Recent Trends in Certified Organic Tree Fruit in Washington State: 2020

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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 2/24/2020.

Organic agriculture continues to be consumer driven. Globally, retail sales of organic food were $112 billion in 2019, up 6.6%. The U.S. was the largest single country market ($50.1 billion), followed by Germany ($13.4 billion), France ($12.7 billion), and China ($9.5 billion). Denmark was the country with the highest per capita organic expenditure, at about 6% 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 (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>North Amer.</th>
<th>Europe</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>46</td>
<td>52</td>
<td>2</td>
</tr>
<tr>
<td>2007</td>
<td>43</td>
<td>54</td>
<td>3</td>
</tr>
<tr>
<td>2009</td>
<td>48</td>
<td>48</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>50</td>
<td>46</td>
<td>4</td>
</tr>
<tr>
<td>2013</td>
<td>49</td>
<td>43</td>
<td>8</td>
</tr>
<tr>
<td>2015</td>
<td>51</td>
<td>39</td>
<td>8 (Asia)</td>
</tr>
<tr>
<td>2016</td>
<td>52</td>
<td>39</td>
<td>9 (Asia)</td>
</tr>
<tr>
<td>2017</td>
<td>50</td>
<td>41</td>
<td>9 (Asia)</td>
</tr>
<tr>
<td>2018</td>
<td>48</td>
<td>43</td>
<td>9 (Asia)</td>
</tr>
<tr>
<td>2019</td>
<td>45</td>
<td>43</td>
<td>12</td>
</tr>
</tbody>
</table>

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. The percent annual growth is declining as total sales increase, but the annual increase in sales dollars is fairly steady. Growth of the fruit and vegetable category was 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, 9). 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. Retail organic produce sales rose 15% in 2020 due to the pandemic.

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 10).
Retail organic food sales increased 4.6% in 2019. Organic fruits and vegetable sales increased 5.0% and were 36% of all organic food sales (and 11% of all US produce sales); over 90% were sales of fresh produce.

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
# Top 10 Organic Fresh Produce Items by Sales, 2018

<table>
<thead>
<tr>
<th>Category</th>
<th>2018 Sales (million $)</th>
<th>% Annual Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-packaged salads</td>
<td>1,120</td>
<td>5.3</td>
</tr>
<tr>
<td>Apples</td>
<td>393</td>
<td>6.4</td>
</tr>
<tr>
<td>Carrots</td>
<td>340</td>
<td>3.5</td>
</tr>
<tr>
<td>Strawberries</td>
<td>298</td>
<td>1.9</td>
</tr>
<tr>
<td>Bananas</td>
<td>290</td>
<td>9.3</td>
</tr>
<tr>
<td>Herbs &amp; spices</td>
<td>263</td>
<td>7.8</td>
</tr>
<tr>
<td>Blueberries</td>
<td>256</td>
<td>33.3</td>
</tr>
<tr>
<td>Lettuce</td>
<td>252</td>
<td>3.5</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>204</td>
<td>0.8</td>
</tr>
<tr>
<td>Grapes</td>
<td>169</td>
<td>14.9</td>
</tr>
</tbody>
</table>

Source: Nielsen xAOC, Total Food View, 52 weeks ending 12/29/18
## Fresh Fruit Sales

<table>
<thead>
<tr>
<th>Conventional Fruit</th>
<th>Share of Dollars (%)</th>
<th>Organic Fruit</th>
<th>Share of Dollars (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berries</td>
<td>17.5</td>
<td>Berries</td>
<td>36.9</td>
</tr>
<tr>
<td>Citrus</td>
<td>13.8</td>
<td>Apples</td>
<td>18.7</td>
</tr>
<tr>
<td>Apples</td>
<td>12.1</td>
<td>Bananas</td>
<td>14.4</td>
</tr>
<tr>
<td>Grapes</td>
<td>11.5</td>
<td>Citrus</td>
<td>8.5</td>
</tr>
<tr>
<td>Value-Added Fruit</td>
<td>10.9</td>
<td>Grapes</td>
<td>7.5</td>
</tr>
<tr>
<td>Bananas</td>
<td>10.4</td>
<td>Avocados</td>
<td>5.4</td>
</tr>
<tr>
<td>Avocados</td>
<td>6.7</td>
<td>Stone Fruits</td>
<td>2.1</td>
</tr>
<tr>
<td>Melons</td>
<td>5.0</td>
<td>Pears</td>
<td>1.8</td>
</tr>
<tr>
<td>Stone Fruits</td>
<td>3.7</td>
<td>Cherries</td>
<td>1.5</td>
</tr>
<tr>
<td>Cherries</td>
<td>3.3</td>
<td>Specialty Fruits</td>
<td>1.5</td>
</tr>
<tr>
<td>Specialty Fruits</td>
<td>2.6</td>
<td>Value-Added Fruit</td>
<td>1.0</td>
</tr>
<tr>
<td>Pears</td>
<td>1.4</td>
<td>Melons</td>
<td>0.4</td>
</tr>
<tr>
<td>Pineapples</td>
<td>1.2</td>
<td>Pineapples</td>
<td>0.3</td>
</tr>
<tr>
<td>Other Fresh Fruits</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Copyright ©2017, The Nielsen Co.; confidential and proprietary
How Big Can This Get?

