be increasing, with the transition of many acres of modern, high-density plantings (slide 36). 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. Apples diverted to processing and other uses are not included.

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

Estimated WA Organic Apple Transition Acres

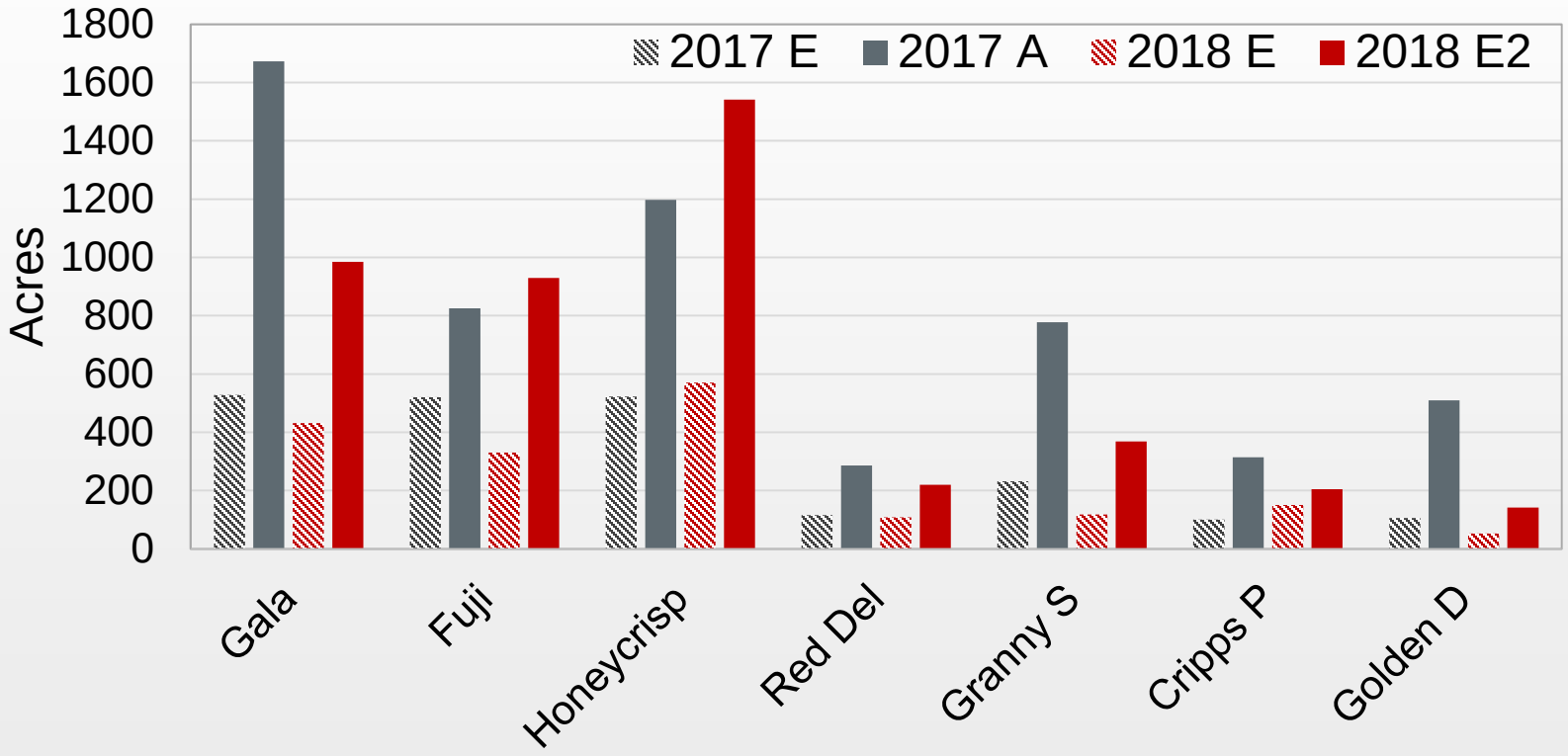


Based on registered transition acres (2017 and 2018) and data from WA fruit companies in Jan. 2017

Center for Sustaining Agriculture & Natural Resources

Organic Apple Variety Transition Acres

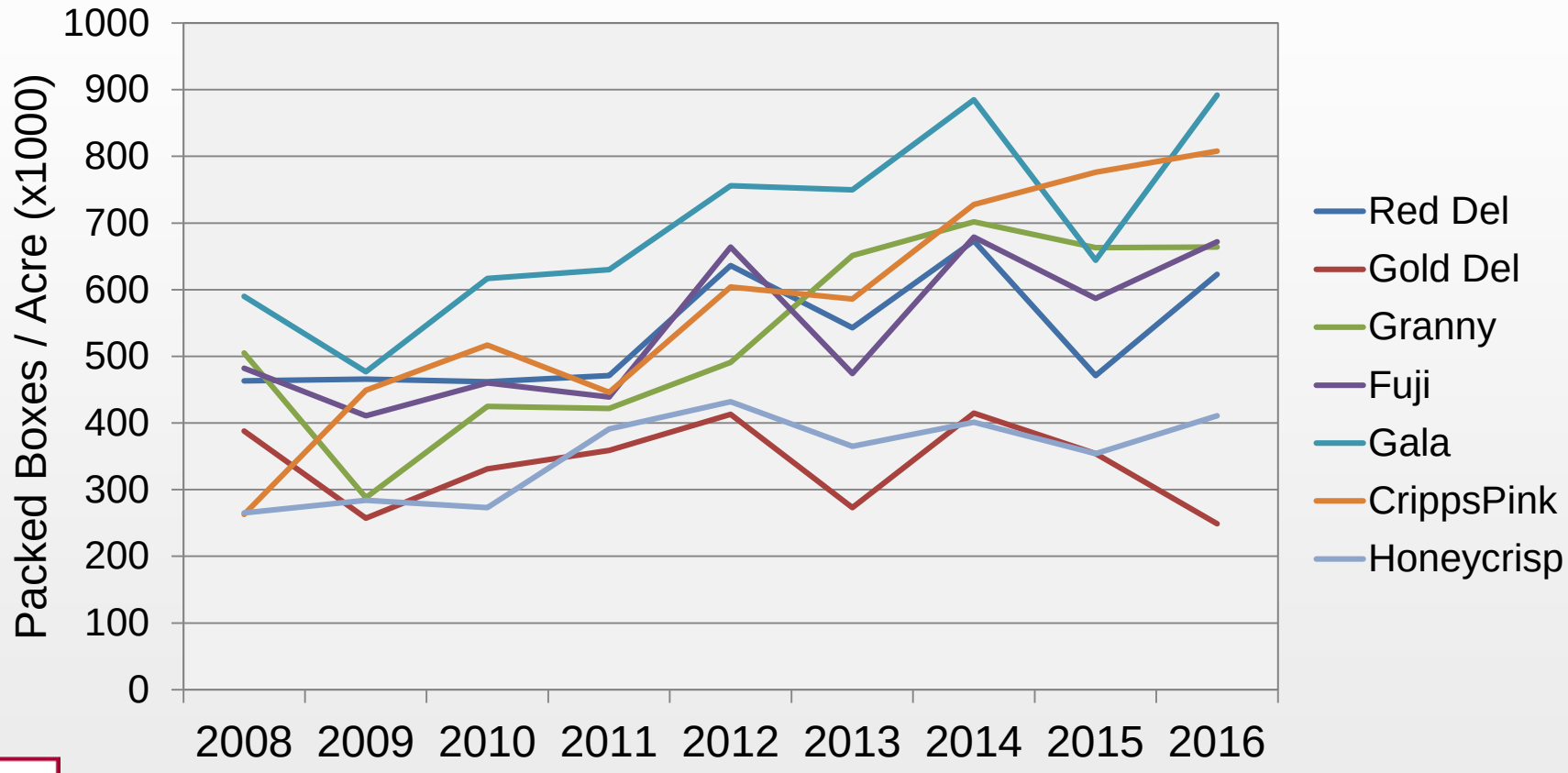
Washington



E=acres registered with certifier 1/2017 for cert. in 2017 (gray) or 2018 (red); A=actual increase in acres in 2017; E2=acres registered with certifier 1/2018 for cert. in 2018.

Combined certifier data;
Cripps Pink includes Pink lady.

Organic Apple Yield Trend
Washington

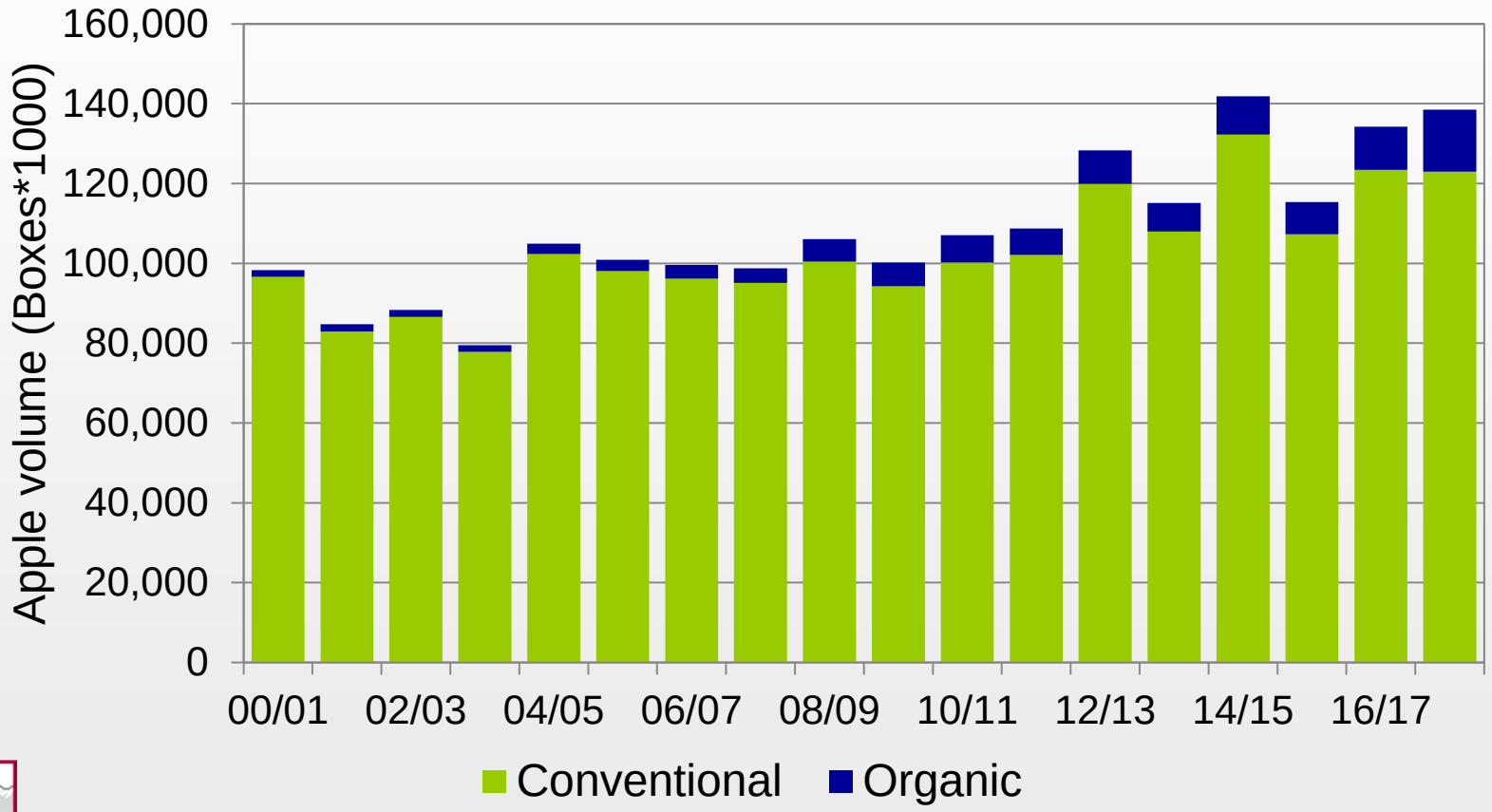


- Total shipped organic boxes / total certified acres
- Includes young and non-bearing acres
- Does not account for processor or other diverted fruit

In 2017, certified organic apples represented about 12% of all bearing apple acres in the state. This has translated to about 11% of the state crop (slides 38 and 39). An unknown amount of organic fruit goes to the processor market or is sold as conventional for various reasons.

A general upward trend of shipments has occurred since a big jump in 2008 (slide 40), 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, which set new records with the 2016 crop (slides 41, 42). The rise of organic 'Honeycrisp' production is also evident. Despite the rapid rise in supply, prices have also risen during this period until recently (slide 40).

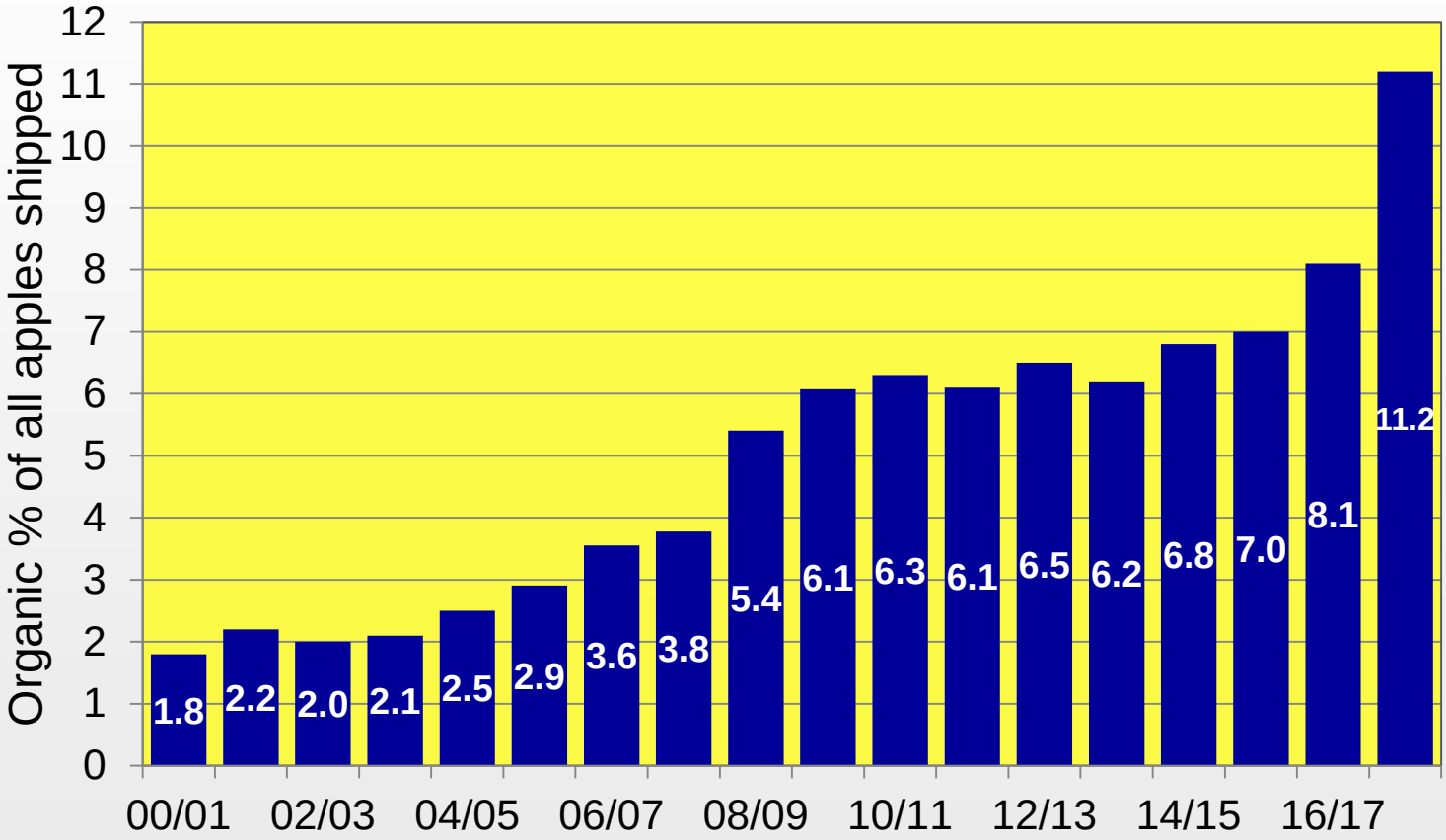
Washington Apple Volume
Conventional and Organic



Center for Sustaining Agriculture & Natural Resources

Data: WSTFA, WVTA, WGCH

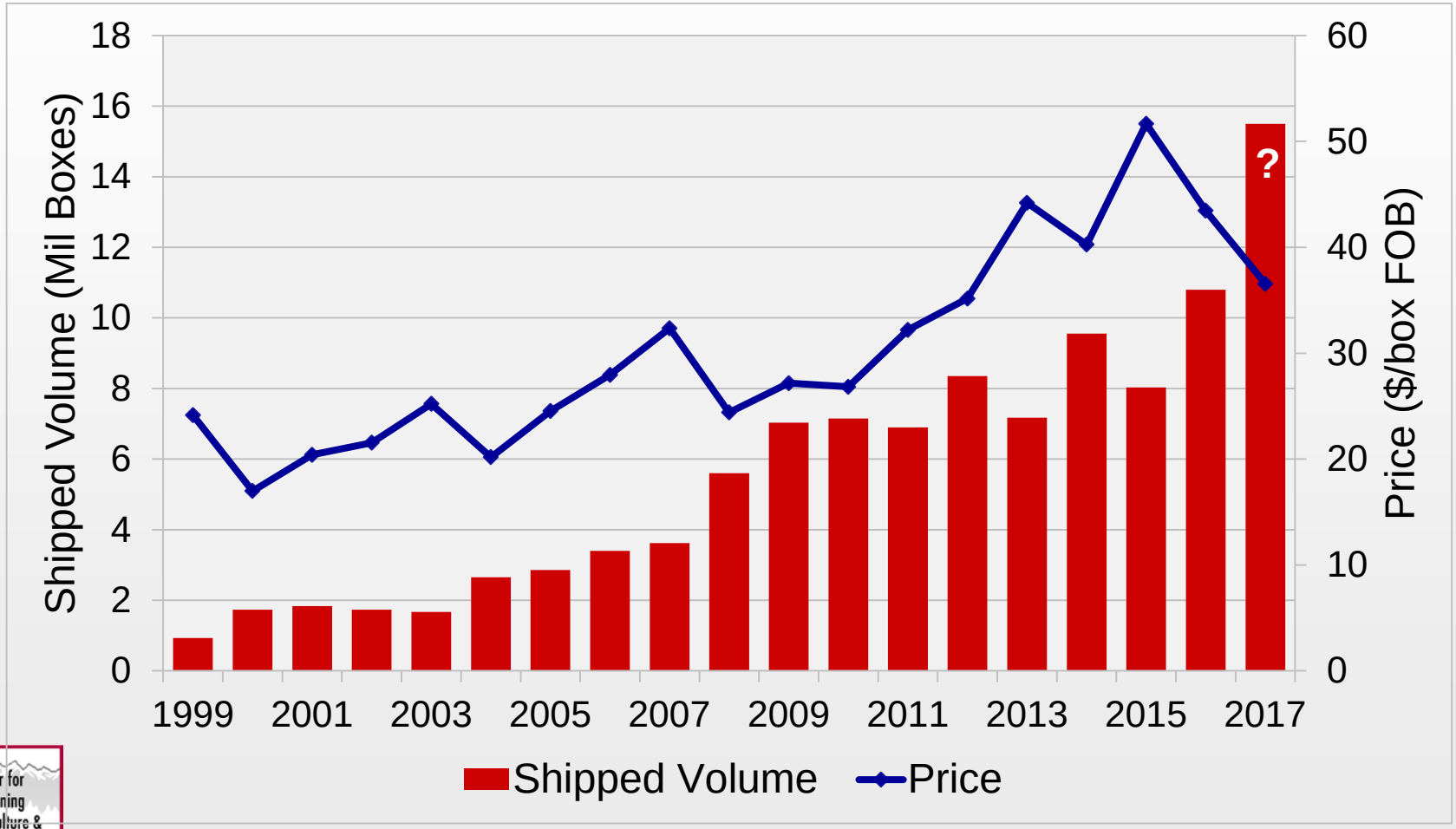
Organic Share of Apple Shipments
Washington State



