Recent Trends in Organic Tree Fruit Production

Washington State 2010

December, 2010
Rev. 3/31/11

Elizabeth Kirby & David Granatstein, WSU-CSANR
in cooperation with
Washington State Department of Agriculture Organic Program

Photo by F. Peryea
Global Organic Horticulture

220 million ha hort land worldwide (14% of cropland)

Organic hort land 2.15 million ha 2008; ~1% of all hort land, 6% of all organic land; up 56% since 2005, compared to 10% increase for all organic land

Organic fresh produce sales as % of all US fresh produce: 11.4% 2009, 9.8% 2008 (OTA)

Organic produce was 38% of all US organic food sales, 2009 (OTA)

Source: FiBL/IFOAM
## Top 6 horticultural crops under organic management - 2008

<table>
<thead>
<tr>
<th>Crop</th>
<th>Organic land (ha) 2008</th>
<th>Organic % of world area</th>
<th>Increase in ha 2005-2008</th>
<th>Increase in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>508,651</td>
<td>0.9</td>
<td>214,916</td>
<td>73</td>
</tr>
<tr>
<td>Coffee</td>
<td>463,615</td>
<td>4.8</td>
<td>152,146</td>
<td>49</td>
</tr>
<tr>
<td>Olives</td>
<td>436,186</td>
<td>4.0</td>
<td>90,427</td>
<td>26</td>
</tr>
<tr>
<td>Vegetables</td>
<td>264,103</td>
<td>0.25</td>
<td>99,080</td>
<td>60</td>
</tr>
<tr>
<td>Nuts</td>
<td>181,634</td>
<td>2.1</td>
<td>112,991</td>
<td>165</td>
</tr>
<tr>
<td>Cocoa beans</td>
<td>165,208</td>
<td>2.0</td>
<td>93,332</td>
<td>130</td>
</tr>
<tr>
<td>Other(^a)</td>
<td>135,464</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

\(^a\) Other category includes Flowers/Ornamentals, Medicinals/Aromatics, Coconuts, Hops, Tea/Mate, Nurseries, and Mushrooms.

Source: FiBL/IFOAM, 2010b; CDFA, 2008; WSDA, 2008.
## World area and proportion of organic fruit crops, 2008

<table>
<thead>
<tr>
<th>Category</th>
<th>Area (ha)</th>
<th>% of organic fruit (base 508,651 ha)</th>
<th>Organic % of world area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grapes</td>
<td>150,543</td>
<td>29.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Tropical &amp; Sub-tropical fruit</td>
<td>140,723</td>
<td>27.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Citrus</td>
<td>57,631</td>
<td>11.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Pome fruit</td>
<td>43,234</td>
<td>8.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Stone fruit</td>
<td>35,804</td>
<td>7.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Berries(^a)</td>
<td>31,285</td>
<td>6.2</td>
<td>4.6</td>
</tr>
<tr>
<td>Temperate fruit, no details</td>
<td>42,583</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>Fruit, no details</td>
<td>6,848</td>
<td>1.3</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Includes strawberries.

Organic Temperate Fruits
Global Distribution 2008

- Europe: 76%
- Latin America: 9%
- North America: 8%
- Asia: 7%

Source: FiBL/IFOAM
Countries with largest horticultural areas, 2008.

Grey: limited data on organic land use; Orange: organic details available.


Countries with the largest reported organic horticultural area, 2008.