- Organic produce sales growing ~6% per year

- OTA – 2017, organic = 5.5% of food sales; hit 20%?

- US annual fresh apple consumption = 128.6 mil 40 lb box; is gradually rising

- 2017 WA organic apples = 13.3 mil box shipped; 90+% of US supply; 8.4% of US fresh apple consumption; 2018 estimate = 16.6.5 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 several times in the past by the authors to help track trends. The most recent data (2019) 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 0.9% of all organic agricultural land globally, with temperate tree fruits having 48% of all organic tree fruit area (slide 12). Temperate tree fruits were the largest category of organic tree fruit in 2019. All temperate tree fruits except pear and peach/nectarine expanded their area in 2019 (slide 13). Apple had the largest area for a specific fruit, followed by banana and dates. Europe and Asia have the largest areas of organic temperate tree fruit by far. Globally, about 25% of the area is in transition to organic.

Area trends over time (slides 14 and 16) show a general growth trend. The downturn in apple was driven largely by Poland (slide 15). Missing data from year to year also contribute to variability. Europe accounted for about 48% of 2019 organic temperate tree fruit area (Italy 26,499 ha; France 23,450 ha; Poland 13,326 ha; Turkey 20,244 ha). China had the largest area for one country (116,000 ha). The U.S. had 18,130 ha. Europe and China accounted for 58% and 26% of the organic apple area, respectively (slide 17).
Global Organic Tree Fruit Area

Organic tree fruit crops 648,466 ha  
~0.9% of organic agriculture land

<table>
<thead>
<tr>
<th>Region</th>
<th>Hectares* 2019</th>
<th>% of organic tree fruit</th>
<th>% change from 2015</th>
<th>% of all global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperate</td>
<td>308,543</td>
<td>48</td>
<td>+38</td>
<td>2.6</td>
</tr>
<tr>
<td>Citrus</td>
<td>102,897</td>
<td>15</td>
<td>+14</td>
<td>0.9</td>
</tr>
<tr>
<td>Tropical/Subtropical</td>
<td>237,026</td>
<td>37</td>
<td>-13</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*certified + transition  
1 hectare (ha) = 2.47 acres

Source: World of Organic Agriculture; FAO
# Global Organic Tree Fruit Area

<table>
<thead>
<tr>
<th>Fruit Type</th>
<th>Hectares* 2019</th>
<th>% change from 2018</th>
<th>% of organic category</th>
<th>% of all global#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>114,108</td>
<td>+32.5</td>
<td>37</td>
<td>2.0</td>
</tr>
<tr>
<td>Apricot</td>
<td>37,910</td>
<td>+21.4</td>
<td>12</td>
<td>6.0</td>
</tr>
<tr>
<td>Cherry</td>
<td>19,119</td>
<td>+11.9</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Peach/Nect.</td>
<td>14,046</td>
<td>-26.4</td>
<td>5</td>
<td>0.9</td>
</tr>
<tr>
<td>Pear</td>
<td>18,331</td>
<td>-10.3</td>
<td>6</td>
<td>1.0</td>
</tr>
<tr>
<td>Plum</td>
<td>19,566</td>
<td>+10.2</td>
<td>6</td>
<td>0.7</td>
</tr>
<tr>
<td>Other, no details</td>
<td>69,013</td>
<td></td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Banana</td>
<td>62,685</td>
<td>-24.2</td>
<td>26</td>
<td>0.7</td>
</tr>
<tr>
<td>Orange</td>
<td>20,098</td>
<td>+22.3</td>
<td>20</td>
<td>0.4</td>
</tr>
</tbody>
</table>