Data: WSTFA, WVTA, WGCH

Organic Apple Sales

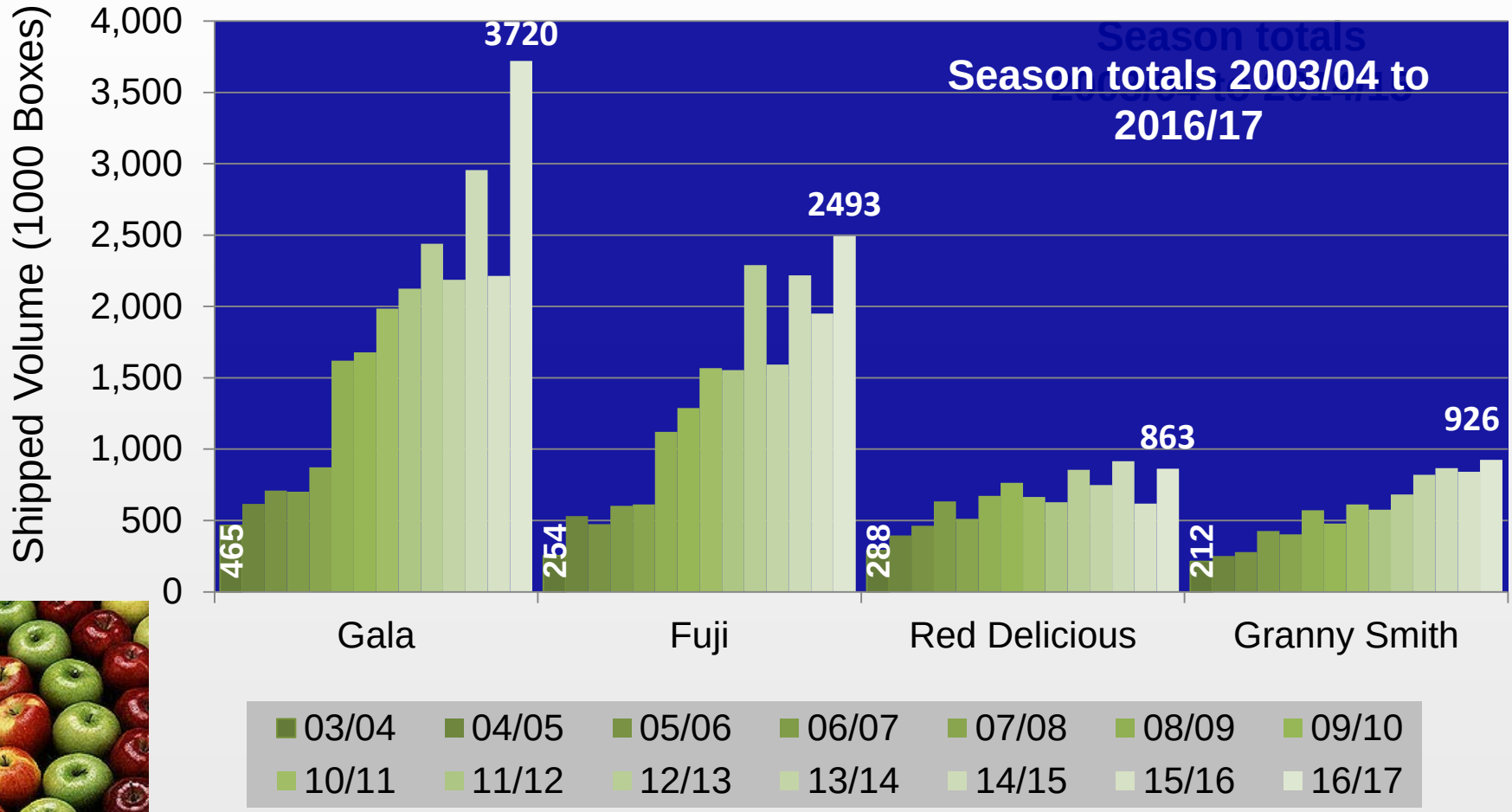
Volume and Price Trends - WA



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

Total Shipped Organic Volume

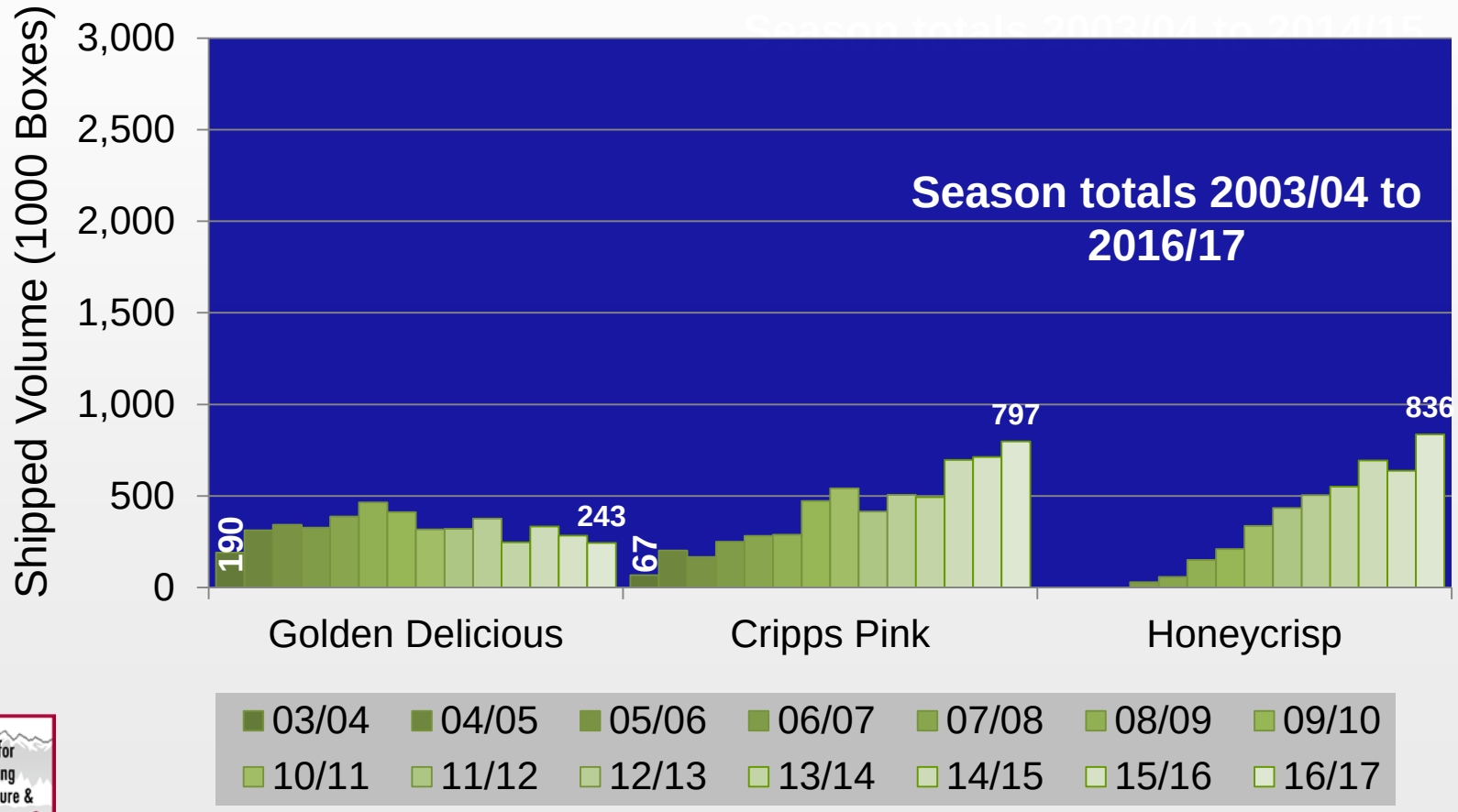
by year and variety, Washington State



ARS Photo

Data: WSTFA, WGCH, WVTA

Total Shipped Organic Volume
by year and variety, Washington State



Center for Sustaining Agriculture & Natural Resources

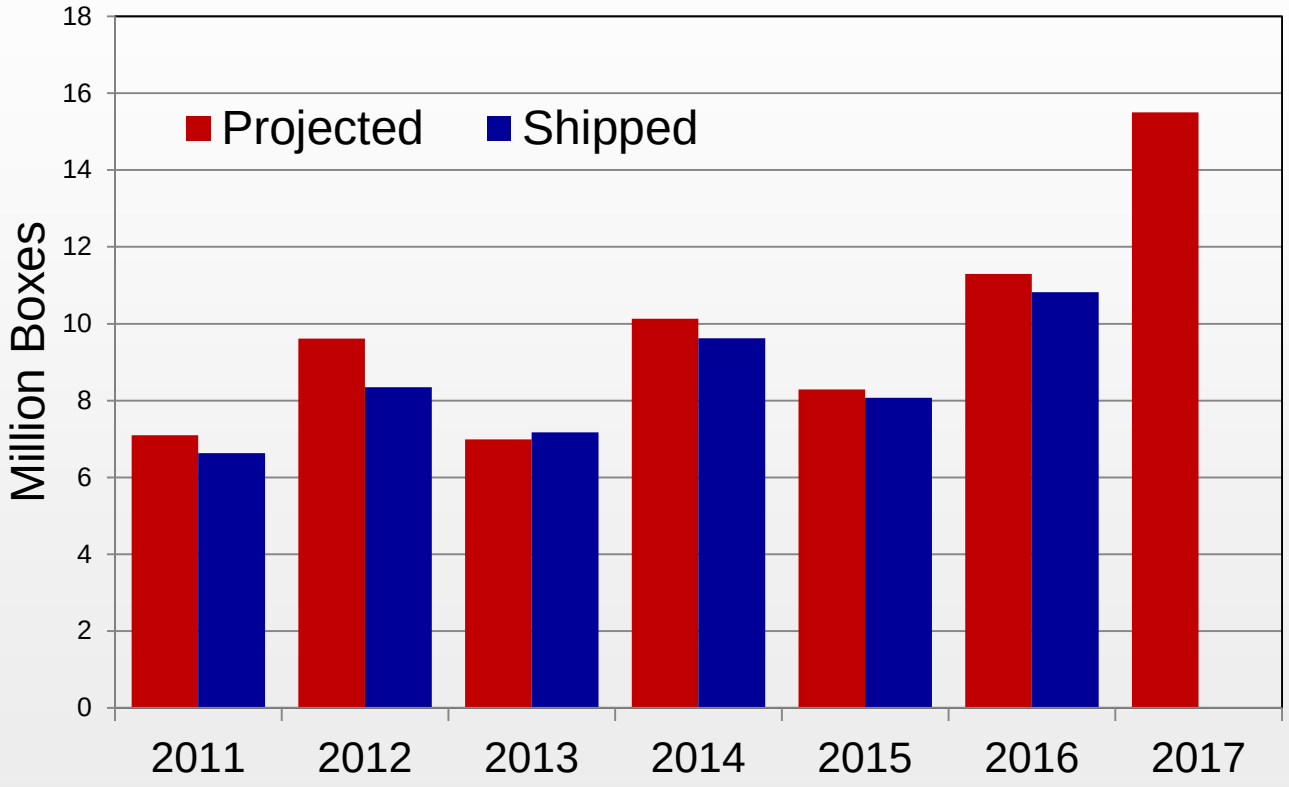
Data: WSTFA, WGCH, WVTA

The 2017 crop set another record after 2016, with an estimated 15.5 million boxes as of Jan. 1, 2018 (slide 44). This is a 43% increase over the 2016 crop. But an estimated 10% of organic apples were diverted from the fresh market during 2016, and a similar situation is expected in 2017. Thus the final shipped volume will be lower. There are particular concerns about the volumes of Gala, Granny Smith, Red Delicious, and Golden Delicious to market (slide 45).

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 46).

Center for Sustaining Agriculture & Natural Resources

Washington Organic Apple Crop Size



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

Data: WSTFA, WVTA, WGCH

WA Organic Apples

Variety	2017 Crop*	% Change 2016	1.1.18 % shipped	1.1.17 % shipped	Est. Out Date
Gala	5.142	39	43	41	Aug
Fuji	3.242	31	37	32	Jul
Granny Smith	2.049	122	27	46	Dec
Honeycrisp	1.700	103	54	78	Apr
Cripps Pink	0.960	20	27	20	Jul
Red Del.	0.957	11	31	22	Oct
Golden Del.	0.415	70	23	26	Nov
Braeburn	0.187	2	31	31	May
Other	0.875	27			
Total	15.527	44	37	38	Aug

Courtesy: M. Miles *million 40-lb boxes

2016: 10% of volume diverted from fresh

Organic Apples in U.S. Market
August 2016

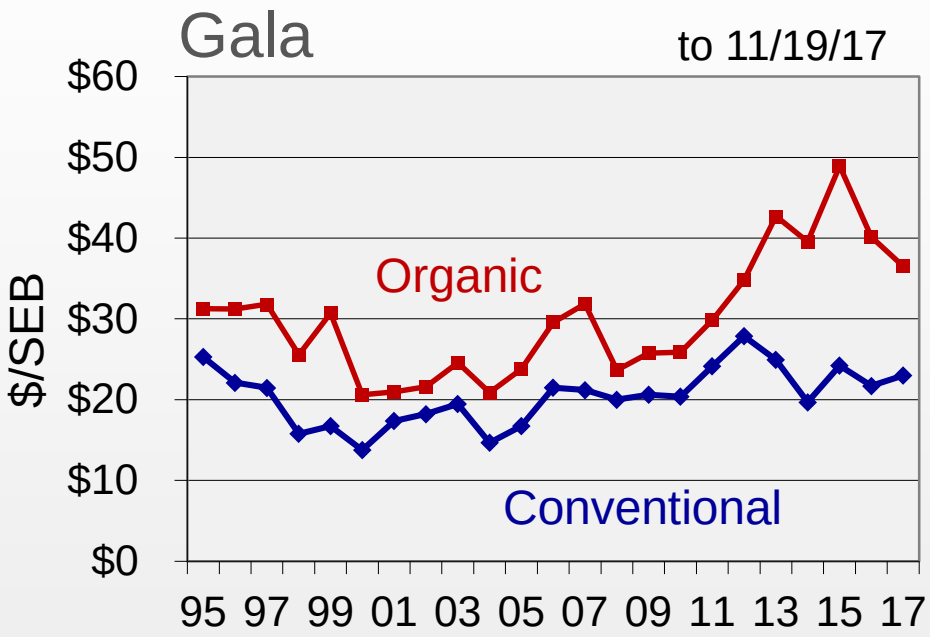
	Red D	Gala	Fuji	Brae	Pink	Zestar!®
Baltimore	WA					
Boston	ARG	WA	ARG	NZ	ARG	
Chicago	ARG	NZ	NZ	ARG	ARG	
San Fran.		CA, WA	CL, NZ		CL	OR

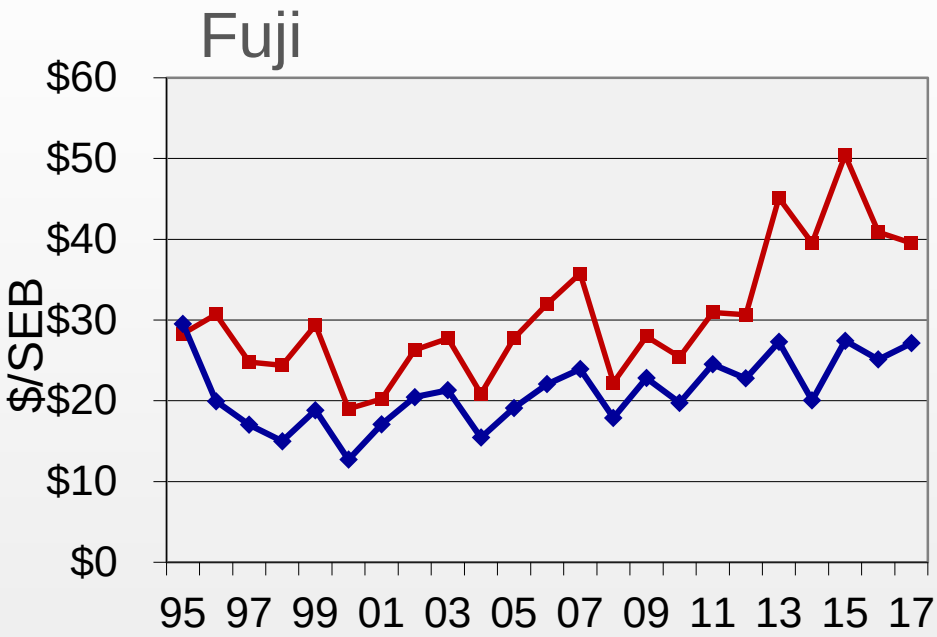
WA=Washington; CA=California; OR=Oregon; ARG=Argentina; CL=Chile; NZ=New Zealand

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 then became less similar. Both organic and conventional experience some alternate bearing which affects supply and price. The prices on the following slides (48 to 51) are for fresh packed apples (40 lb box) for all sizes and grades, domestic and export. The trends for the past few years are shown in slide 52. Organic price premiums are plotted in slide 53 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, but is now declining with the substantially larger harvests.