Source: FiBL/IFOAM, 2010.
World organic temperate tree fruit area, 2008

- Apples: 35,268
- Apricots: 10,683
- Plums: 8,045
- Cherries: 7,256
- Pears: 6,776
- Peaches & nectarines: 6,402
- Stone fruit, no details: 3,418
- Pome fruit, no details: 1,191
- Temperate fruit, no details: 36,809

Total area: 116,000 ha

Source: FiBL/IFOAM survey, CDFA 2008; WSDA 2008
## Estimated World Organic Apple Area

<table>
<thead>
<tr>
<th></th>
<th>Start acres 2000,2001</th>
<th>End acres 2008</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US</strong></td>
<td>15,404</td>
<td>18,465&lt;sup&gt;a&lt;/sup&gt;</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td>800</td>
<td>1,250&lt;sup&gt;b&lt;/sup&gt;</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
<td>18,238</td>
<td>57,582&lt;sup&gt;c&lt;/sup&gt;</td>
<td>61%&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>--</td>
<td>40</td>
<td>--</td>
</tr>
<tr>
<td><strong>Argentina, Chile</strong></td>
<td>1,385</td>
<td>6,452</td>
<td>366%</td>
</tr>
<tr>
<td><strong>China</strong></td>
<td>--</td>
<td>3,952&lt;sup&gt;d&lt;/sup&gt;</td>
<td>--</td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
<td>2,873</td>
<td>2,339</td>
<td>-19%</td>
</tr>
<tr>
<td><strong>South Africa</strong></td>
<td>--</td>
<td>300</td>
<td>--</td>
</tr>
</tbody>
</table>

|                | 38,700                | 90,380         |          |

<sup>a</sup> US revised up from FiBL/IFOAM 2008 survey ERS number of (17,626 ac).  
<sup>b</sup> CAN value estimated from actual apple area reported plus portion of area reported as “tree fruit” (neither inc. in FiBL/IFOAM apple number).  
<sup>c</sup> Europe start area inc. AT, DK, FR, DE, GR, IT, NL, CH and TUR. End area additional countries inc. AM, AZ, CZ, EE, FI, HU, LV, LT, PL, RO, GB, UA and UZ. Austria (AT) end area incl. here (was not in FiBL/IFOAM number). **Percent change based on start area countries only.**  
<sup>d</sup> China number from 2005; no update available.  
**Data Sources:** FiBL/IFOAM 2008 and, by region - **USA:** WSDA-OFP, OTCO, USDA-ERS, CDFA; **CAN:** COG; **EU:** AgenceBio, AMA, MiPAAF-SINAB, ZMP, S. Sansavini, USDA-FAS (00); **ARG:** SENASA, **CHL:** ODEPA; **CHN:** Zhou Zejiang, OFDC; **NZL:** Pipfruit NZ, Bio-Gro NZ, USDA-FAS.
# Estimated US Organic Apple Production (acres)

<table>
<thead>
<tr>
<th>State</th>
<th>1997</th>
<th>2000</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>WA</td>
<td>1,707</td>
<td>4,228</td>
<td>6,540</td>
<td>7,003</td>
<td>6,721</td>
<td>8,018</td>
<td>12,936</td>
<td>15,735</td>
<td>14,790</td>
</tr>
<tr>
<td>CA</td>
<td>1,883</td>
<td>4,423</td>
<td>4,853</td>
<td>4,045</td>
<td>3,402</td>
<td>3,900</td>
<td>3,393</td>
<td>3,450</td>
<td></td>
</tr>
<tr>
<td>AZ</td>
<td>3,178</td>
<td>1,795</td>
<td>1,715</td>
<td>835</td>
<td>865</td>
<td>816</td>
<td>816</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>1,270</td>
<td>431</td>
<td>635</td>
<td>235</td>
<td>202</td>
<td>209</td>
<td>164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>9</td>
<td>350</td>
<td>350</td>
<td>265</td>
<td>123</td>
<td>106</td>
<td>136</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Other West</td>
<td>59</td>
<td>281</td>
<td>677</td>
<td>171</td>
<td>83</td>
<td>147</td>
<td>139</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>West total</strong></td>
<td><strong>8,106</strong></td>
<td><strong>11,508</strong></td>
<td><strong>14,770</strong></td>
<td><strong>12,554</strong></td>
<td><strong>11,396</strong></td>
<td><strong>13,196</strong></td>
<td><strong>17,584</strong></td>
<td><strong>&gt;20,000</strong></td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>522</td>
<td>419</td>
<td>567</td>
<td>650</td>
<td>708</td>
<td>612</td>
<td>655</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NY &amp; NE</td>
<td>201</td>
<td>83</td>
<td>52</td>
<td>5</td>
<td>392</td>
<td>212</td>
<td>193</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S &amp; SE</td>
<td>17</td>
<td>28</td>
<td>15</td>
<td>1</td>
<td>8</td>
<td>47</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>US Total</strong></td>
<td><strong>8,846</strong></td>
<td><strong>12,038</strong></td>
<td><strong>15,404</strong></td>
<td><strong>13,210</strong></td>
<td><strong>12,504</strong></td>
<td><strong>14,067</strong></td>
<td><strong>18,465</strong></td>
<td><strong>&gt;21,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