*certified + transition; # using 2018 FAO global data

Source: World of Organic Agriculture; FAO
Organic Apple Trends
Expansion of Global Area

No 2019 data for Australia, NZ

*Certified + Transition area
1 hectare = 2.47 acres

Adjusted for est. US values; Data courtesy of H. Willer, FiBL
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

Unadjusted for US values
Data courtesy of H. Willer, FiBL
### World Organic Apple Area

<table>
<thead>
<tr>
<th>Region</th>
<th>2019 Ha (C+T)</th>
<th>% change from 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>117,679*</td>
<td>+40</td>
</tr>
<tr>
<td>US</td>
<td>14,628</td>
<td>+33</td>
</tr>
<tr>
<td>Europe</td>
<td>66,656</td>
<td>+19</td>
</tr>
<tr>
<td>Poland</td>
<td>8,739</td>
<td>+61</td>
</tr>
<tr>
<td>Germany</td>
<td>6,700</td>
<td>+10</td>
</tr>
<tr>
<td>Italy</td>
<td>8,235</td>
<td>+33</td>
</tr>
<tr>
<td>France</td>
<td>14,196</td>
<td>+36</td>
</tr>
<tr>
<td>Turkey</td>
<td>5,319</td>
<td>-49</td>
</tr>
<tr>
<td>China</td>
<td>30,000</td>
<td>+56</td>
</tr>
<tr>
<td>Argentina</td>
<td>2,032</td>
<td>-65</td>
</tr>
<tr>
<td>Chile</td>
<td>2,863</td>
<td>+36</td>
</tr>
<tr>
<td>New Zealand</td>
<td>--</td>
<td>?</td>
</tr>
</tbody>
</table>

Europe is the leading region for producing organic tree fruits.
- 58% of world organic apple area

**WA organic apples, 2019**
- 13,173 ha cert.
- ~90% of US area
- 12% of world certified area, but higher % of production

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

Data courtesy of H. Willer, FiBL
Data on the area of organic tree fruit production in the U.S. are not collected regularly. The 2019 NASS organic survey data are available, but none for 2017 or 2018. The results in the following tables through 2019 (slides 19 to 21) 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 2019 Organic Production Survey, Washington State is the major producer of organic apples, pears, and cherries. It has 90% of the reported organic apple acres, producing 97% of the reported fresh fruit volume in the country. It also has 78% of the organic pear acres and 80% of the fresh volume, and 76% of the sweet cherry acreage and 92% of the volume. A similar situation exists for peaches/nectarines and plums/prunes in California.
## U.S. Organic Temperate Tree Fruit Area (ac)

<table>
<thead>
<tr>
<th>Fruit</th>
<th>2016 (acres)</th>
<th></th>
<th>2019 (acres)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WA</td>
<td>CA</td>
<td>US</td>
<td>WA</td>
<td>CA</td>
<td>US</td>
</tr>
<tr>
<td>Apple</td>
<td>16,191</td>
<td>3,186</td>
<td>20,855</td>
<td>32,537</td>
<td>2,191</td>
<td>36,148</td>
</tr>
<tr>
<td>Pear</td>
<td>2,243</td>
<td>682</td>
<td>2,986</td>
<td>4,201</td>
<td>1,076</td>
<td>5,409</td>
</tr>
<tr>
<td>Apricot</td>
<td>251</td>
<td>442</td>
<td>675</td>
<td>360</td>
<td>547</td>
<td>922</td>
</tr>
<tr>
<td>Cherry</td>
<td>2,546</td>
<td>433</td>
<td>3,284</td>
<td>3,352</td>
<td>225</td>
<td>4,424</td>
</tr>
<tr>
<td>Nectarine</td>
<td>379</td>
<td>1,047</td>
<td>1,437</td>
<td>472</td>
<td>1,055</td>
<td>1,535</td>
</tr>
<tr>
<td>Peach</td>
<td>553</td>
<td>1,761</td>
<td>3,188</td>
<td>602</td>
<td>1,547</td>
<td>3,485</td>
</tr>
</tbody>
</table>

Data from various certifiers, CDFA, and USDA-NASS.
### US Organic Apple Area
( acres, estimated )