Price Trends
Washington Apples



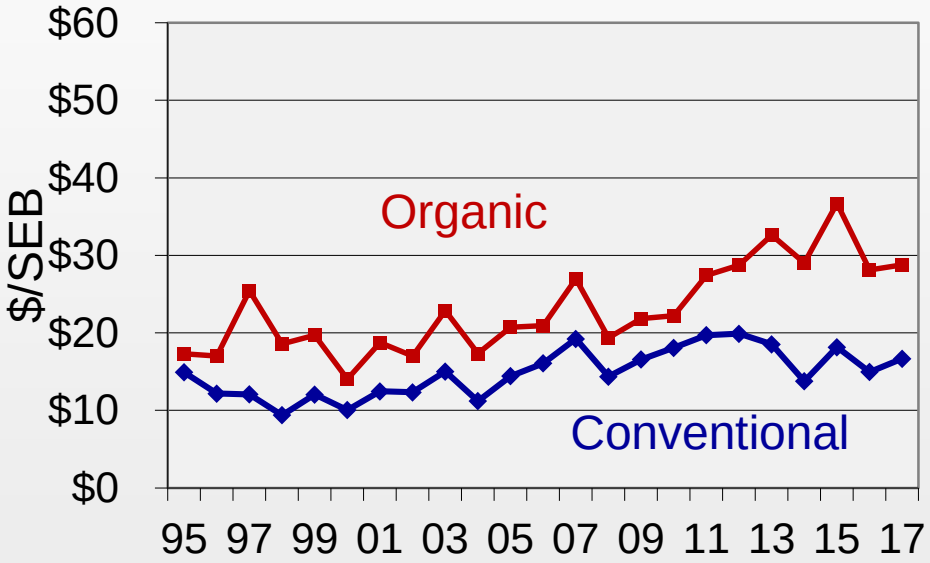


SEB=standard equivalent box of 40 lb. *Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season approx. Sept 1 to end of Aug.*

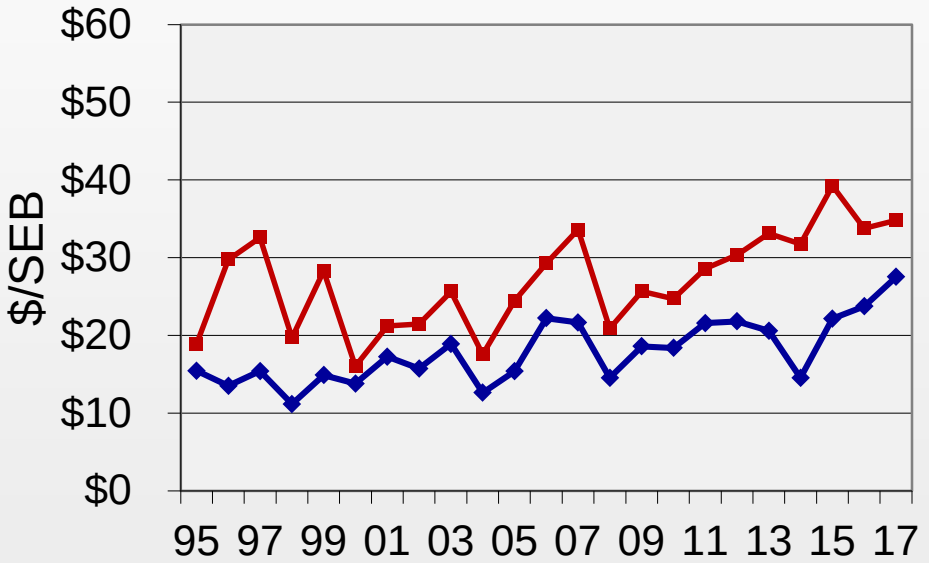

Photo: B. Barritt

Price Trends
Washington Apples

Red Delicious



Golden Delicious



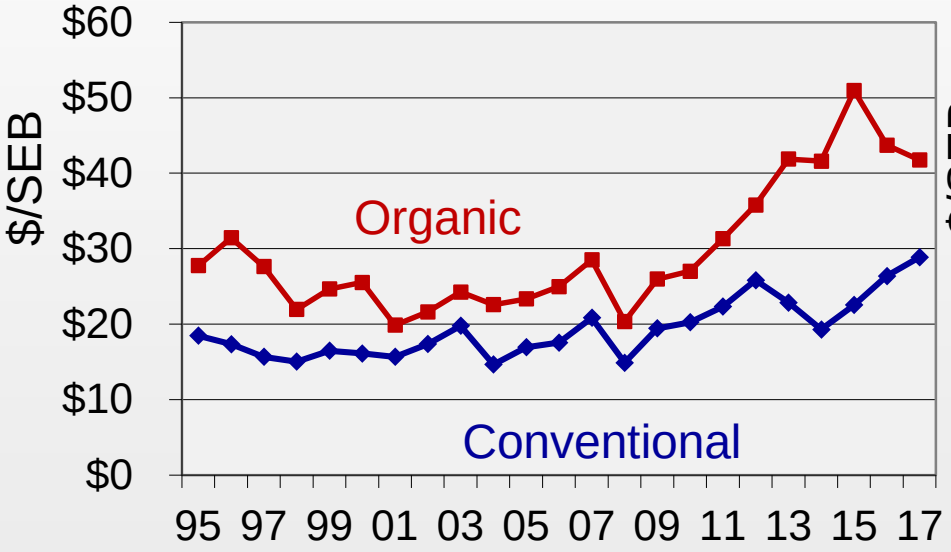

NY Apple Assoc.

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

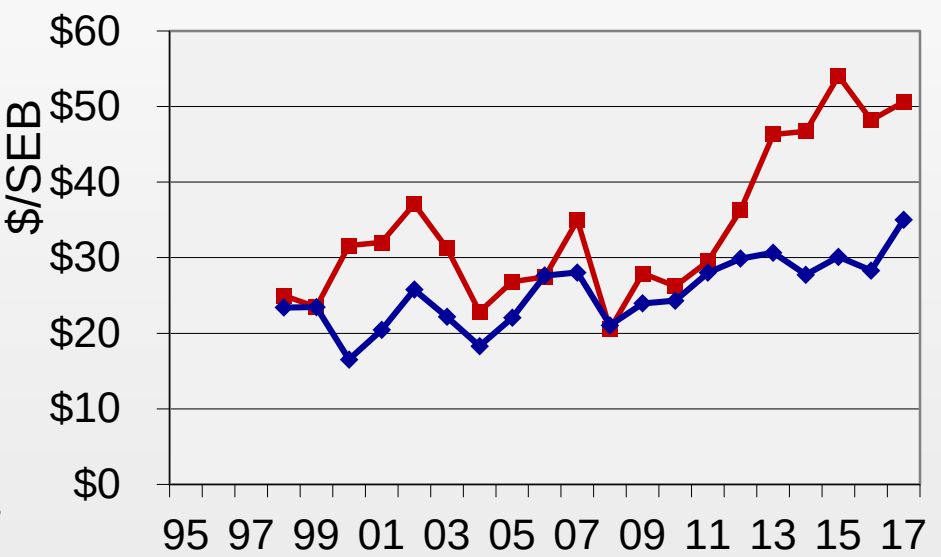
Price Trends Washington Apples

Granny Smith

to 11/19/17



Cripps Pink

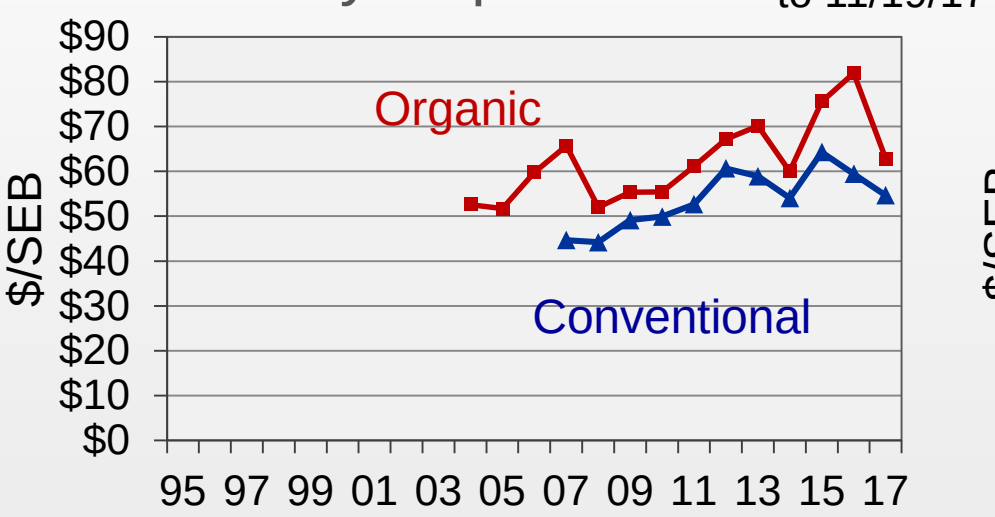


Center for Sustaining Agriculture & Natural Resources

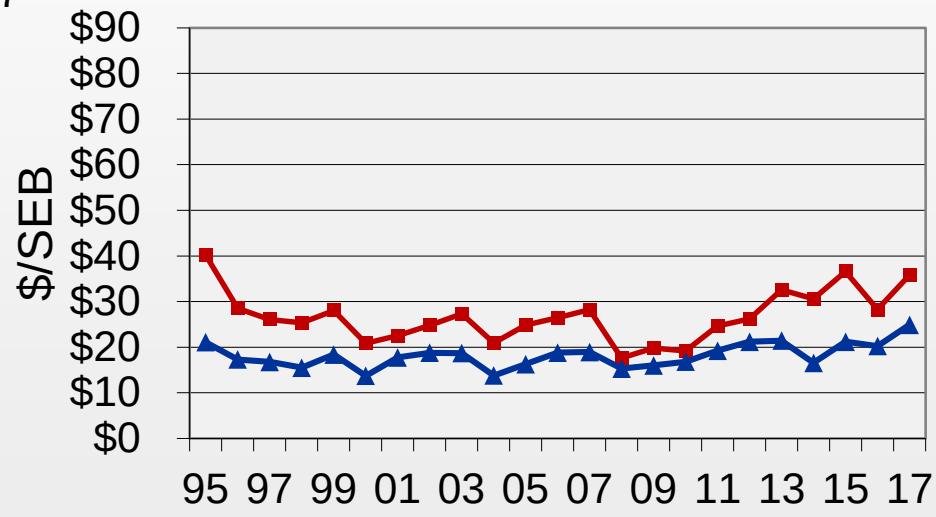
Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season runs approx. Sept 1 to end of Aug.

Price Trends
Washington Apples

Honeycrisp



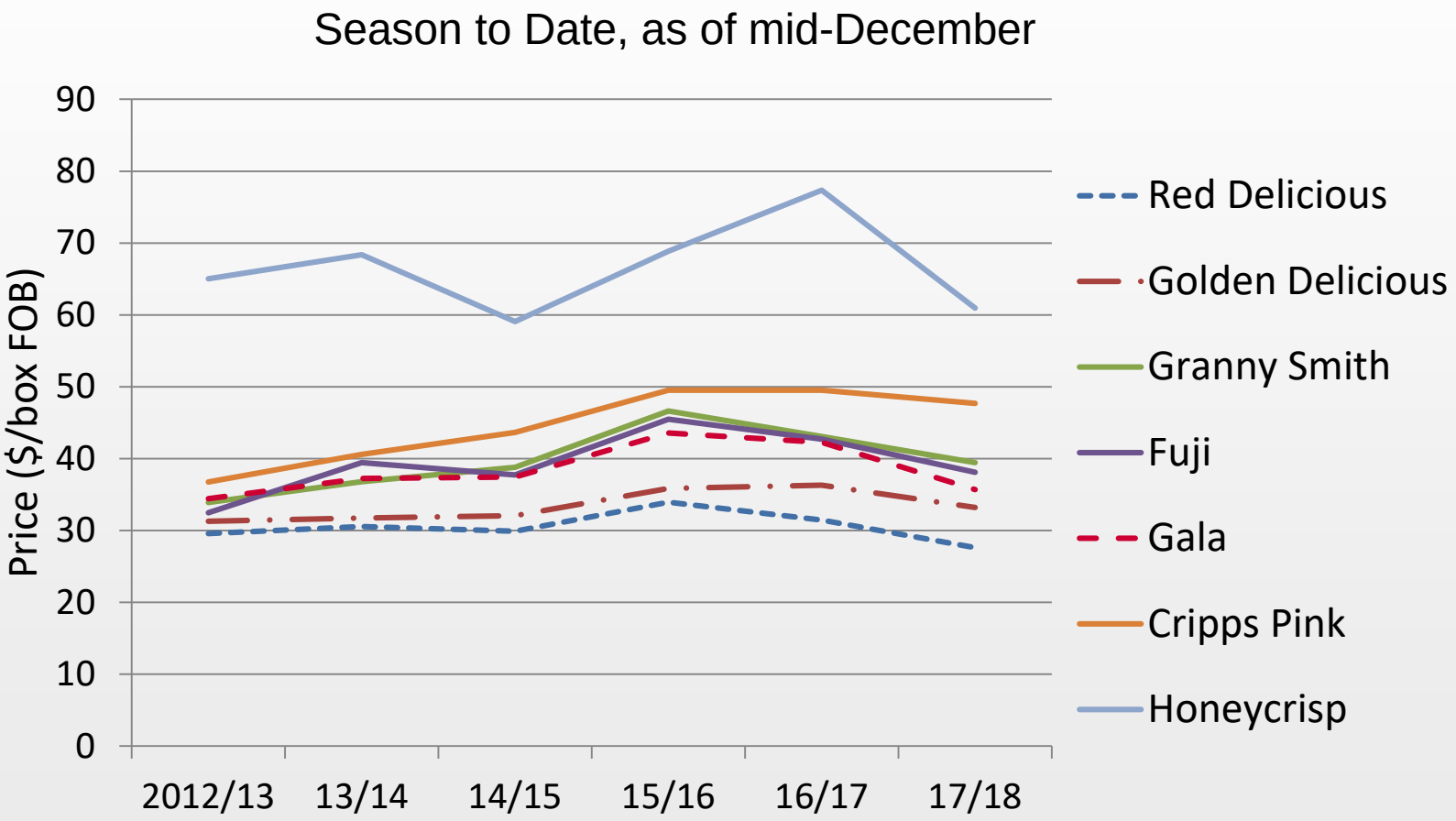
Braeburn



Center for Sustaining Agriculture & Natural Resources

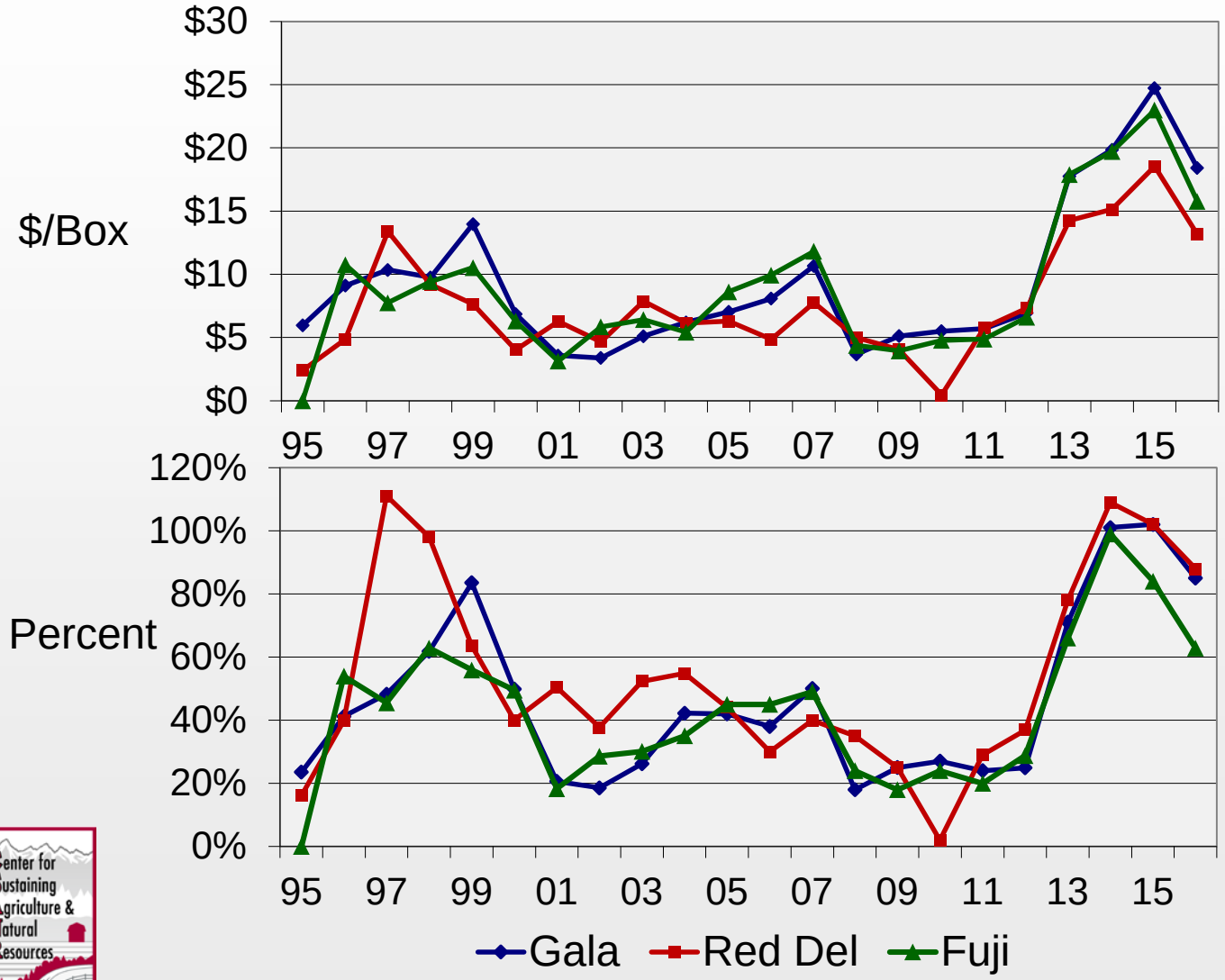
Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes. Annual data points represent season averages: season runs approx. Sept 1 to end of Aug.

Price Trends
Washington Organic Apples



Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes.

Organic WA Apple Premiums

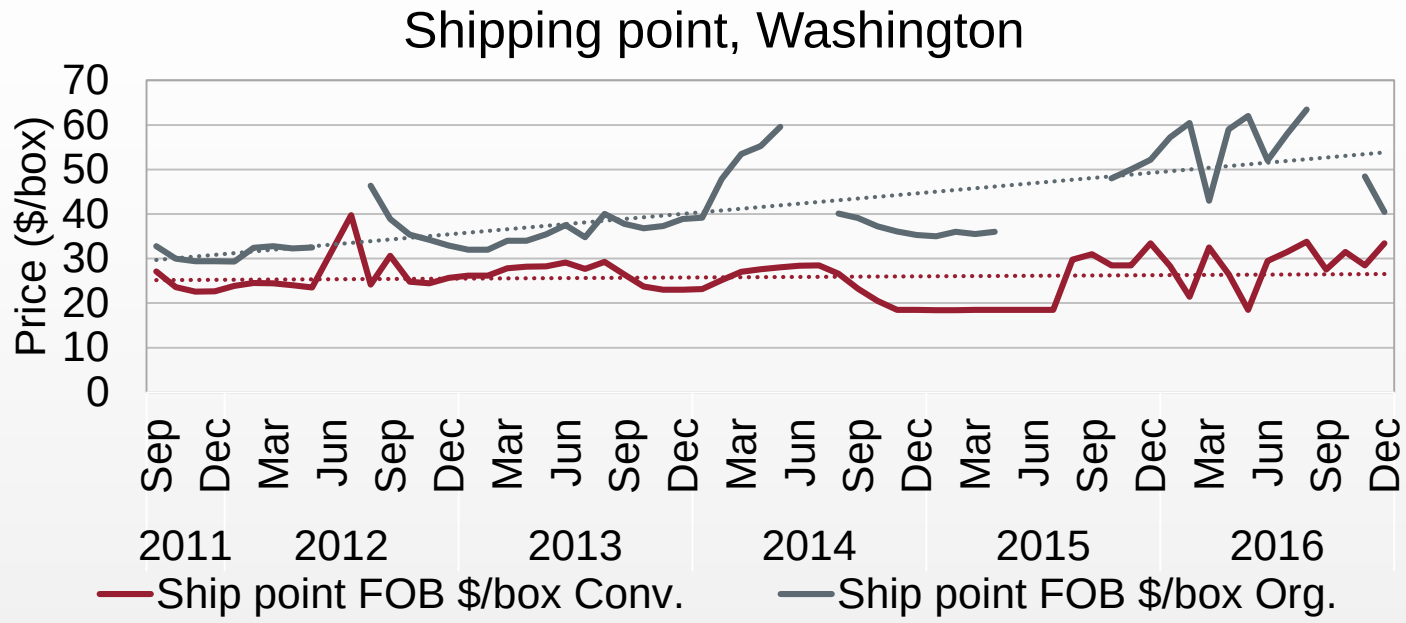


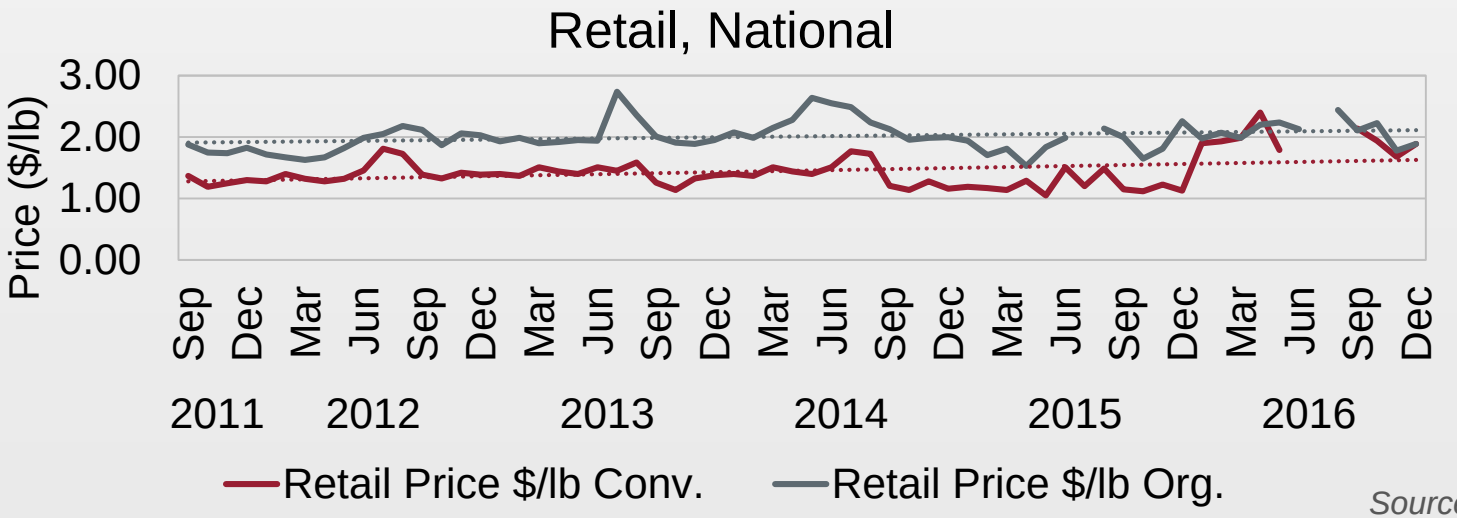
Premiums are expressed as the price difference between organic and conventional, as $ per box, or as a percent.