>95% in arid west

Combined data sets from WSU-CSANR and USDA-ERS; 2009 is preliminary WSDA and ERS 2008 only data; Other West states include ID, MT, NM, NV, UT
Estimated U.S. Organic Apple Trend

Based on combined data from WSDA, ERS, CDFA AZ Apple Growers Assoc., QAI and OTCO; * same data for 2008 and 2009, except WA, ID and CA
### Organic Tree Fruit Acres

#### Washington State

<table>
<thead>
<tr>
<th></th>
<th>--- Certified acres ---</th>
<th>Growth</th>
<th>--- Transition acres ---</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
</tr>
<tr>
<td>Apple</td>
<td>12,936</td>
<td>15,735</td>
<td>14,790</td>
</tr>
<tr>
<td>Pear</td>
<td>1,713</td>
<td>1,964</td>
<td>2,033</td>
</tr>
<tr>
<td>Cherry</td>
<td>1,738</td>
<td>2,437</td>
<td>2,147</td>
</tr>
<tr>
<td>Apricot</td>
<td>107</td>
<td>265</td>
<td>299</td>
</tr>
<tr>
<td>Peach &amp; Nectarine</td>
<td>313</td>
<td>1,238</td>
<td>1,251</td>
</tr>
<tr>
<td>Plum &amp; Prune</td>
<td>97</td>
<td>130</td>
<td>125</td>
</tr>
<tr>
<td>Mixed stone</td>
<td>78</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16,982</td>
<td>21,799</td>
<td>20,639</td>
</tr>
</tbody>
</table>
Organic Apple Area
Washington State

$ drop
Wal-Mart
$ drop
MD
$ drop
Alar

14,790 ac = 9.7% of WA apple bearing acreage
(based on 2010 WA-NASS estimate of 153,000 acres)

Combined certifiers data; 2010 WSDA data
Washington State
Pear and Stone Fruit Trend

Certified acres
Transition acres

ARS Photo Gallery

Combined certifiers data; 2010 WSDA data
Organic Apple Acres by Variety
Washington 2010

- Fuji
- Gala
- Granny Smith
- Red Delicious
- Honeycrisp
- Golden Types
- Cripps Pink
- Braeburn
- Cameo
- Others & NS

Fuji led Gala in 2010

WSDA 2010 data
Organic Varieties
Washington State Acres Trend

GALA

- Certified
- Transition

FUJI

- Certified
- Transition

REDS

- Certified
- Transition

2010 WSDA data; Photo by B. Barritt
Organic Apple Variety Trends
Washington State – Major Varieties

Combined certifier data except 2010 WSDA data only; 2012 based on 2010 C +T
Organic Specialty Apple Trends
Washington State

Projected

Acres

Honeycrisp, Cripps Pink, Braeburn, Cameo

Combined certifier data except 2010 WSDA data only; 2012 based on 2010 C +T
Geographic Distribution of Organic Tree Fruit - Washington State 2009

WSDA 2009 data; Photo by C. Donovan
Organic Pear Acreage
Washington State

2010 = 8.5% of total WA pear acreage
(based on 2010 WA-NASS estimate of 24,000 acres)