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WA*</td>
<td>4,228</td>
<td>6,540</td>
<td>6,721</td>
<td>12,936</td>
<td>14,296</td>
<td>14,052</td>
<td>14,283</td>
<td>16,191</td>
<td>32,537</td>
</tr>
<tr>
<td>CA*</td>
<td>4,423</td>
<td>4,853</td>
<td>3,402</td>
<td>3,393</td>
<td>2,322</td>
<td>3,392</td>
<td>3,460</td>
<td>3,186</td>
<td>2,191</td>
</tr>
<tr>
<td>AZ</td>
<td>1,795</td>
<td>1,715</td>
<td>865</td>
<td>816</td>
<td>354</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>CO</td>
<td>431</td>
<td>635</td>
<td>202</td>
<td>164</td>
<td>509</td>
<td>194</td>
<td>176</td>
<td>219</td>
<td>150</td>
</tr>
<tr>
<td>OR</td>
<td>350</td>
<td>350</td>
<td>123</td>
<td>136</td>
<td>234</td>
<td>262</td>
<td>143</td>
<td>322</td>
<td>179</td>
</tr>
<tr>
<td>Other West</td>
<td>281</td>
<td>677</td>
<td>83</td>
<td>139</td>
<td>96</td>
<td>17</td>
<td>59</td>
<td>93</td>
<td>52</td>
</tr>
<tr>
<td>West total</td>
<td>11,508</td>
<td>14,770</td>
<td>11,396</td>
<td>17,584</td>
<td>17,934</td>
<td>17,917</td>
<td>18,121</td>
<td>20,061</td>
<td>35,109</td>
</tr>
<tr>
<td>Midwest</td>
<td>419</td>
<td>567</td>
<td>708</td>
<td>655</td>
<td>1,207</td>
<td>319</td>
<td>563</td>
<td>476</td>
<td>818</td>
</tr>
<tr>
<td>NY &amp; NE</td>
<td>83</td>
<td>52</td>
<td>392</td>
<td>193</td>
<td>361</td>
<td>645</td>
<td>555</td>
<td>277</td>
<td>218</td>
</tr>
<tr>
<td>S &amp; SE</td>
<td>28</td>
<td>15</td>
<td>8</td>
<td>33</td>
<td>40</td>
<td>11</td>
<td>10</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>US Total</td>
<td>12,038</td>
<td>15,404</td>
<td>12,504</td>
<td>18,465</td>
<td>19,542</td>
<td>19,370</td>
<td>20,156</td>
<td>20,855</td>
<td>36,148</td>
</tr>
</tbody>
</table>

*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 and NASS.
The acreages of different organic tree fruits in Washington over time are shown in slide 23. While accounting for about 28% 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 24). 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 25). However, value of the organic apple crop was lower than the previous year as the increase in shipped volume was more than offset by lower prices.
## Organic Tree Fruit Acres
### Washington State

<table>
<thead>
<tr>
<th><strong>--- Certified acres ---</strong></th>
<th>Trans acres†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apple</strong></td>
<td></td>
</tr>
<tr>
<td>14,790</td>
<td>13,657</td>
</tr>
<tr>
<td><strong>Pear</strong></td>
<td></td>
</tr>
<tr>
<td>2,033</td>
<td>1,900</td>
</tr>
<tr>
<td><strong>Cherry</strong></td>
<td></td>
</tr>
<tr>
<td>2,147</td>
<td>1,792</td>
</tr>
<tr>
<td><strong>Apricot</strong></td>
<td></td>
</tr>
<tr>
<td>299</td>
<td>266</td>
</tr>
<tr>
<td><strong>Nectarine</strong></td>
<td></td>
</tr>
<tr>
<td>550</td>
<td>488</td>
</tr>
<tr>
<td><strong>Peach</strong></td>
<td></td>
</tr>
<tr>
<td>701</td>
<td>618</td>
</tr>
<tr>
<td><strong>Plum/Prune</strong></td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>89</td>
</tr>
<tr>
<td><strong>Mixed stone</strong></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20,658</td>
</tr>
</tbody>
</table>

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

Organic tree fruit accounted for about **14%** of all tree fruit acres in Washington State in 2018.
### Value of WA Fresh Organic Tree Fruits

<table>
<thead>
<tr>
<th></th>
<th>Sales Year Farmgate Value</th>
<th>Crop Year Packed Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apple</strong></td>
<td>77.85</td>
<td>96.28</td>
</tr>
<tr>
<td><strong>Pear</strong></td>
<td>8.87</td>
<td>8.66</td>
</tr>
<tr>
<td><strong>Cherry</strong></td>
<td>9.92</td>
<td>10.05</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>5.05</td>
<td>7.49</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101.69</td>
<td>122.48</td>
</tr>
</tbody>
</table>

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, WVTAS
Value of Fresh WA Organic Tree Fruit

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.