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 55 and 56, 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 trended up, while conventional prices were flat. In contrast, retails prices trended up for both types. For ‘Fuji’, organic shipping point prices trended up considerably more than conventional, while organic retail prices trended up and conventional prices trended 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.

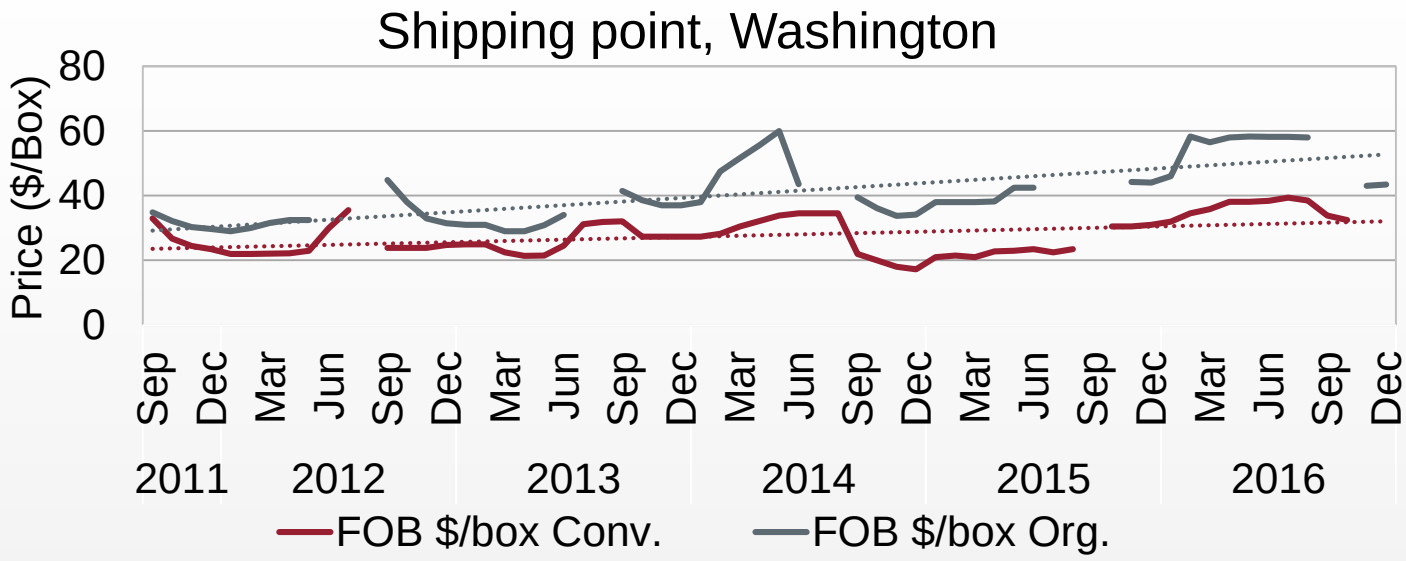
Organic Gala Apples

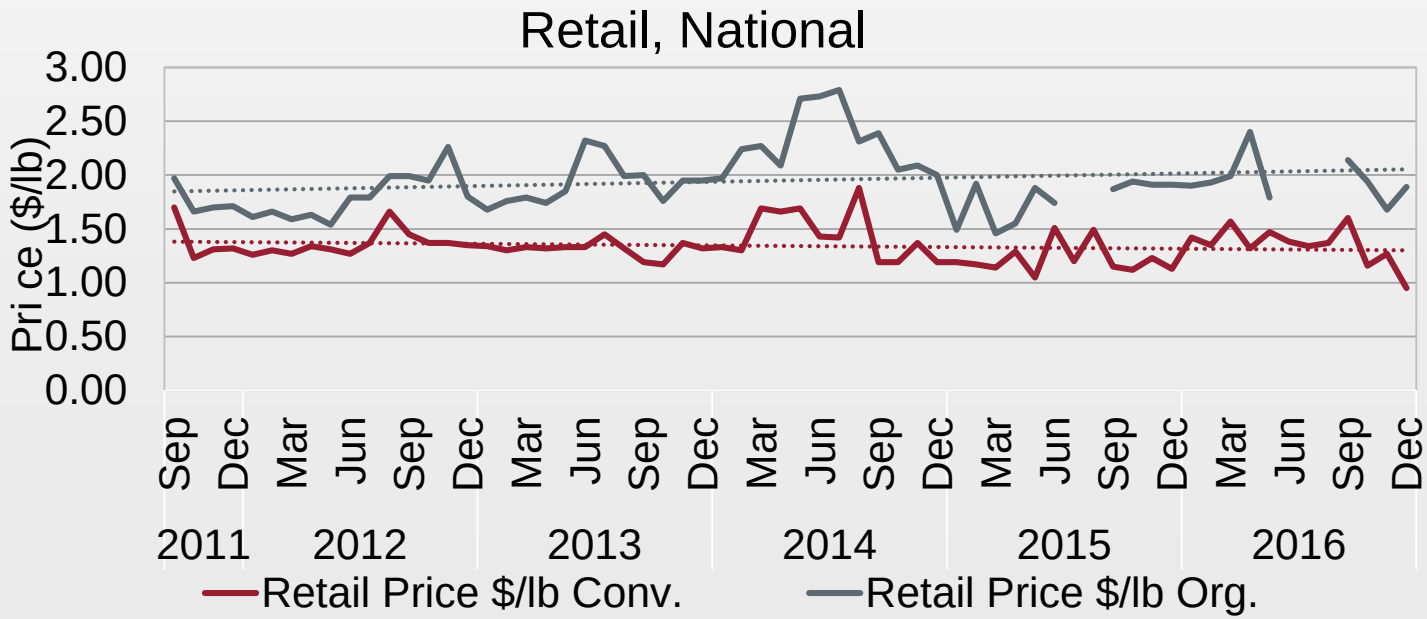




Source: USDA-AMS

Organic Fuji Apples

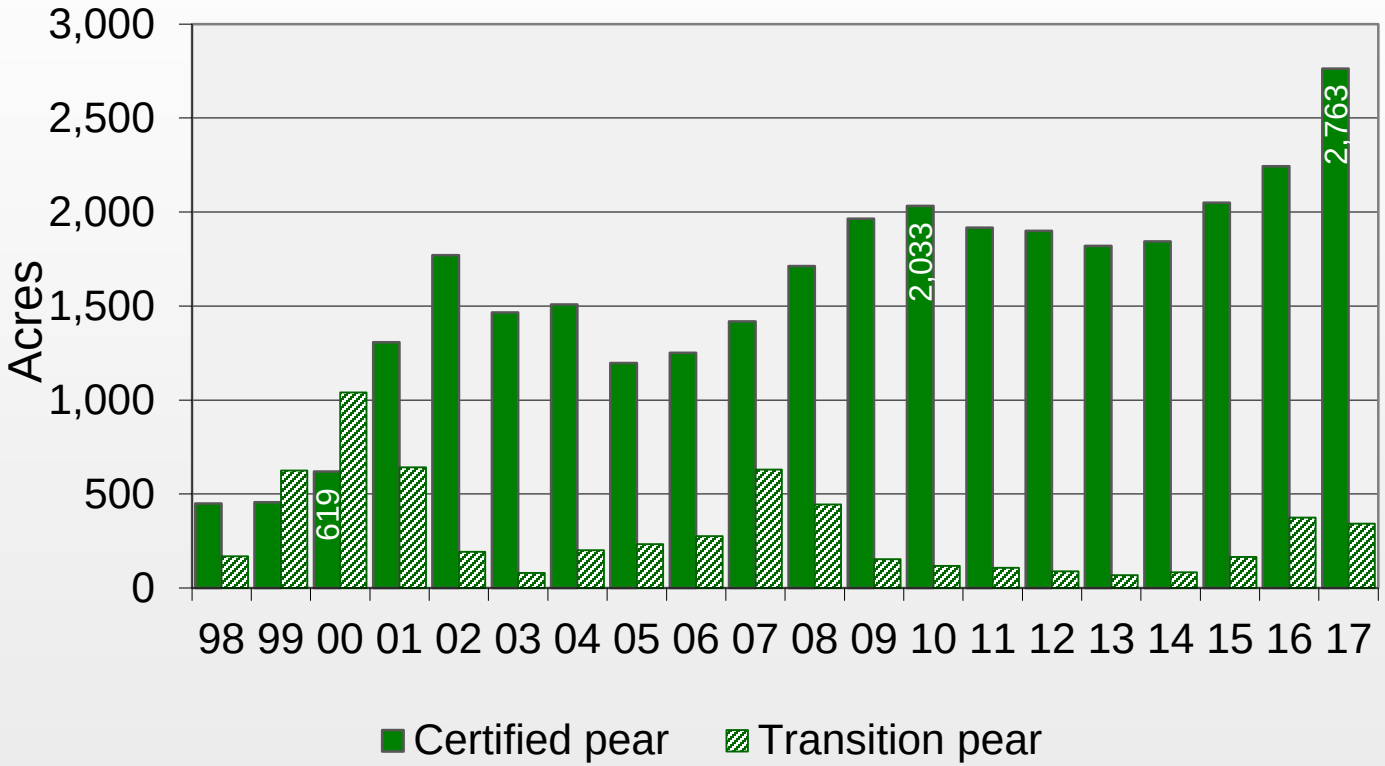




Source: USDA-AMS

Similar data as for apple are presented for organic pear in Washington in the next slides (58 to 67). 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 (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.

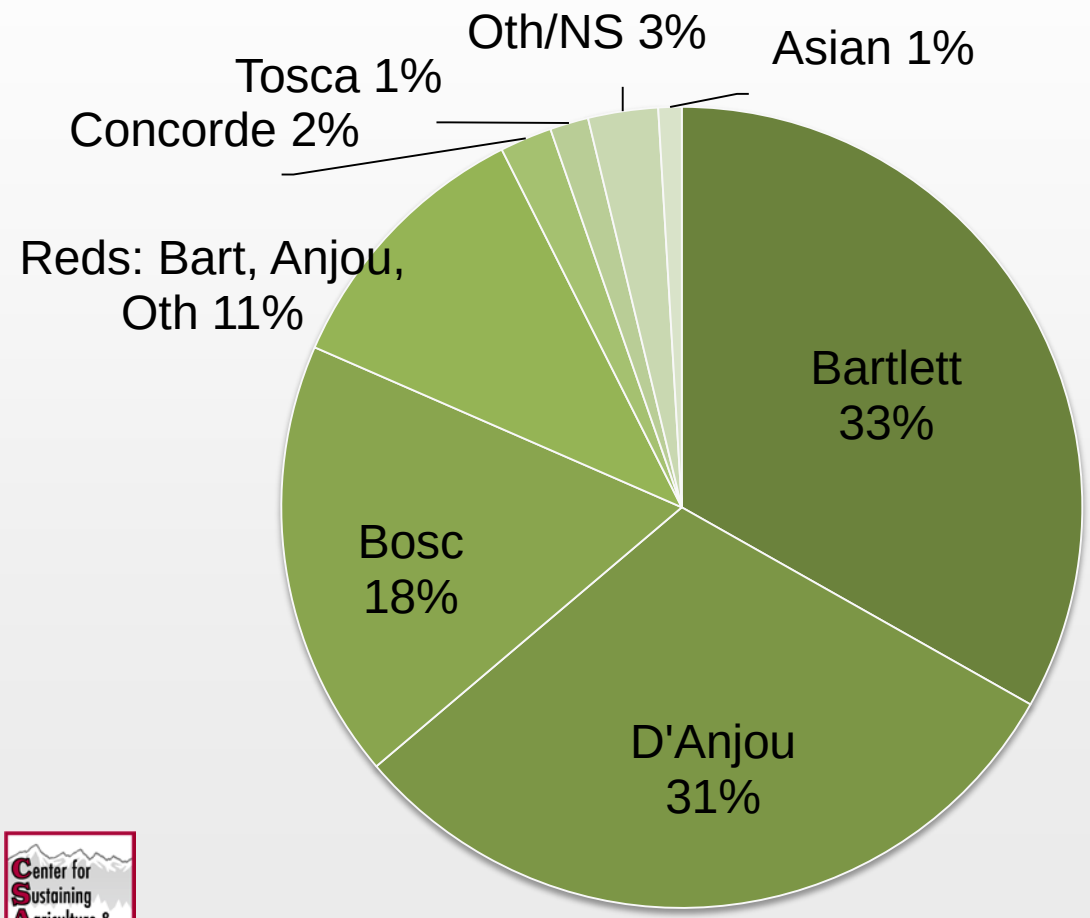
Organic Pear Acreage
Washington State



2017 organic = 13% of total WA pear acreage
(based on WA-NASS 2017 value of 20,965 pear acres)

Combined certifier data

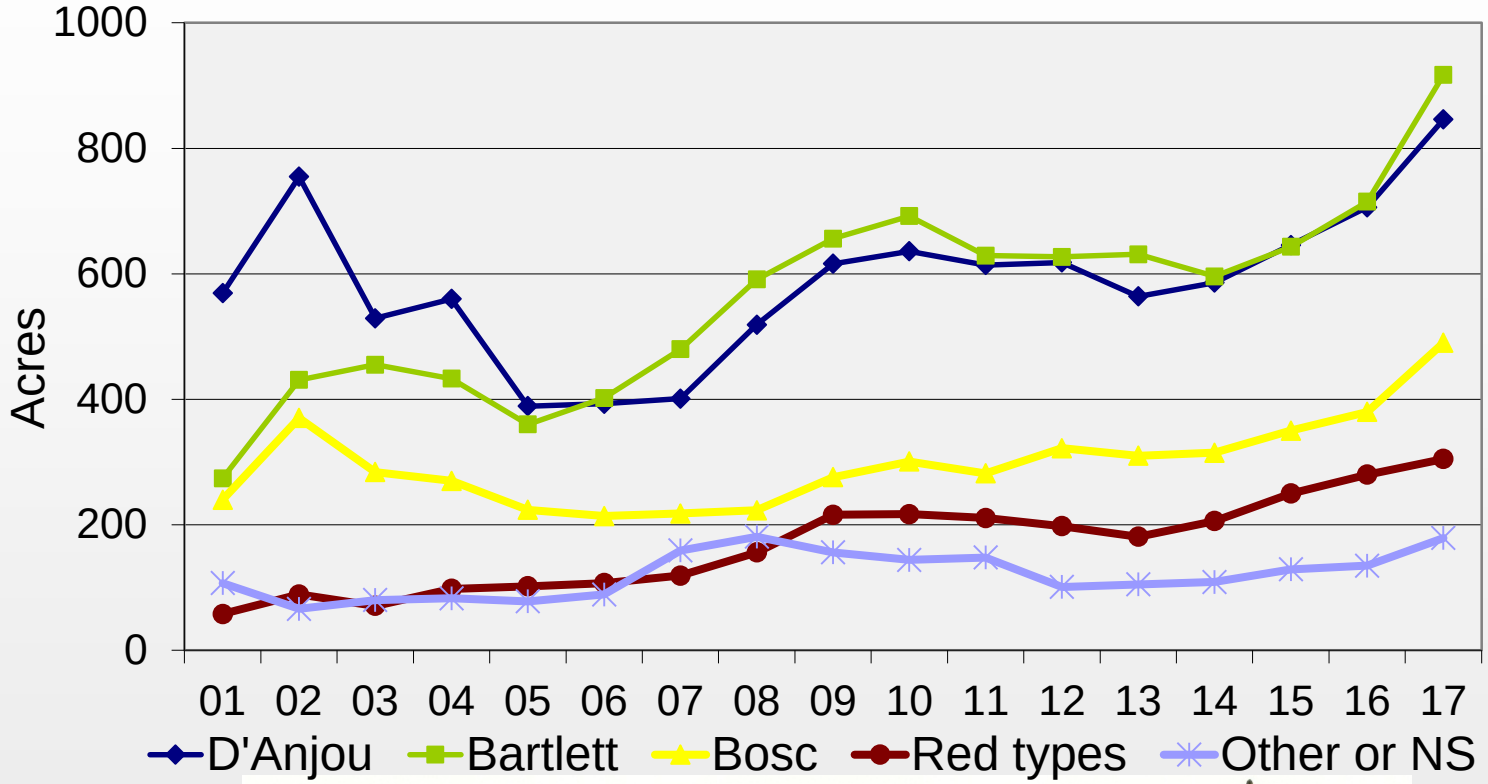
Organic Pear Acres by Variety
Washington