Combined certifiers data; 2010 WSDA only
Organic Pear Acres by Variety
Washington 2010

Bartlett 34%
D'Anjou 31%
Bosc 15%
Red Types 11%
Other or NS 7%
Asian 2%

2010 WSDA data; NS = not specified
Organic Pear Variety Trend
Washington State

Combined certifiers data; 2010 WSDA data
Organic Cherry Acreage
Washington State

2010 = 5.8% of total WA cherry area
(based on 2010 WA-NASS estimate of 37,000 acres)

Combined certifiers data; 2010 WSDA
Organic Cherry Variety Acres
Washington State 2010

- Variety NS: 31%
- Bing: 18%
- Skeena: 9%
- Rainier: 8%
- Sweetheart: 6%
- Chelan: 6%
- Other Sweet: 13%
- Tart: 9%
- Sweetheart: 6%

36% of cherries not reported by variety in 2010 compared to 57% in 2008

2010 WSDA data; NS = not specified
Organic Apple Sales
Volume and Price Trends - WA

2010/11 organic shipments predicted to increase 46% to 8,635 cars

Annual prices are typically reported for a proportion of total boxes shipped rather than total volume of boxes shipped. Data Source: WA Grower’s Clearing House: Season end organic FOB Average History; priced boxes all grades, sizes, storage. 2010 prediction source: Clearing House Bulletin 50 Aug 17, 2010
Organic Share of Apple Shipments
Washington State

Data Source: WA Growers Clearing House
Total Shipped Organic Volume by year and variety, Washington State

Boxes *1000

Season End 2003/04 to 2009/10

- Gala
- Fuji
- Red Delicious
- Granny Smith
- Golden Delicious

Data Source: WA Growers Clearing House
Photo: ARS Gallery
Priced Organic Sales Volume by variety, Washington State

Season End 2000/01 to 2009/10

Boxes x1000

Data Source: WA Growers Clearing House. Annual organic prices are typically reported for only a proportion of total sales volume.
Price Trends
Washington Apples

Data Source: Washington Growers Clearing House; FOB average, all storage, grades, sizes
Price Trends
Washington Apples

Red Delicious

Golden Delicious

Data Source: Washington Growers Clearing House; FOB average, all storage, grades, sizes
Price Trends
Washington Apples

Granny Smith

Cripps Pink

Data Source: WA Growers Clearing House: FOB average, all storage, grades, sizes
### Recent Price Fluctuation

**Washington State Apples**

<table>
<thead>
<tr>
<th></th>
<th>Conventional</th>
<th>Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Gala</strong></td>
<td>(1.19)</td>
<td>0.62</td>
</tr>
<tr>
<td><strong>Fuji</strong></td>
<td>(6.06)</td>
<td>4.08</td>
</tr>
<tr>
<td><strong>Reds</strong></td>
<td>(4.86)</td>
<td>1.96</td>
</tr>
<tr>
<td><strong>Goldens</strong></td>
<td>(7.12)</td>
<td>4.06</td>
</tr>
<tr>
<td><strong>Cripps Pink</strong></td>
<td>(6.99)</td>
<td>2.30</td>
</tr>
<tr>
<td><strong>All apples average</strong></td>
<td>(4.47)</td>
<td>2.39</td>
</tr>
</tbody>
</table>

#### $ per SEB*

<table>
<thead>
<tr>
<th></th>
<th>08/09 ↓</th>
<th>09/10 ↑</th>
<th>08/09 ↓</th>
<th>09/10 ↑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gala</td>
<td>(1.19)</td>
<td>0.62</td>
<td>(8.19)</td>
<td>2.08</td>
</tr>
<tr>
<td>Fuji</td>
<td>(6.06)</td>
<td>4.08</td>
<td>(13.51)</td>
<td>3.68</td>
</tr>
<tr>
<td>Reds</td>
<td>(4.86)</td>
<td>1.96</td>
<td>(7.62)</td>
<td>1.01</td>
</tr>
<tr>
<td>Goldens</td>
<td>(7.12)</td>
<td>4.06</td>
<td>(12.69)</td>
<td>4.78</td>
</tr>
<tr>
<td>Cripps Pink</td>
<td>(6.99)</td>
<td>2.30</td>
<td>(14.40)</td>
<td>5.40</td>
</tr>
<tr>
<td>All apples average</td>
<td>(4.47)</td>
<td>2.39</td>
<td>(10.27)</td>
<td>2.85</td>
</tr>
</tbody>
</table>