Processed (pre-sliced, puree, IQF, juice, etc.) not included.
No data for other soft fruit.

Data: WSTFA, WGCH, WVTA
The expansion of **organic apple area** in the state has proceeded in a stepwise fashion as shown in slide 27. 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, as well as steadily increasing demand and periods of high price premiums.

‘Gala’ and ‘Fuji’ have dominated organic apple plantings, with ‘Honeyscrisp’ increasing rapidly in area and now surpassing ‘Fuji’ (slide 28). The change in area of cultivars over time can be seen in slides 29 and 30. In addition, many new and specialty cultivars are being grown organically, including some for hard cider production (slide 31). So far, only a few acres of Cosmic Crisp® are registered with a certifier to be under organic management.
Certified organic apples = 18% of WA apple acreage
(based on 2017 NASS value of 179,146 acres)

*Transition acres from WSDA only
Organic Apple Variety Acres
Washington 2020

- Gala, Fuji, Honeycrisp = 64% of certified apple acres
- Honeycrisp replaced Fuji as #2

WSDA and CCOF data. Cripps Pink includes Pink Lady.
Organic Apple Varieties
Washington State Acres Trend

**GALA**
- Certified: Orange bars
- Transition: Green bars

**HONEYCRISP**
- Certified: Orange bars
- Transition: Green bars

**FUJI**
- Certified: Orange bars
- Transition: Green bars

**GRANNY SMITH**
- Certified: Orange bars
- Transition: Green bars

Photo: B. Barritt

Combined certifier data
Organic Apple Varieties
Washington State Acres Trend

**CRIPPS PINK**
- Orange: Certified
- Green: Transition

**GOLDEN TYPES**
- Orange: Certified
- Green: Transition

**RED DELICIOUS**
- Orange: Certified
- Green: Transition

Photo: ARS

Combined certifier data
Organic Specialty Apples
Washington State 2020

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

- 100-1000 ac: Ambrosia®, Autumn Glory, Braeburn, Envy™, Jazz, Lady Alice®, Opal®, Piñata®
- 50-100 ac: Cameo, Jonagold, Minneiska (SweeTango®)
- 11-50 ac: Cosmic Crisp®, cider, Jubilee, Rojo, RosaLynn
- 1-10 ac: Arkansas Black, Ashmead’s Kernel, Crimson Crisp™, Earligold™, Kanzi®Koru®, Liberty, McIntosh, Tsugaru, Winesap, Winter Banana, Zestar!™ and more

Varieties listed in WSDA producer directory:
https://agr.wa.gov/departments/organic/about-organic#lists
A large number of apple acres transitioned to organic in 2017 and 2018. Estimates made in advance of this tended to be low (slide 33). In 2018, there were 3,541 ac of apple registered for transition with certifiers. No breakdown was available for acres in first year versus second year transition. However, a slowing of organic apple expansion was expected in 2019 and for the next several years as the market ‘digests’ all the recently added production. This has occurred.

Along with expanded acres, organic apple yields were increasing (until 2018), with the transition of many acres of modern, high-density plantings (slide 34). 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 and would raise the yield estimates if they were. For example, some growers are harvesting Goldens directly for processing to reduce costs.

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 (January) and data from WA fruit companies (Jan. 2017)
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 2019, certified organic apples represented about 18% of all apple acres in the state. This has translated to about 14% of the state crop (slides 36 and 37). 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 38), 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’, ‘Fuji’, and ‘Honeycrisp’ shipments, which set new records with the 2019 crop (slides 39, 40). Despite the rapid rise in supply, prices generally rose during this period until 2016, then dropped and appear to be levelling out (slide 38).
Washington Apple Volume
Conventional and Organic

* From Dec. 1 storage report

Data: WSTFA, WVTA, WGCH
Organic Share of Apple Shipments
Washington State

* From Dec. 1 storage report

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

Season totals 2003 to 2019

Gala
- 5662
- 236
- 288
- 212
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019

Fuji
- 3108
- 288
- 212

Red Delicious

Granny Smith
Total Shipped Organic Volume by year and variety, Washington State

Season totals 2003 to 2019

Golden Delicious

Cripps Pink

Honeycrisp

Data: WSTFA, WGCH, WVTA
The 2019 crop set another record after 2018, with an estimated 15.2 million boxes shipped for the season (slide 42). This is a 40% increase over the 2016 crop. The difference between the Dec. 1 storage report indicated crop and the final amount shipped is expanding, likely from a combination of normal shrink, diversion to organic processing, and diversion to conventional markets (e.g., ‘Red Delicious’).