Combined certifier data; NS = not specified

Organic Pear Variety Trend

Washington State



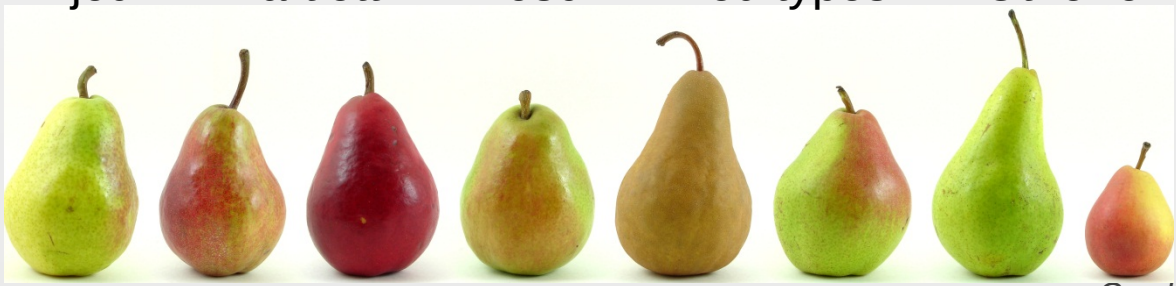


Photo: Agyle

Combined certifier data

Organic Specialty Pears
Washington State 2017

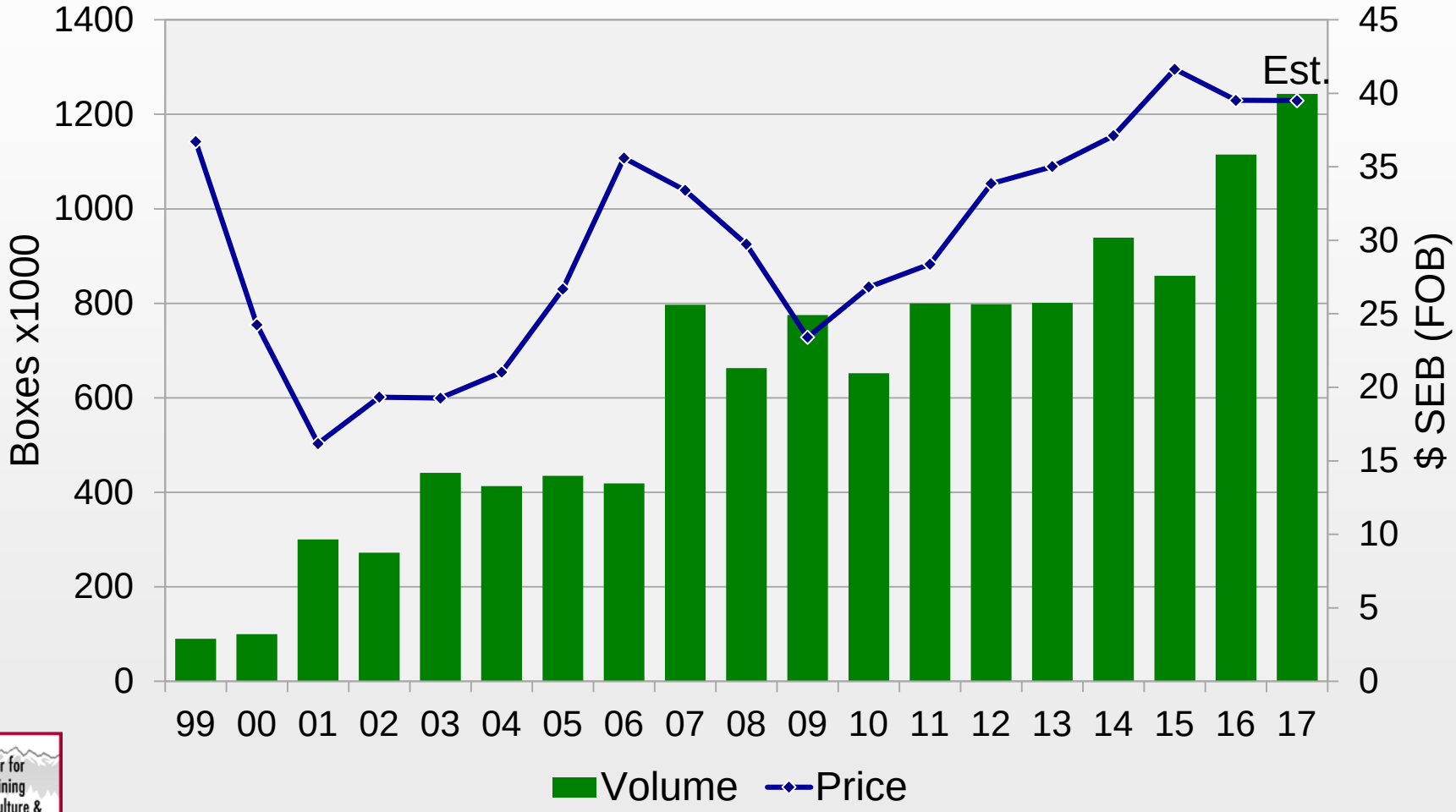
- Over 25 varieties of organic pears and Asian pears grown in WA, from small to larger quantities.
- >25 ac: Concorde, Starkrimson, Tosca, Asian
- Small areas: Comice, Forelle, Red Clapp, Seckel, Conference, Perry varieties, others
- **Varieties are listed on the WSDA producer list:**

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

WSDA data

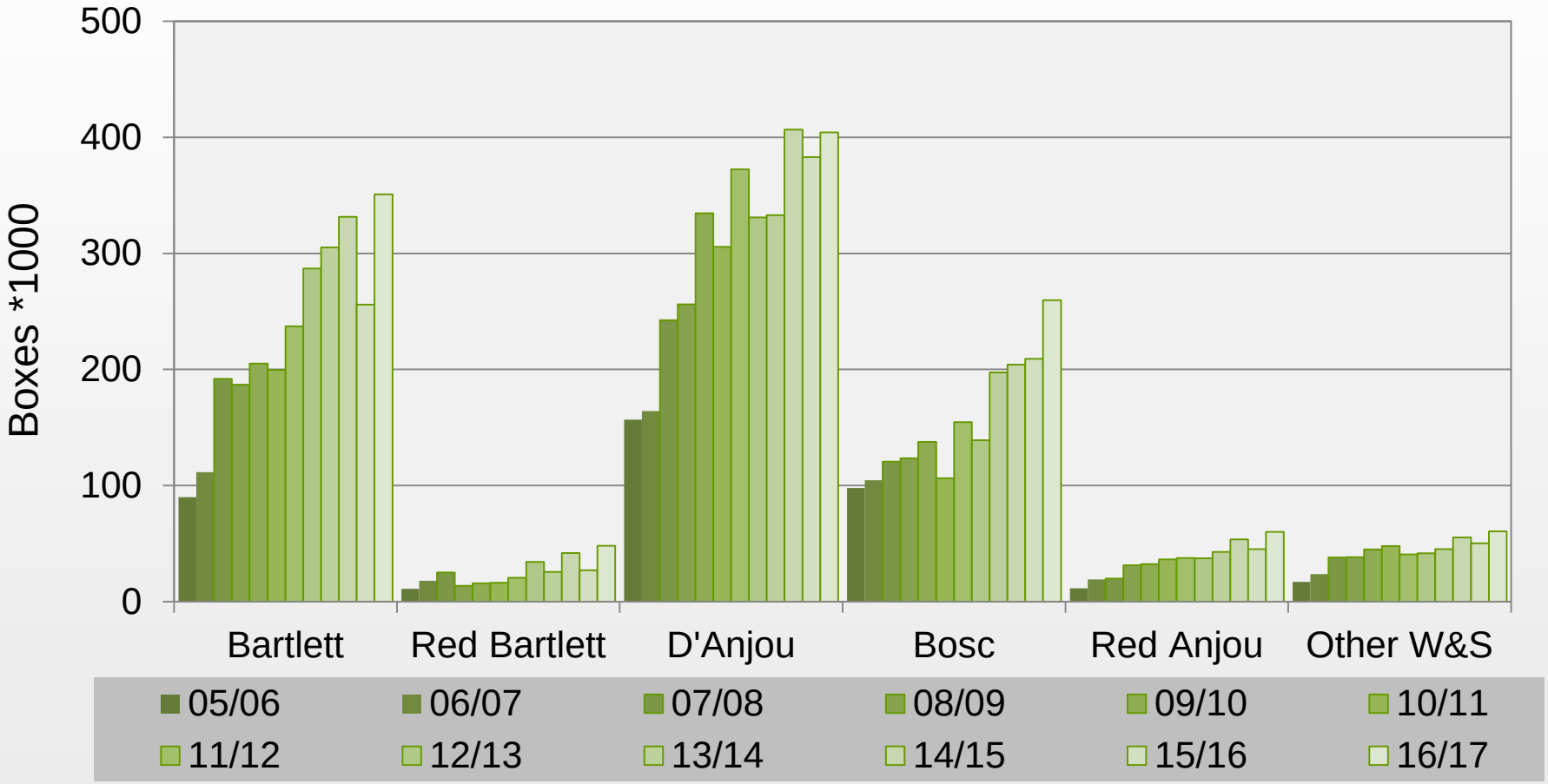
Organic Pear Sales

Volume and Price Trends



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

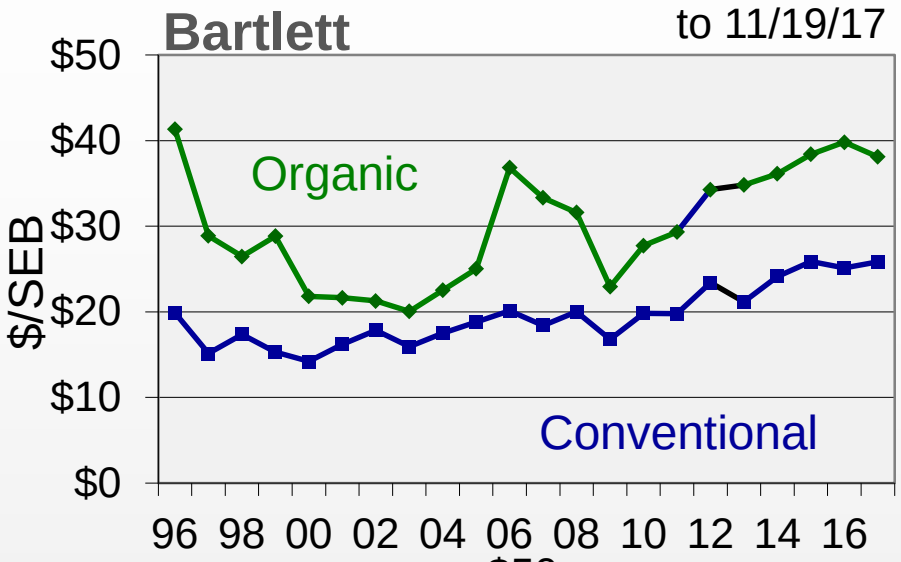
Shipped Organic Pear Volume
by year and variety, WA and OR

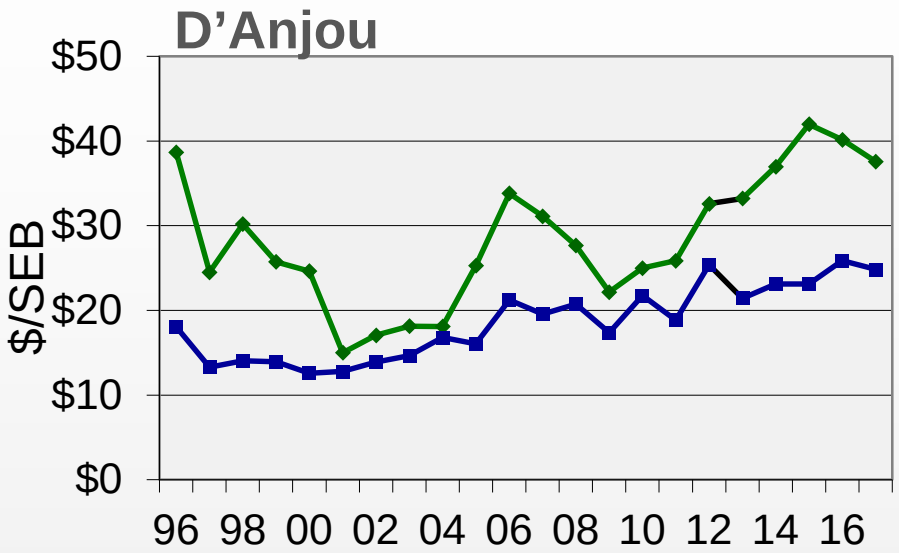


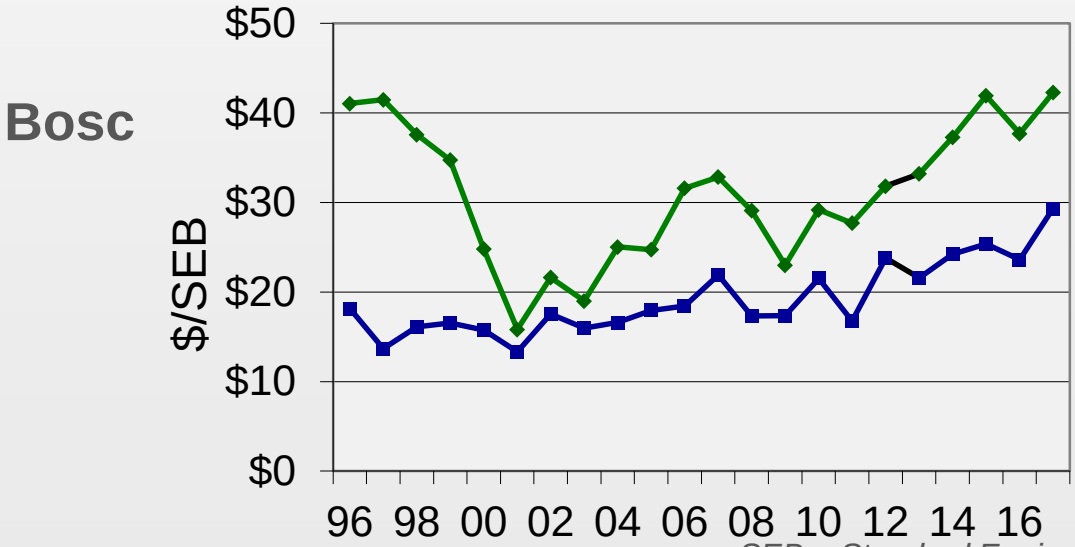
Oregon volume ~2% of total NW organic pear volume
2016 PBNW volume