* Standard Equivalent Box. WAGCHA data; FOB average, all storage, grades, sizes

“Organic growers are offering newer apple varieties, such as the spicy-sweet Pinova, to attract shoppers' attention in store bins.”

Judith Blake / The Seattle Times 2004 /Photo: Betty Udesen /
Organic Premiums
Washington Apples

$/Box

Percent

Data Source: WA Growers Clearing House
Photo: B. Barritt
Recent Organic Apple Prices
Washington State

SEB = Standard Equivalent Box. Data Source: WA Growers Clearing House; FOB average, all storage, grades, sizes.
# Modeled Prices of WA organic apples with increasing sales volume

<table>
<thead>
<tr>
<th>Organic Shipments as % of All WA Apple Shipments</th>
<th>6%</th>
<th>8%</th>
<th>10%</th>
<th>12%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Box Price, All Apples</strong></td>
<td>- - - - -</td>
<td>Organic Price ($/box FOB)</td>
<td>- - - - -</td>
<td></td>
</tr>
<tr>
<td>$20.00</td>
<td>$26.77</td>
<td>$24.45</td>
<td>$22.13</td>
<td>$19.82</td>
</tr>
<tr>
<td>$17.00</td>
<td>$22.75</td>
<td>$20.78</td>
<td>$18.81</td>
<td>$16.85</td>
</tr>
<tr>
<td>$14.00</td>
<td>$18.74</td>
<td>$17.11</td>
<td>$15.49</td>
<td>$13.87</td>
</tr>
</tbody>
</table>

Source: D. O’Rourke, 2008

### 2009/10 Season; Actual Organic Share of Sales Volume = 6%

<table>
<thead>
<tr>
<th></th>
<th>All Apples</th>
<th>Organic Apples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Box Price (FOB)</td>
<td>$19.05</td>
<td>$24.89</td>
</tr>
</tbody>
</table>

Refer to slide 25 for trend of actual organic apple share of all WA apple sales volume. Data: Washington Growers Clearing House
Organic Pear Sales
Volume and Price Trends

SEB = Standard Equivalent Box. Data Source: WA Growers Clearing House. Annual organic prices are typically reported for only a proportion of total shipped volume.
Price Trends
Washington Pears

Bartlett

Organic

Conventional

D’Anjou

Bosc

SEB = Standard Equivalent Box
Data Source: WA Growers Clearing House; FOB averages
Price Trends
Washington Pears

Red Bartlett

Red D’Anjou

SEB = Standard Equivalent Box.
Data: WA Growers Clearing House; FOB avg, all storage, grades, sizes.
Photo: Hedrich 1921 Pears of New York
Organic Premiums
Washington Pears

Source: WA Growers Clearing House. SEB = Standard Equivalent Box
Recent Organic Pear Prices
Washington State

<table>
<thead>
<tr>
<th>Pear Type</th>
<th>09-10</th>
<th>11/15/09 to 11/15/10</th>
<th>11/1-11/15/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Bartlett</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D'Anjou</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Anjou</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosc</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SEB = Standard Equivalent Box  Data Source: WA Growers Clearing House; FOB avg, all storage, organic grades, sizes.
Cherry Price Trends
Washington State

SEB = Standard Equivalent Box. WAGCHA data. Conventional prices are from season FOB histories; may include organic 2008-2010. Organic prices are from season FOB histories or from sales data search. All grades and sizes. Photo: ARS Image Gallery