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 43).
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
## Organic Apples in U.S. Market
### August 2016

<table>
<thead>
<tr>
<th>Location</th>
<th>Red D</th>
<th>Gala</th>
<th>Fuji</th>
<th>Brae</th>
<th>Pink</th>
<th>Zestar!®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore</td>
<td>WA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boston</td>
<td>ARG</td>
<td>WA</td>
<td>ARG</td>
<td>NZ</td>
<td>ARG</td>
<td></td>
</tr>
<tr>
<td>Chicago</td>
<td>ARG</td>
<td>NZ</td>
<td>NZ</td>
<td>ARG</td>
<td>ARG</td>
<td></td>
</tr>
<tr>
<td>San Fran.</td>
<td>CA, WA</td>
<td>CL, NZ</td>
<td></td>
<td>CL</td>
<td>OR</td>
<td></td>
</tr>
</tbody>
</table>

WA=Washington; CA=California; OR=Oregon; ARG=Argentina; CL=Chile; NZ=New Zealand
**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 (45 to 48) 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 49. Organic price premiums are plotted in slide 50 as both the absolute dollar amount as well as the percent difference. The dollar premium per box was at record levels for several years but has declined 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.
Price Trends
Washington Apples

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 12/15/20

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

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

Season to Date, as of mid-December

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 52 and 53, 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, retail 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. Organic prices have dropped in subsequent years. Given that the cost of production is generally trending upwards, especially for labor, the implication for growers is that prices will no longer cover costs at some point, which has occurred for some varieties. Gaps in the shipping point data point out where the WA supply of organic apples has been sold out.
Organic Gala Apples

Shipping point, Washington

Source: USDA-AMS
Organic Fuji Apples
Shipping point, Washington

**Retail, National**

- Retail Price $/lb Conv.
- Retail Price $/lb Org.

**Price ($/Box)**
- FOB $/box Conv.
- FOB $/box Org.

**Price ($/lb)**

Source: USDA-AMS
Similar data as for apple are presented for organic pear in Washington in the next slides (55 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 (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. The 2019 crop was lower than the record 2018 crop, but appears larger in 2020.
Organic Pear Acreage
Washington State

2020 organic = **20%** of total WA pear acreage
(based on WA-NASS 2017 value of 20,965 pear acres)

Combined certifier data
2020 Organic Pear Acres by Variety
Washington

- Bartlett: 37%
- D'Anjou: 32%
- Bosc: 16%
- Red Types: 10%
- Concorde: 1%
- Tosca: 1%
- Other, NS: 3%
- Asian: 0%

Combined certifier data; NS = not specified
Organic Pear Variety Trend
Washington State

Photo: Agyle

Combined certifier data

Acres

01 03 05 07 09 11 13 15 17 19

D'Anjou  Bartlett  Bosc  Red types  Other or NS  Asian

Photo: Agyle

Combined certifier data
Organic Specialty Pears
Washington State 2020

• Over 10 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, Taylors Gold, others

• Varieties are listed on the WSDA producer list:

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

Organic volume ~8% of total WA pear volume;
OR organic volume ~ 15% of total organic

Standard Equivalent Box = 44 lb. Data Sources: WSTFA, PBNW, WGCH, WVTA
Price Trends Washington Pears

**Bartlett**

- Organic
- Conventional

**D’Anjou**

**Bosc**

$0 $10 $20 $30 $40 $50

$/SEB

96 98 00 02 04 06 08 10 12 14 16 18 20

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

Red Bartlett to 12/15/20

Red D’Anjou

$/SEB

$50

$40

$30

$20

$10

$0

96 98 00 02 04 06 08 10 12 14 16 18 20

Organic

Conventional

$50

$40

$30

$20

$10

$0

96 98 00 02 04 06 08 10 12 14 16 18 20

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

Season to Date, as of mid-December

Data: WSTFA, WGCH; FOB averages, all storage, grades, sizes.
Organic Premiums
Washington Pears

$/box

Percent

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. Currently, Little Cherry Virus is threatening both organic and conventional cherry orchards.