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

Price Trends Washington Pears



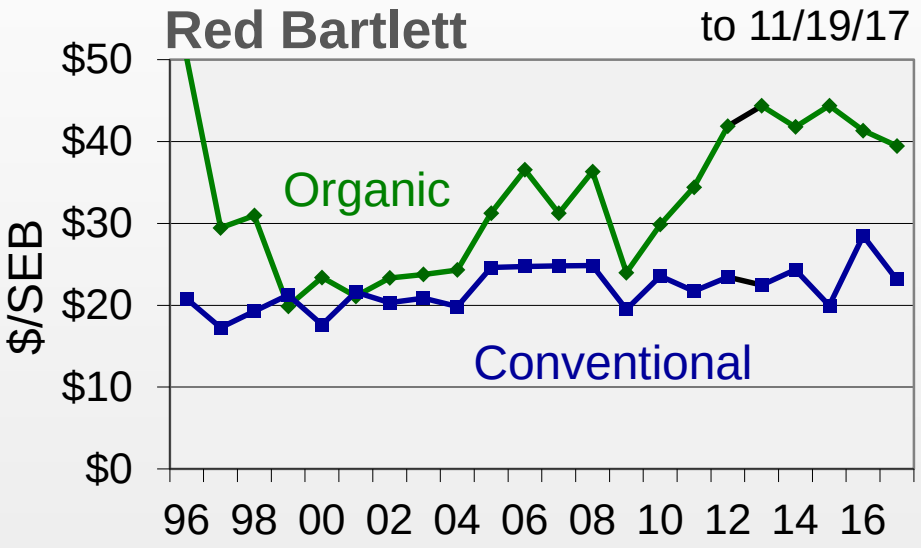


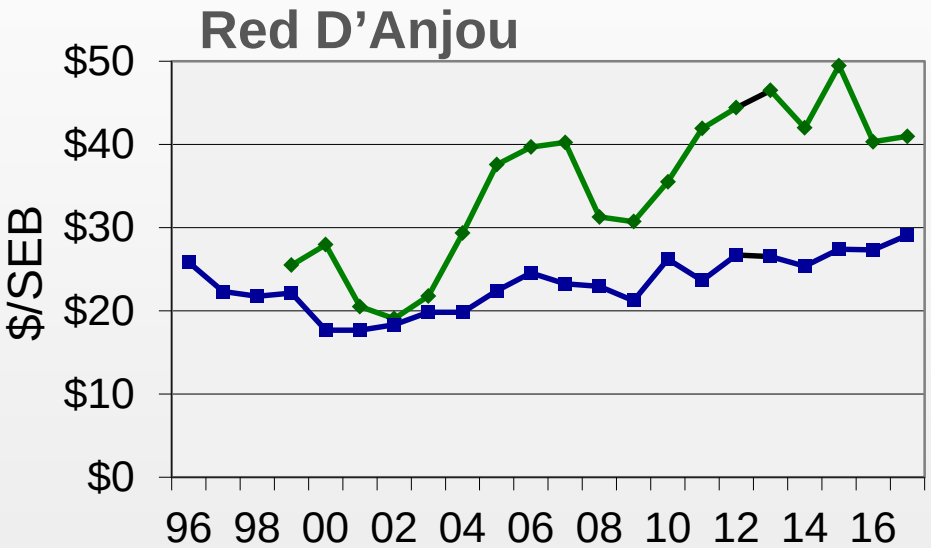


Bosc photo: US Pear

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

Price Trends
Washington Pears

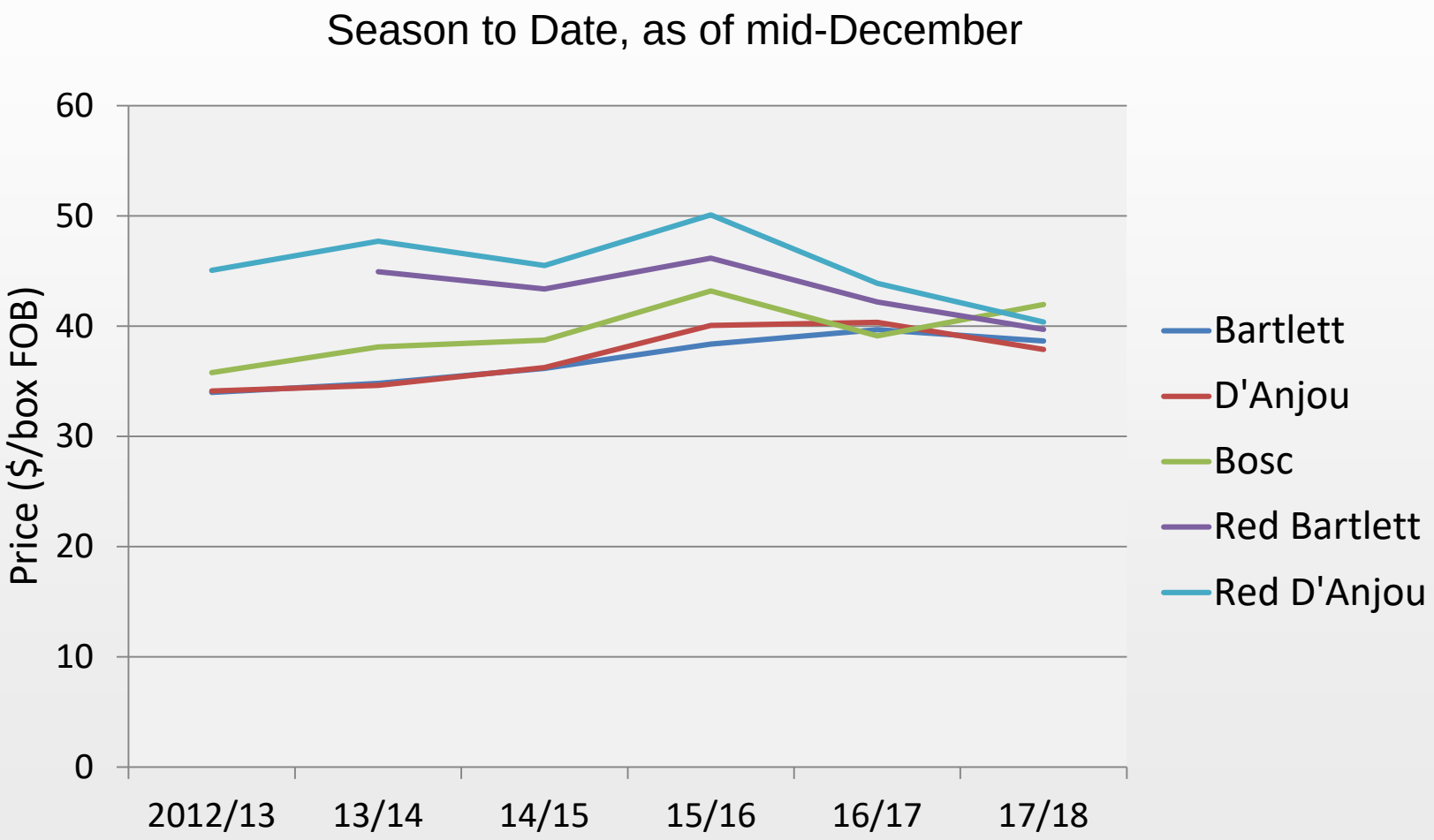




Center for Sustaining Agriculture & Natural Resources

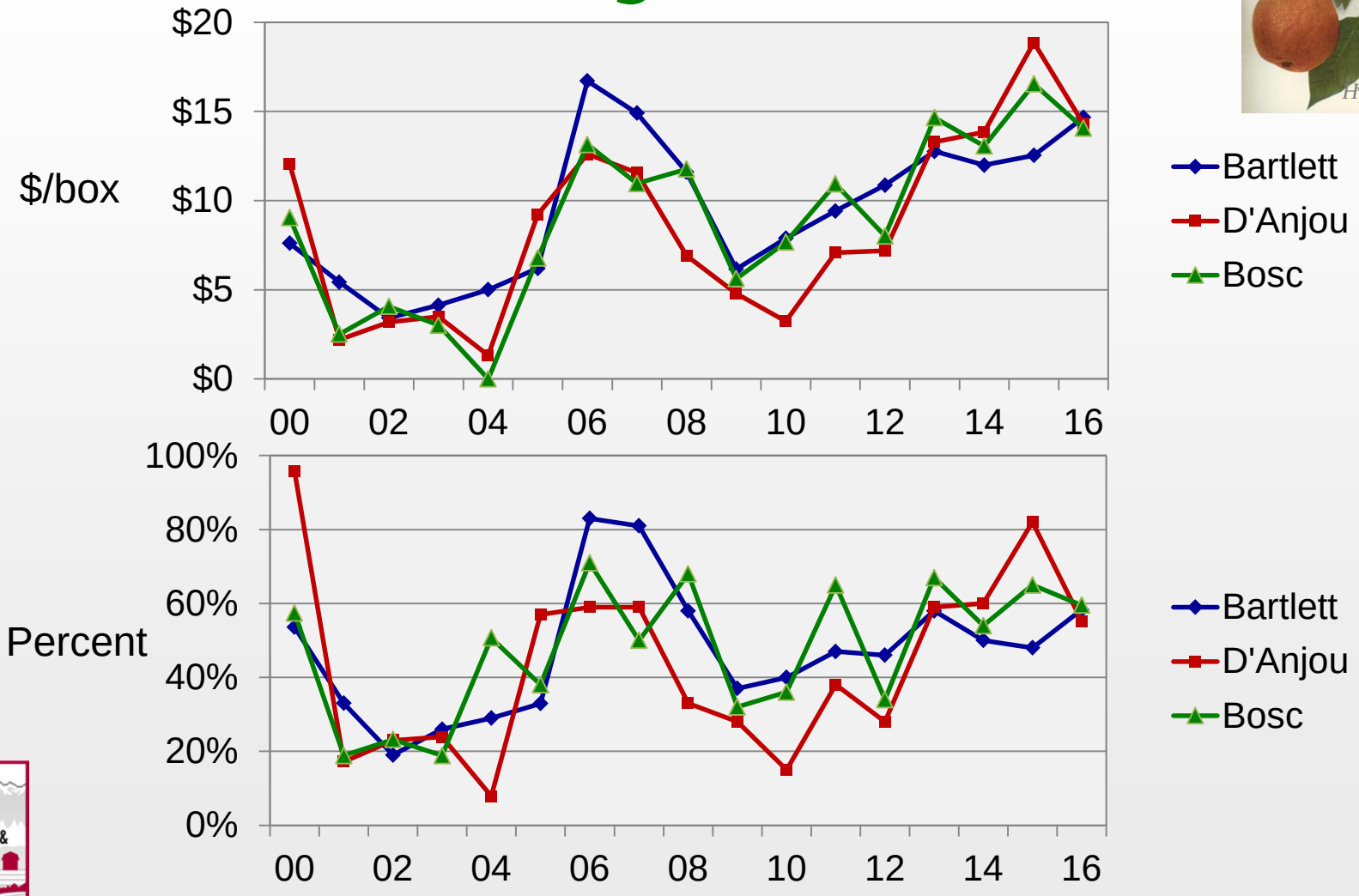
SEB = Standard Equivalent Box; Data: WSTFA, WGCH.
Annual data points represent FOB season price averages.

Price Trends
Washington Organic Pears



Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes.

Organic Premiums
Washington Pears

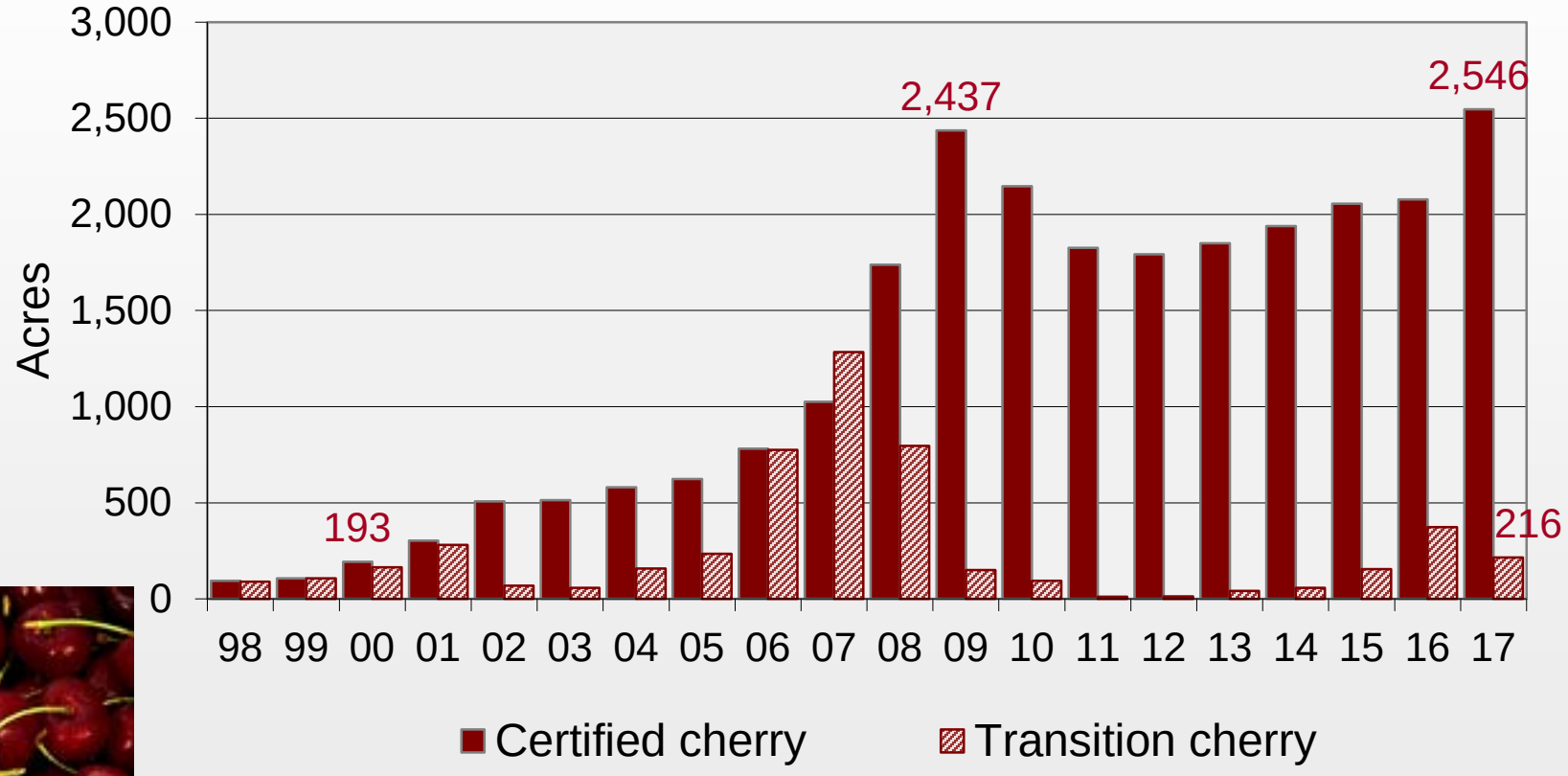


SEB = Standard Equivalent Box; Data: WSTFA, WGCH.
Annual data points represent FOB season price averages.

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 slides (69 to 73). Washington has several hundred acres of organic tart cherries as well. Globally, organic cherry volume is rising faster than area, with the U.S., Turkey, and Italy the leading producers (slide 74). Slide 75 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.

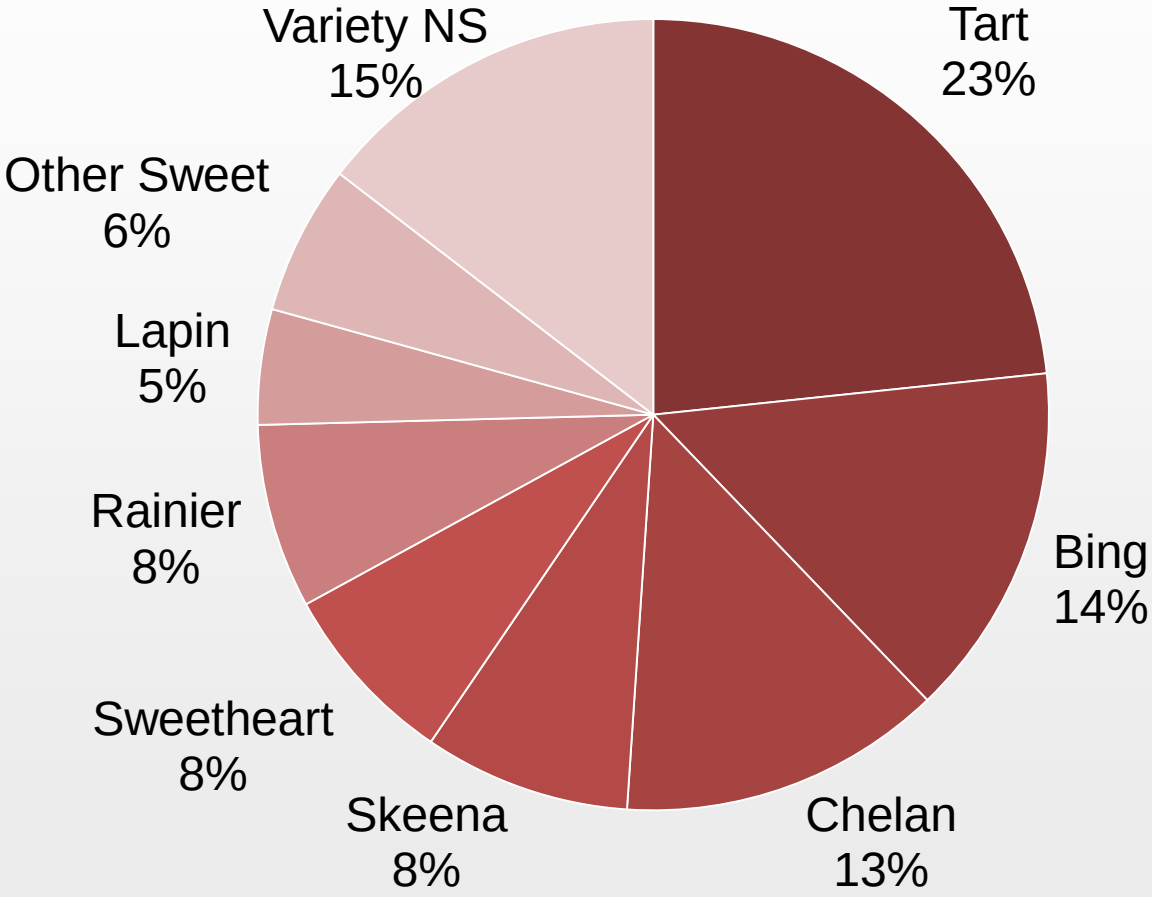
Organic Cherry Acreage
Washington State (sweet + tart)



2017 organic = **5.8%** of total WA cherry area
(based on 2017 WA-NASS estimate of 44,707 acres)

Combined certifier data

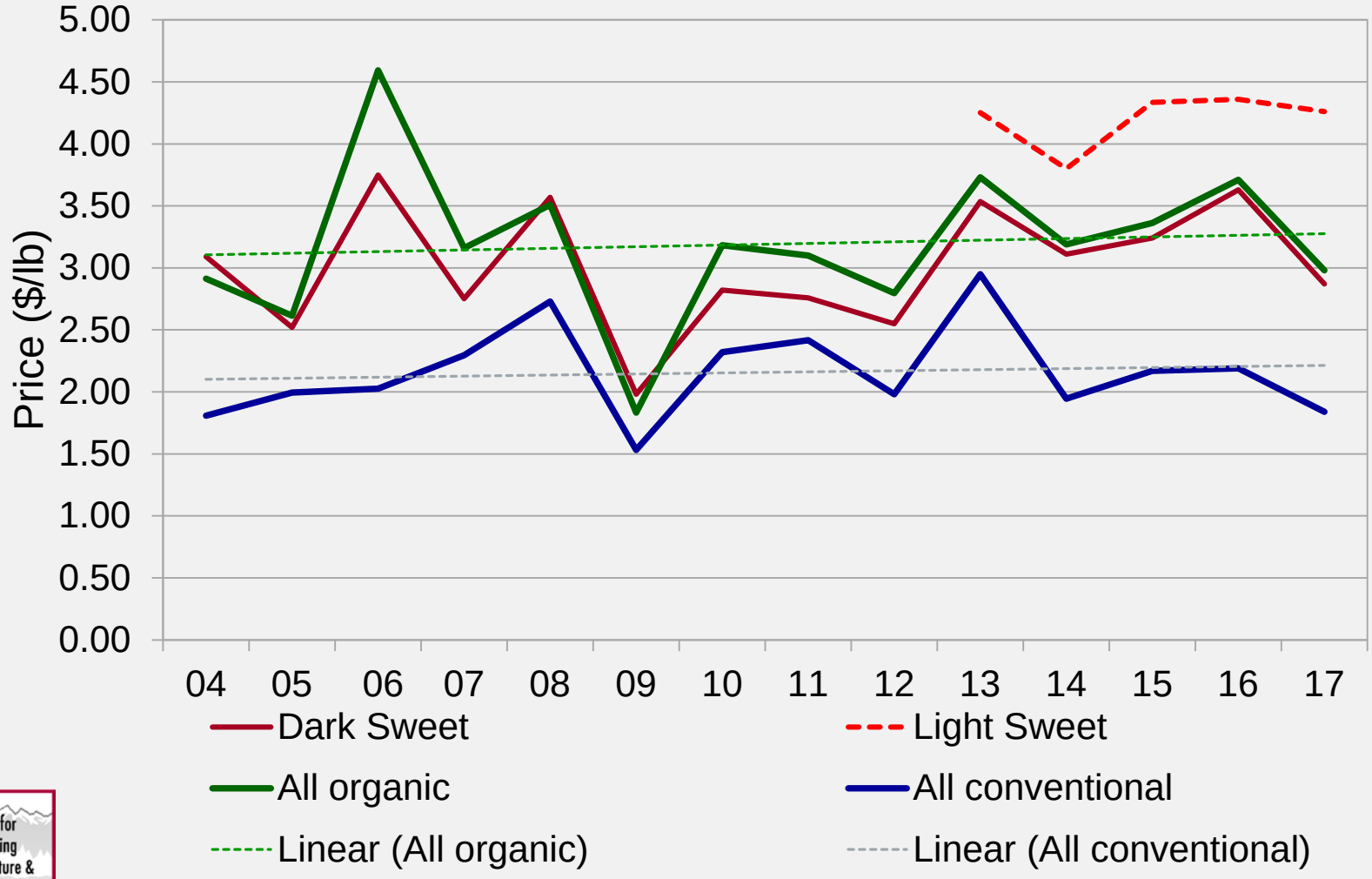
Organic Cherry Variety Acres
Washington State



15% of cherries not reported by variety in 2017 compared to 57% in 2008

Combined certifier data; NS = not specified

WA Organic Sweet Cherry Prices



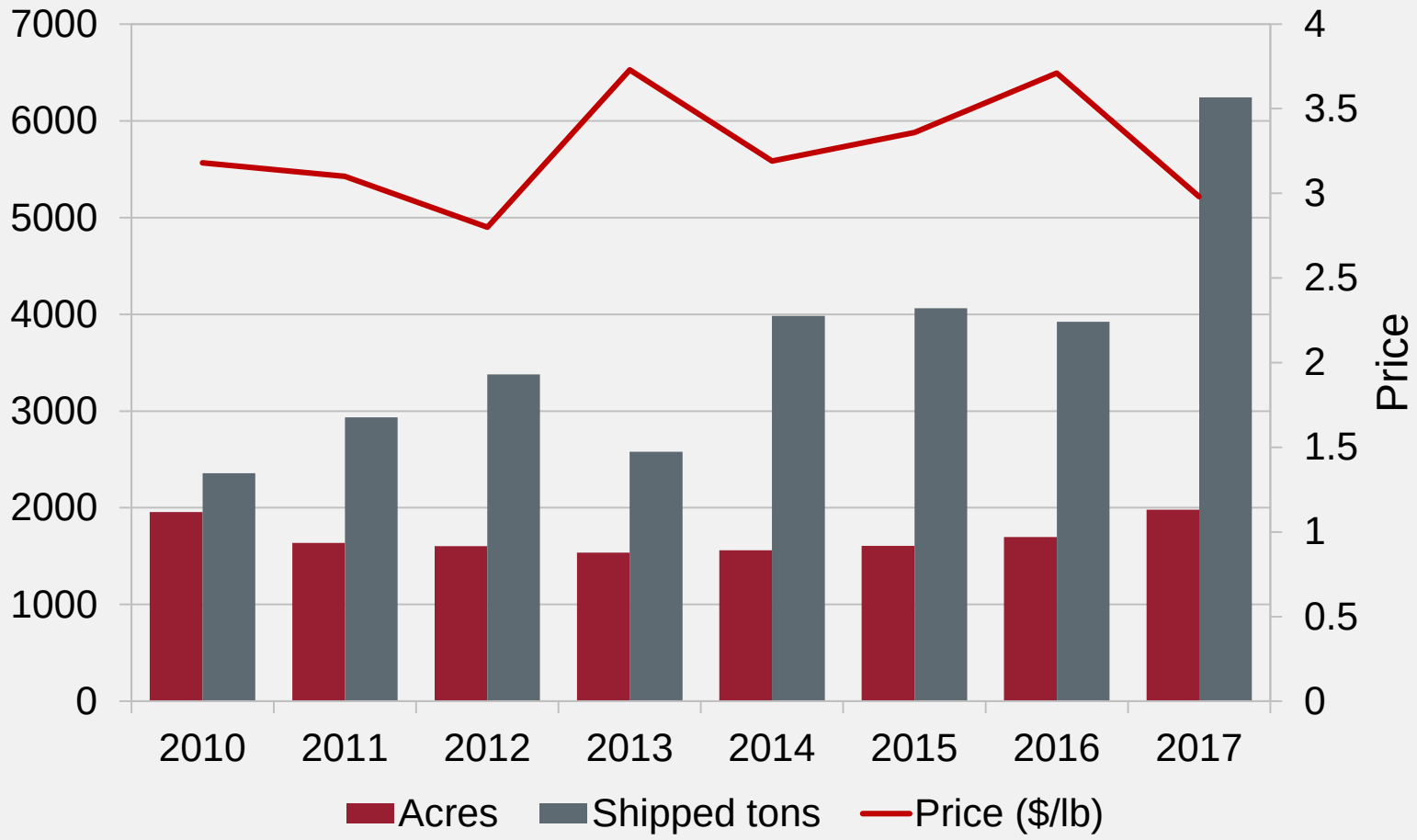
13 year

+14%

+11%

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

WA Organic Sweet Cherries



Data: WSTFA

WA Organic Cherries

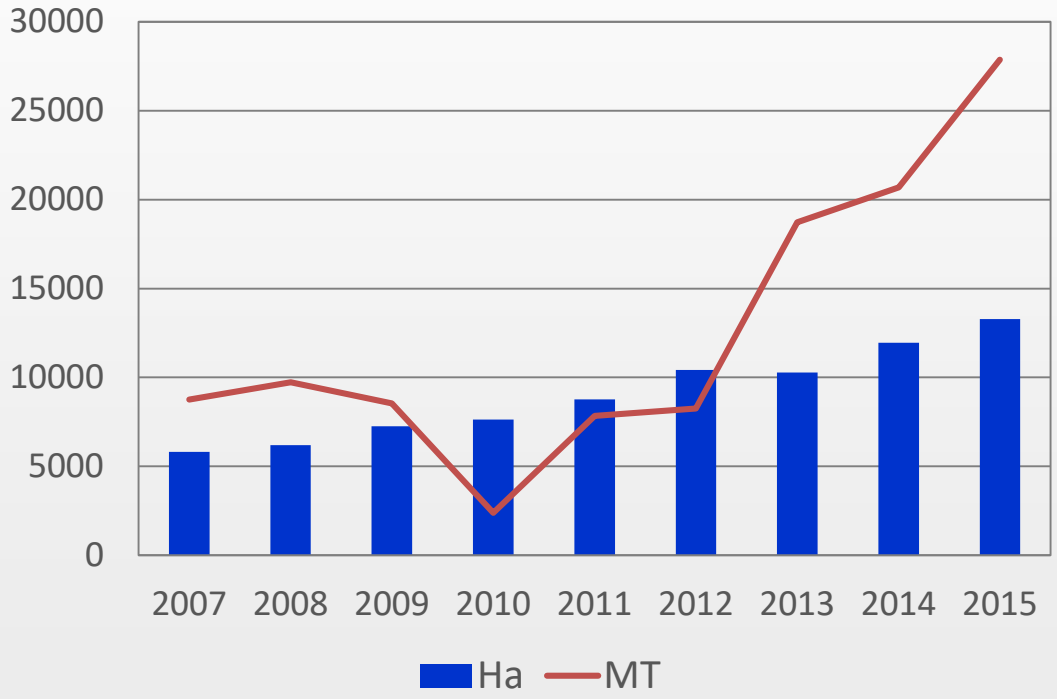
	2014		2015		2016		2017	
	ORG	CONV	ORG	CONV	ORG	CONV	ORG	CONV
Dark Sweet								
Volume (1000 box*)	352	19,428	361	16,646	349	14,795	574	22,407
% of crop	85	94	89	94	86	94	90	92
Light Sweet								
Volume (1000 box*)	61	1,786	60	1,517	58	1,289	67	1,863
% of crop	15	6	11	6	14	6	10	8
Organic Share of all, %	1.9		2.3		2.5		2.6	
Calculated Yield (tons/ac packed)	2.54		2.53		2.27		3.18	

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

Data: WSTFA

Global Organic Cherries

Global Organic Cherry Trends – Area and Production Volume



Ha = hectares; MT = metric tons

Estimated Organic Cherry Yields

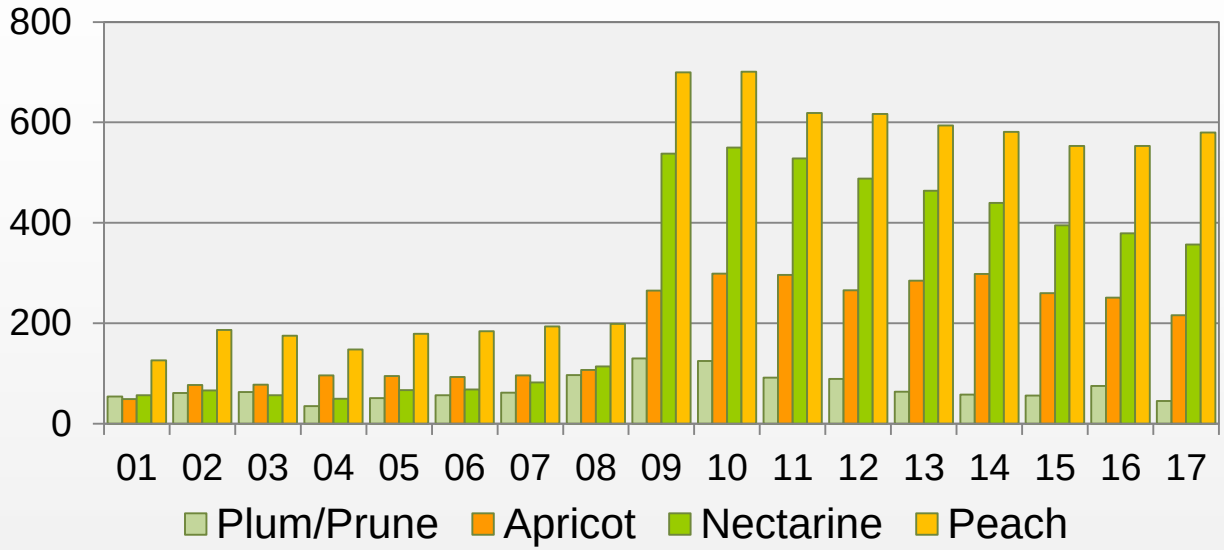
	Area (ha)	Production (MT)	Yield (MT/ha)
Turkey	3,165	6,832	2.16
Italy	2,776	6,035	2.17
Bulgaria	1,618	879	0.54
US	1,082	8,714	8.05
Poland	1,041	328	0.32
Spain	449	1,468	3.27
Hungary	491	1,228	2.50

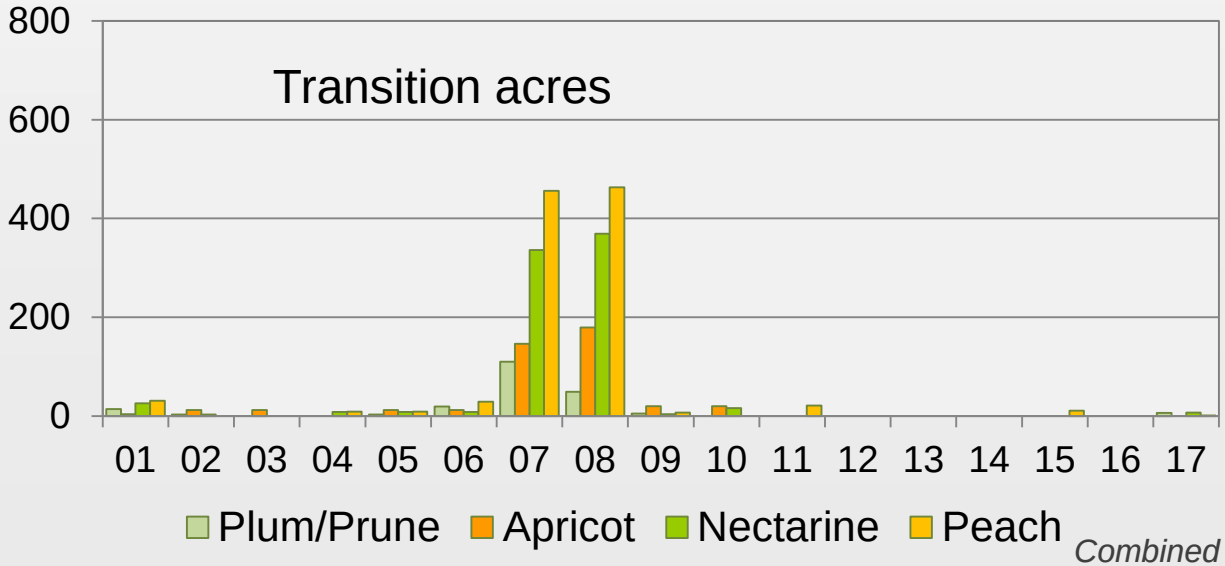
Note: Land in transition may be included in the area, lowering the calculated yield.

Source: World of Organic Agriculture reports

Other Stone Fruit Trends
Washington State

ARS photo gallery





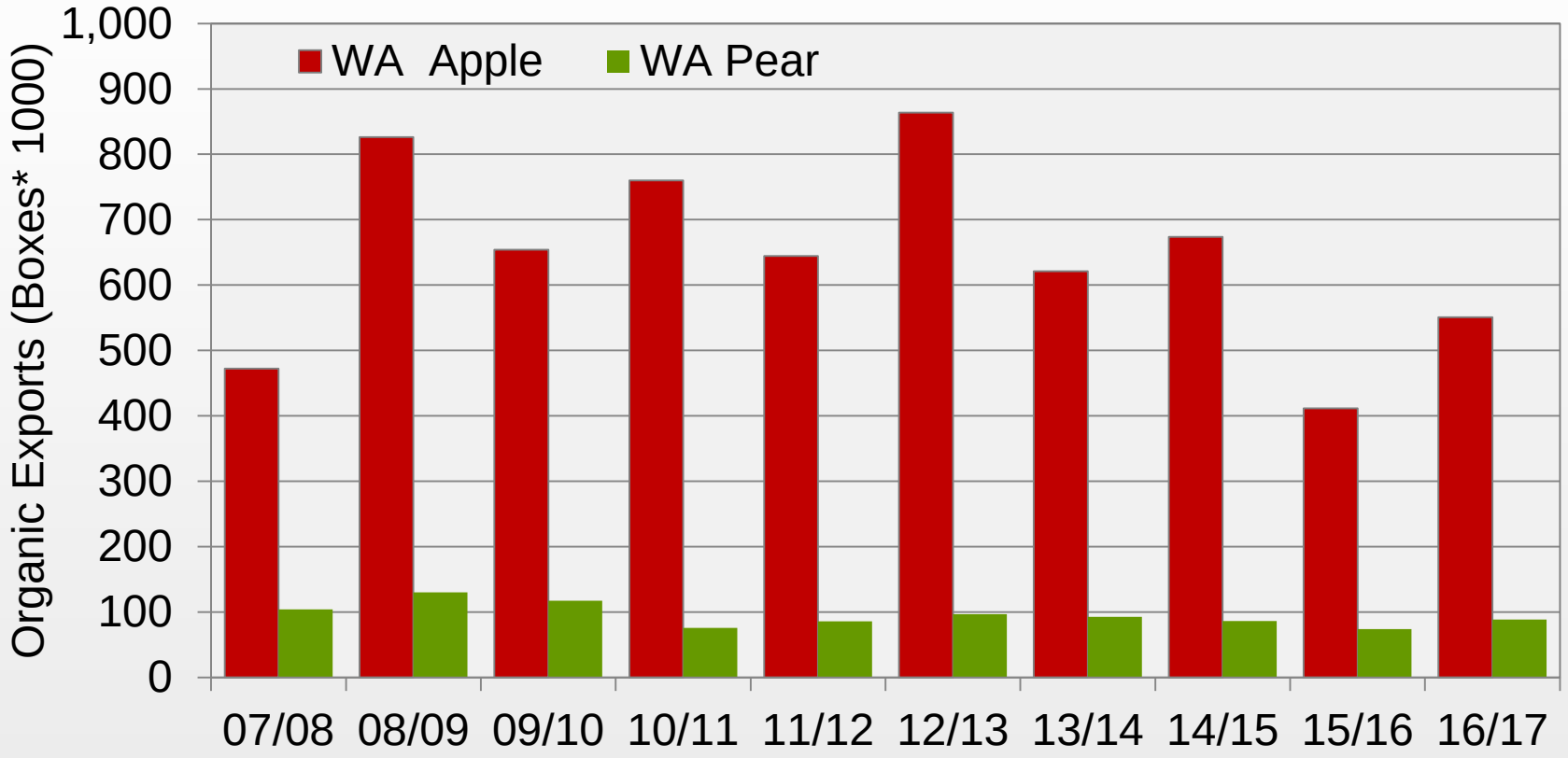
Combined certifier data

Exports of organic tree fruit from Washington have occurred for years, but have fallen off recently (slide 77). Organic apple exports to the UK for the 2017 crop have resumed after years of cessation (slide 78). This may be due to a small crop in Europe and a large one in Washington. Canada is by far the largest export destination (slide 79). ‘Gala’ apple and ‘d’Anjou’ pear are the leading organic tree fruit exports by volume (slides 80, 81). With the much larger organic apple crop, there is more interest in exports with opportunities in Asia and the Middle East.

Apples have been the leading U.S. organic product export by value for several years (slide 82). However, significant amounts of organic apples are imported during the late spring and summer as domestic supplies run out (slides 83, 84). Longer storage for a larger crop can enable more WA fruit to substitute for the imports.

Center for Sustaining Agriculture & Natural Resources

Organic Apple and Pear Exports
Washington State



Exports ~5% of the 2016 organic apple and 8% of organic pear volume: Canada, largest export destination; 77% of apples and 84% of pears

As of 12/31/17, org apple exports up 62% vs year ago

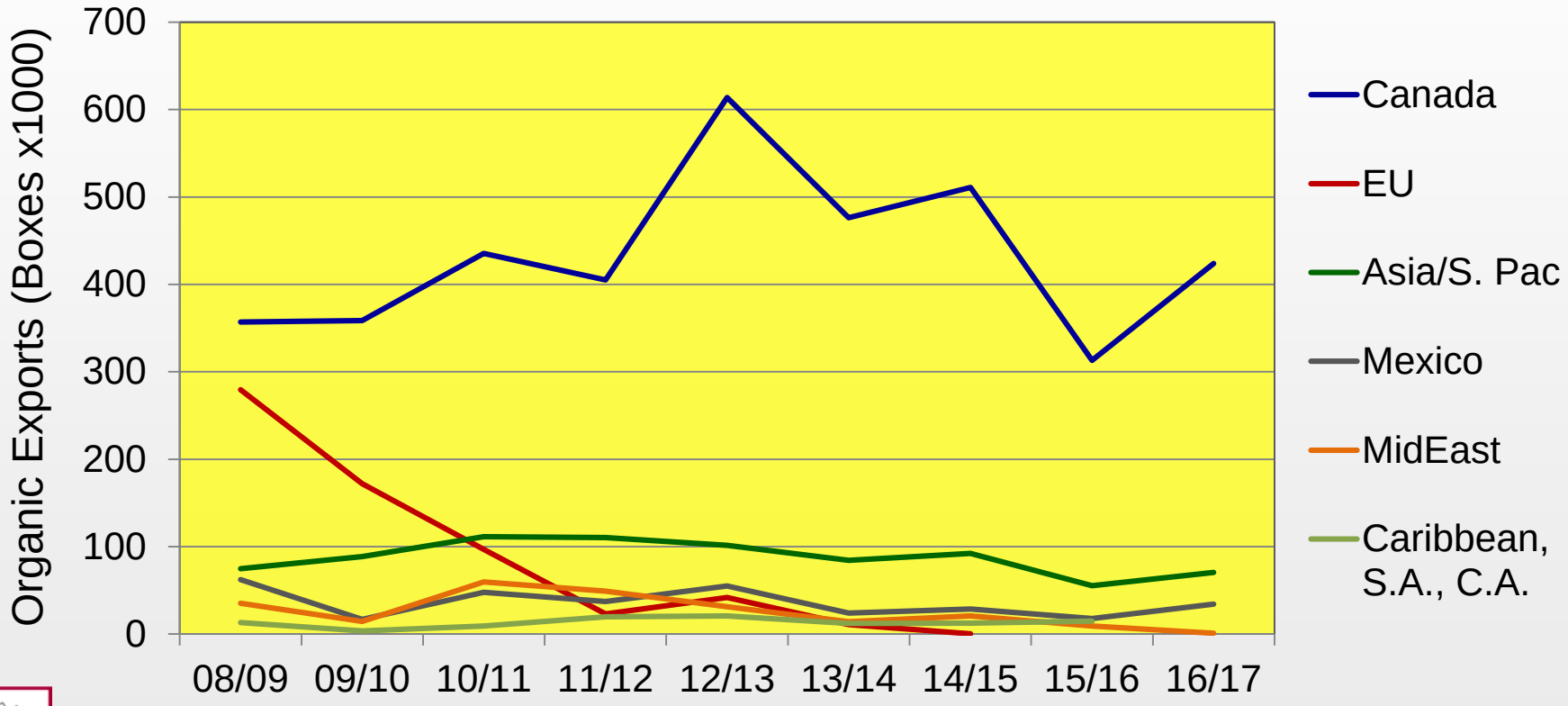
Data: WSTFA, WGCH. Export includes Canada.

Exports

- 2016 crop: ~5% of organic apples and 8% of organic pears exported
- 75-85% exported to Canada
- ‘Gala’ apple and ‘Anjou’ pear were leading varieties
- 2017: renewed shipments to UK: started 1 cntr/wk, then 10-12 ctnr/wk; could total 140 ctnr for season; heavy on small size, <113
- 2007: 360 ctnr to EU, 2008 zero
- Short crop in EU for 2017 due to frost

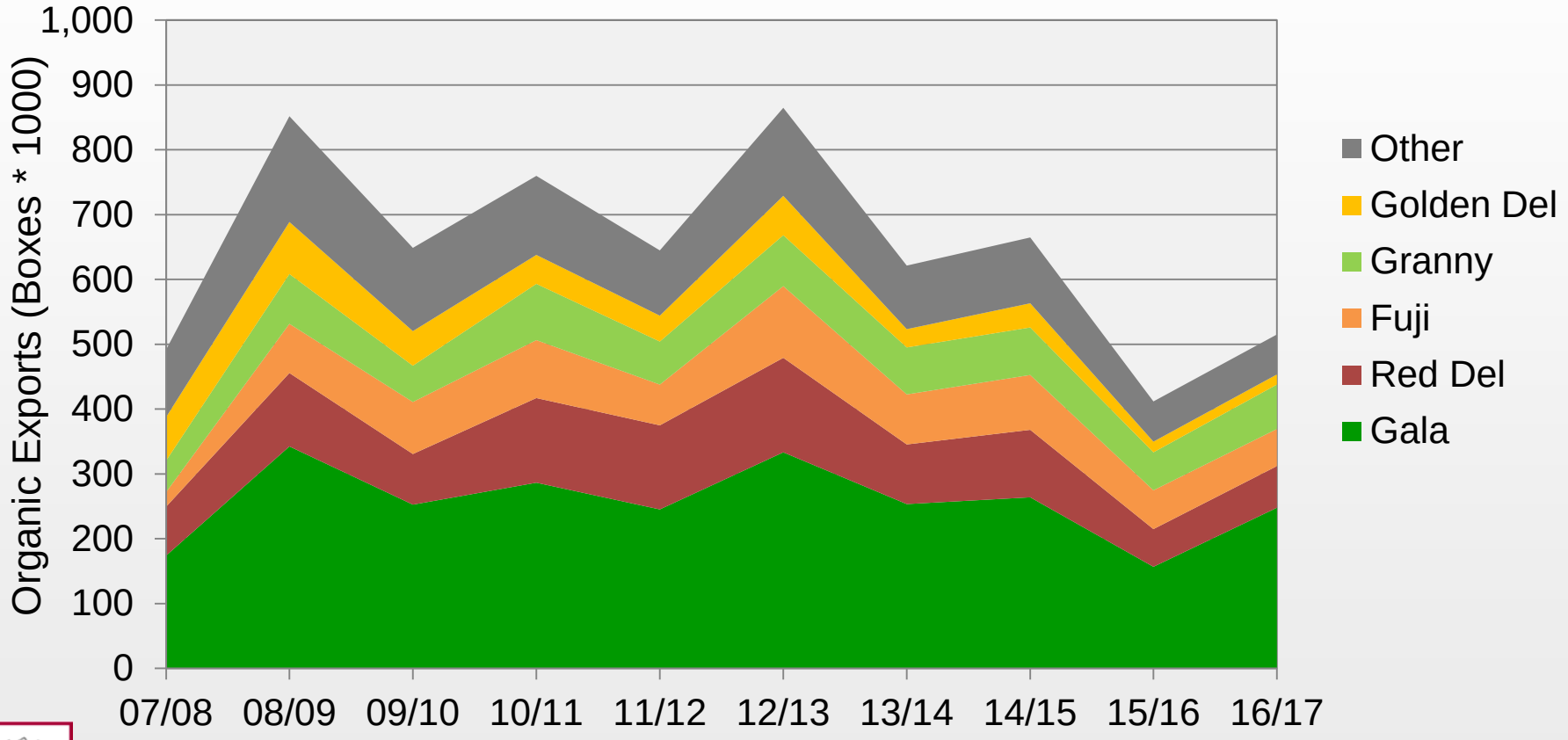
Center for Sustaining Agriculture & Natural Resources