Similar data as for apple and pear are presented for organic cherry in Washington in slides (66 to 70). The data include nearly 500 acres of organic tart cherries as well. Slide 71 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)

2019 organic = 7% of total WA cherry area
(based on 2017 WA-NASS estimate of 44,707 acres)
11% of cherries not reported by variety in 2019 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.

\[ y = -0.002x + 3.1758 \]
\[ y = -0.001x + 2.1449 \]
WA Organic Sweet Cherries

Data: WSTFA
# WA Organic Cherries

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ORG</td>
<td>CONV</td>
<td>ORG</td>
<td>CONV</td>
</tr>
<tr>
<td><strong>Dark Sweet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (1000 box*)</td>
<td>574</td>
<td>22,407</td>
<td>665</td>
<td>20,954</td>
</tr>
<tr>
<td>% of crop</td>
<td>90</td>
<td>92</td>
<td>87</td>
<td>91</td>
</tr>
<tr>
<td><strong>Light Sweet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (1000 box*)</td>
<td>67</td>
<td>1,863</td>
<td>97</td>
<td>2,201</td>
</tr>
<tr>
<td>% of crop</td>
<td>10</td>
<td>8</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Organic Share of all, %</td>
<td>2.6</td>
<td>3.2</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Calculated Yield (packed tons/ac)</td>
<td>3.15</td>
<td>2.95</td>
<td>1.97</td>
<td></td>
</tr>
</tbody>
</table>

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

Data: WSTFA
Other Stone Fruit Trends
Washington State

Certified acres

Transition acres

Combined certifier data
Exports

Exports of organic tree fruit from Washington have occurred for years and reached an all-time high for apples in 2019 (slide 73), which included some shipments to the UK after several years with none (slide 74). Canada is by far the largest export destination (slide 75). ‘Gala’ apple and ‘Bartlett’ pear were leading organic tree fruit exports by volume in 2019 (slides 76, 77), but several other organic apple varieties have seen increased export volumes. With the much larger organic apple crop, there is more interest in exports with opportunities in Asia and the Middle East.
Organic Apple and Pear Exports
Washington State

2019 exports: ~6% of the organic apple and pear volume; Canada, largest export destination, 78% of apples and 93% of pears

Data: WSTFA, WGCH. Export includes Canada.
Exports

• ‘Gala’ apple and ‘Bartlett’ pear were leading export varieties

• 2017: renewed apple shipments to UK; started 1 cntr/wk, then 10-12 ctnr/wk; totaled 142,000 boxes for season, or 14% of export volume; heavy on small size, <113

• Short crop in EU for 2017 due to frost

• For comparison, in 2007, 360 ctnr to EU; in 2008 zero; in 2019, 48 ctnr (UK)

• Increasing exports of Other varieties – Ambrosia, Cripps Pink, Honeycrisp
Washington Organic Apple Top Export Destinations

Data: WSTFA, WVTA
Top 2019 varieties for export: Gala 48%, Other 23%, Granny Smith 13%
WA Organic Pear Exports by Variety

2019/20 export volume: Canada 93%, Mexico 5%

Data: WSTFA, WVTA
Exports

Apples have been the leading U.S. organic produce export by value for several years. In 2020, apples, grapes, and leaf lettuce were the top 3 organic produce exports by value (slide 79). While the value of organic apple exports continues to exceed the value of imports, the import value has been increasing (slide 80). This parallels the overall trend for organic imports which far outpace the value of U.S. organic exports, leading to a trade deficit for organic foods. Much of the deficit is due to the import of tropical crops not grown here, but corn and soybean imports have also been substantial.
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
U.S. Organic Trade

Organic Apples (fresh)

2020
- Apples were 14% of export $, 2% of import $
- Apples, largest organic export value of any produce
- Grapes, #2, Lettuce #3, Spinach #4, Strawberry #5

All Organic Products

Annual Change (2020)
- Org Apple exp -16%
- Org Apple imp -36%
- All Org exp - 5%
- All Org imp + 6%

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

http://csanr.wsu.edu/pages/Organic_Statistics