Washington Organic Apple Top Export Destinations



Data: WSTFA, WVTA

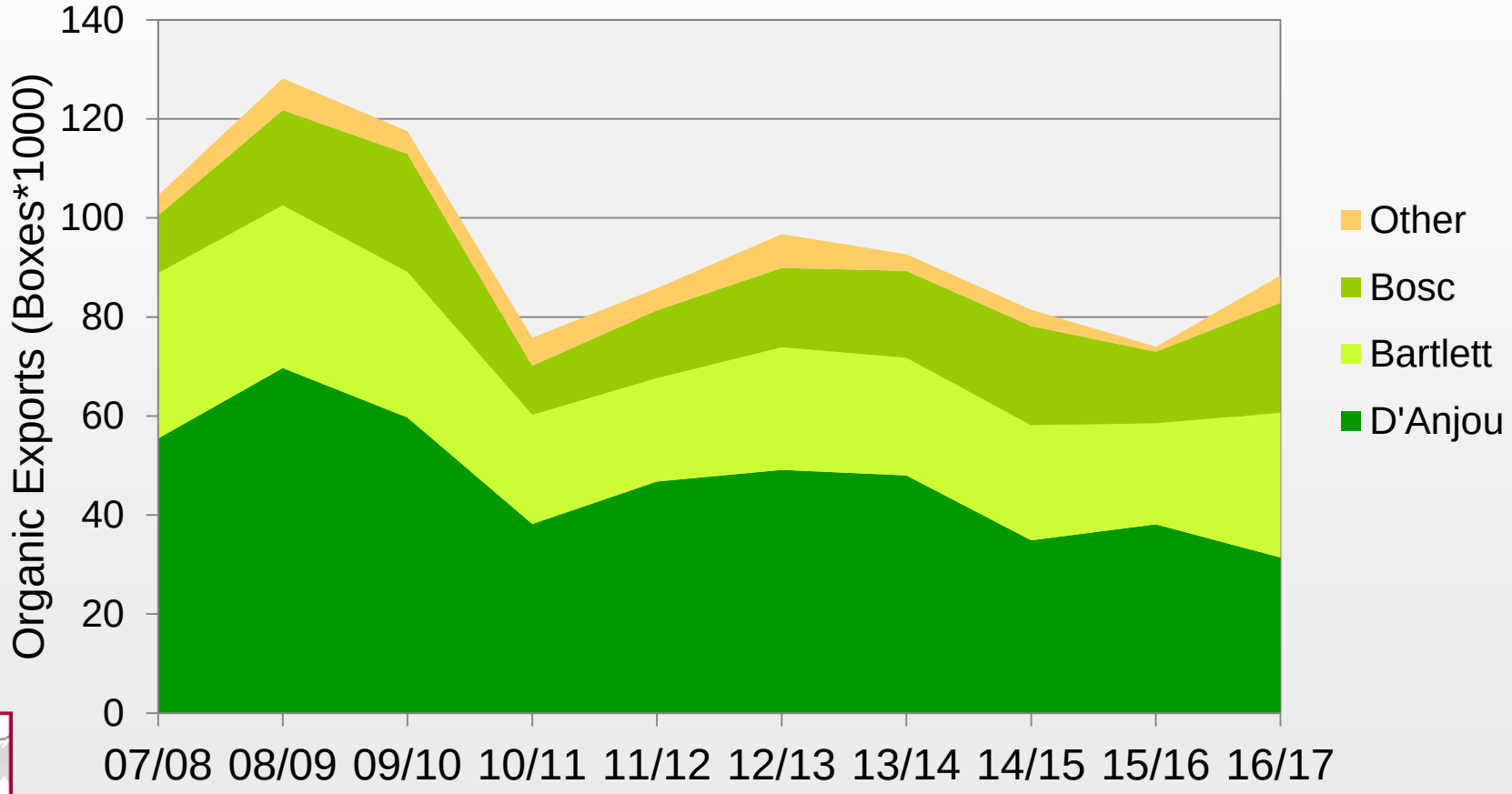
WA Organic Apple Exports by Variety



35-45% of exports = Gala

Data: WSTFA, WVTA

WA Organic Pear Exports by Variety

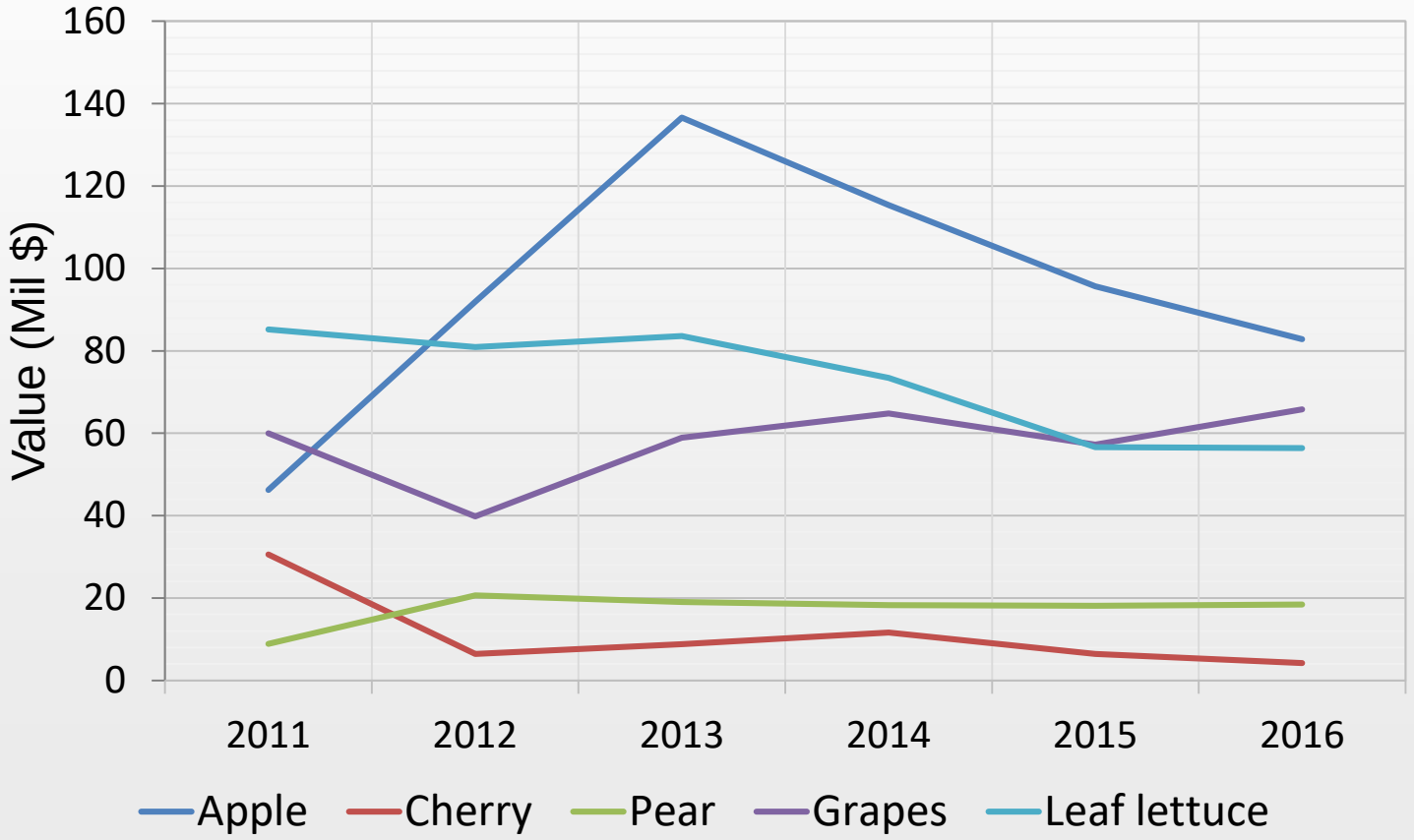


Center for Sustaining Agriculture & Natural Resources

Data: WSTFA, WVTA

U.S. Organic Exports

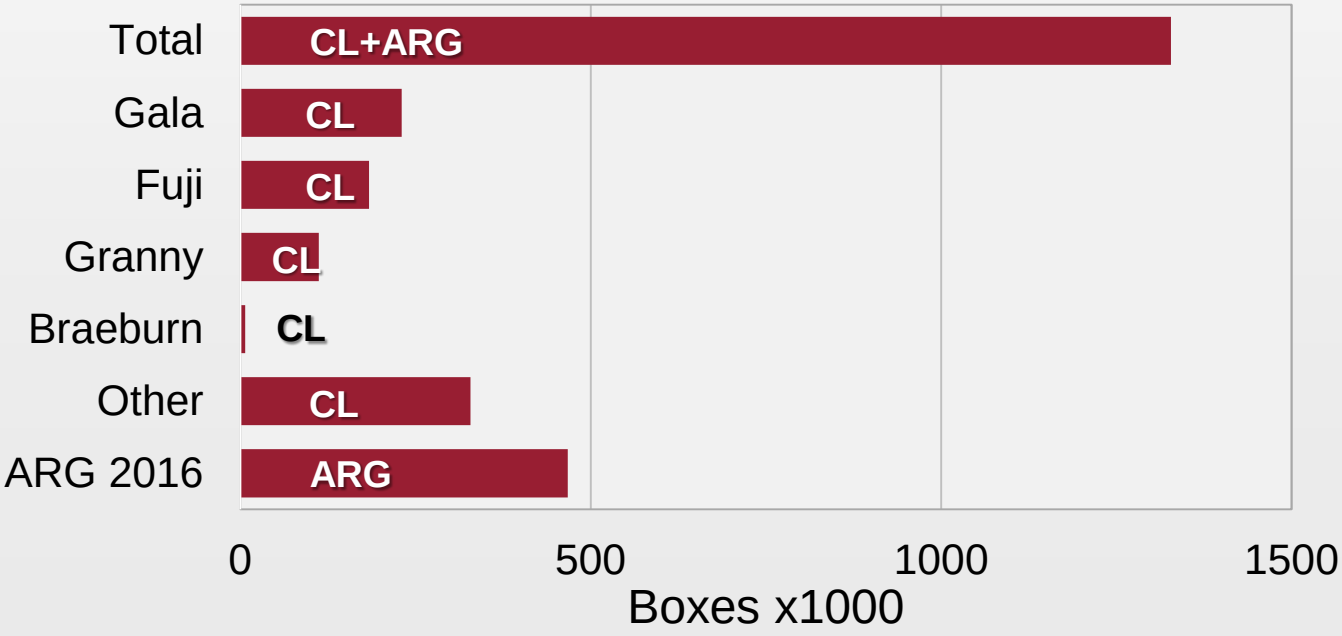
Fresh fruits are an important U.S. organic export. Apple is the leading fresh fruit product, but exports have declined in recent years.



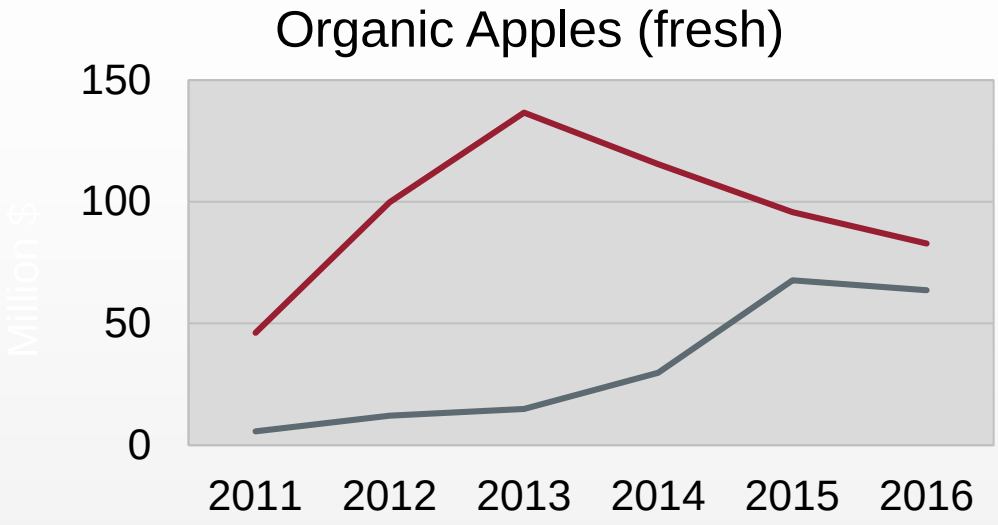
Source: USDA-FAS GATS

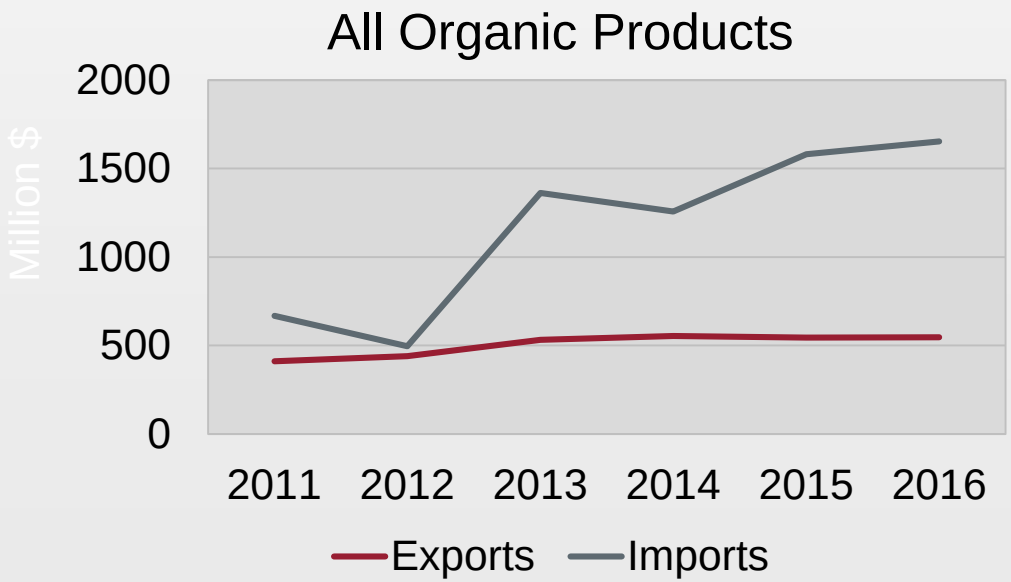
Imports

- Recent organic fresh apple imports to US; Chile, 2017 and Argentina, 2016, ~ 1.3 mil boxes/yr
- Chilean grower return, Gala, $16.72/box, FOB price in US, $38/box
- 2018: ~5 mil box org apple produced by S. Hem. Exporters (Chile, Argentina, NZ)



U.S. Organic Trade

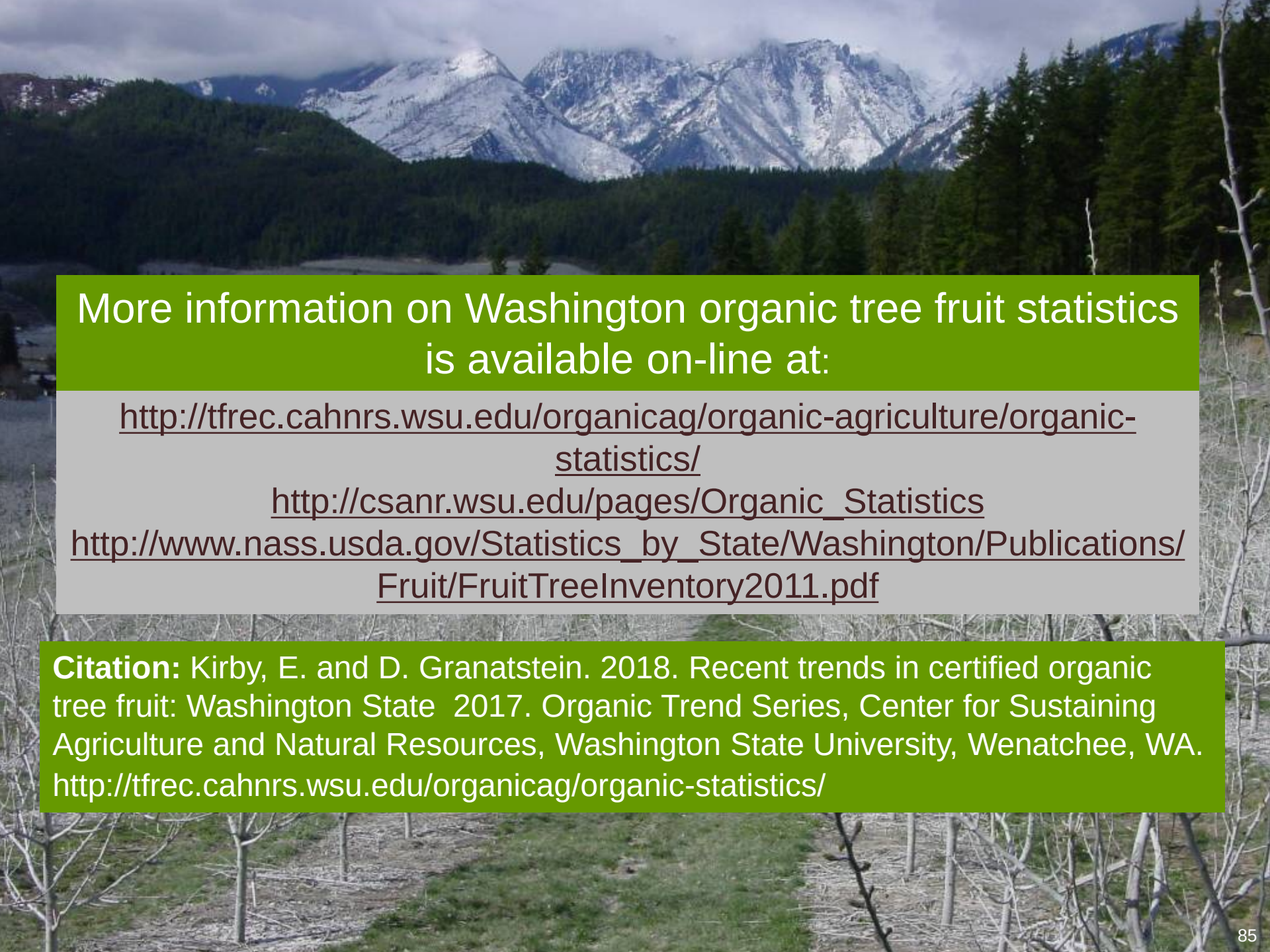




2016

- 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. 2018. Recent trends in certified organic tree fruit: Washington State 2017. Organic Trend Series, Center for Sustaining Agriculture and Natural Resources, Washington State University, Wenatchee, WA. http://tfrec.cahnrs.wsu.edu/organicag/organic-statistics/