New Cherry Varieties, Pearl Series and More

Lynn E. Long

Oregon State University
Variety Trial

- Established 1996
- Evaluated 150+
- Cultivars & selections
- Potential candidates for PNW industry

- Thanks to Mike Omeg and Omeg Family Orchards
New Variety Attributes

- Greatest Interest
  - Early or very late
    - 10-12 days before Bing
    - After Sweetheart
  - Good shipping potential
    - China
    - Japan
    - Korea
  - Large (9.5 row+)
  - Firm
  - Rain crack resistant
  - Flavorful
Relative Harvest Timing for Red and Blush Varieties

- Early Robin
- Radiance Pearl
- Rainier
- Chelan
- Royal Hazel
- Santina
- Black Pearl
- Suite Note
- Burgundy Pearl
- Samba
- Bing
- Ebony Pearl
- Skeena
- Royal Helen
- Royal Edie

Oregon State University
Fruit Size of Select Varieties

Chelan | Royal Hazel | Santina | Black Pearl | Suite Note | Burgundy | Samba | Bing | Skeena | Royal Helen | Royal Edie | Radiance | Rainier

9.5 row = 28.2 mm
Fruit Firmness of Interesting New Cultivars

- Chelan
- Royal Hazel
- Santina
- Black Pearl
- Suite Note
- Burgundy Pearl
- Samba
- Bing
- Skeena
- Royal Helen
- Royal Edie
- Rainier Pearl
- Rainier
Pitting Tool
Pitting Potential

Average Pitting Percentage of Select Varieties 2013-2016

![Bar chart showing the average pitting percentage of select varieties from 2013 to 2016. Bars are color-coded and labeled with variety names such as Radiance Pearl, Black Pearl, Rainier, and Royal Hazel. The y-axis represents the pitting percentage ranging from 0 to 3.5, while the x-axis lists the variety names. The chart highlights that Regina and Early Robin have notably higher pitting percentages compared to others.](image-url)
50 fruit from each cultivar are placed in distilled water bath at room temperature for 2 hours per I. Hanrahan protocol (http://www.goodfruit.com/cherry-cracking-test/).
Royal Hazel

• Zaiger Genetics
• 500 Chilling hours
• First bloom 7 days before Bing
• Fruit set - 2013-2016 Heavy
• Excellent, strong sweet/acid flavor
• Shaped like Skeena
• Royal Lynn or Royal Lee as pollinizers

<table>
<thead>
<tr>
<th>Harvest timing days +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFR (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-2016 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10 days</td>
<td>30.24</td>
<td>335</td>
<td>1294</td>
<td>14%</td>
<td>2.74</td>
</tr>
<tr>
<td></td>
<td>64% row +</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Santina

- Very large
- Early
- Flavor is fair to good
- Tart/sweet but weak
- Very popular in Chile
- Some WA growers disillusioned
- Nose end crack accentuated by rain
- Moderate-Light producer on Mazzard
- Being planted as alternative to Tieton
- Self-fertile + 2 days

<table>
<thead>
<tr>
<th>Harvest timing days</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-2016 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/-Bing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-7 days</td>
<td>30.6</td>
<td>320</td>
<td>1125</td>
<td>32%</td>
<td>2.74</td>
</tr>
<tr>
<td>71% 9 row</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Black Pearl

- Cornell University
- Earliest ripening of “Pearl” series
- 1st releases developed for west coast cherry industry (export)
- > flavor Santina or Tieton
- Medium strong taste
- Sweet with nice acid balance
- Very firm to crunchy
- Some rain crack resistance
- Heavy producer
- Blooms mid-early $S_4S_{13}$ – Chelan, Samba

<table>
<thead>
<tr>
<th>Harvest timing days +/-Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016</th>
<th>Pitting 2013-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 7 days</td>
<td>30.67</td>
<td>365</td>
<td>1110</td>
<td>7% (Bing 2.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70%</td>
<td>9 row</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Suite Note

- 2012 release by SVC Summerland, BC
- 5 days before Bing
- Large
- Excellent, strong sweet/acid flavor
- Stores well
- Growing for >10 years
- Moderate to heavy production
- Blooms late +8 days
- Self-sterile (Benton)

<table>
<thead>
<tr>
<th>Harvest timing days +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-2016 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5 days</td>
<td>30.6</td>
<td>310</td>
<td>1015</td>
<td>13%</td>
<td>2.58</td>
</tr>
</tbody>
</table>

(67 % 9 row)
Burgundy Pearl

- Cornell University
- Ripens just before Bing
- Said to be “resistant to bacterial canker”
- Crunchy firm
- Mild sweet/acid flavor
- Lacks tang
- Moderate-heavy producer
- $S_3S_4$ allele – Chelan, Samba

<table>
<thead>
<tr>
<th>Harvest timing days +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (Bing 36% Skeena)</th>
<th>Pitting 2013-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4.5 days</td>
<td>31.2</td>
<td>359</td>
<td>909</td>
<td>17%</td>
<td>2.73</td>
</tr>
<tr>
<td></td>
<td>82%</td>
<td>9 row</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ebony Pearl

- Cornell University
- Ripens with Bing
- Very large
- Said to have “good resistance to canker”
- Excellent, strong flavor
- Mostly sweet but nice tang
- Skin and flesh both dark
- $S_1S_4$ allele – Bing, Black Pearl, Burgundy Pearl possible pollinizers

<table>
<thead>
<tr>
<th>Harvest timing days +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-2016 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 1.5 days</td>
<td>32.0</td>
<td>293</td>
<td>1120</td>
<td>7%</td>
<td>2.75</td>
</tr>
<tr>
<td>94% 9 row</td>
<td>32.0</td>
<td>293</td>
<td>1120</td>
<td>7%</td>
<td>2.75</td>
</tr>
</tbody>
</table>
• Czech Republic
• About 1 week after Bing
• Excellent fruit size – 100% 29.8 mm and larger
• Excellent firmness – 412 g/mm
• Tasted watery – impression of soft cherry
• 4 weeks in storage – skin very wrinkled
• Pitting prominent
• No luster

<table>
<thead>
<tr>
<th>Harvest timing days +/-Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Rain crack suscept</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 7 days</td>
<td>32.6</td>
<td>412</td>
<td>1040</td>
<td>10% natural</td>
</tr>
</tbody>
</table>
Royal Helen

- Zaiger Genetics
- Very large
- Very firm
- Regina timing
- Good flavor medium strong with meaty texture
- Mild sweet/acid balance
- Some rain cracking resist.
- Pollinate with Black Pearl or Burgundy Pearl

<table>
<thead>
<tr>
<th>Harvest timing (days)</th>
<th>Bloom timing (+/- Bing)</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-2016 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 13 days</td>
<td>+2</td>
<td>32.4</td>
<td>370</td>
<td>17%</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.5 row</td>
<td></td>
<td>(36% 8 row +)</td>
<td></td>
</tr>
</tbody>
</table>
Royal Edie

- Zaiger Genetics
- Very large
- Very firm
- Regina timing
- Somewhat mild flavor
- Very meaty
- Crunchy
- Pollinate with Black Pearl or Burgundy Pearl

<table>
<thead>
<tr>
<th></th>
<th>Harvest timing</th>
<th>Bloom timing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>Cracking potential</th>
<th>Pitting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>days +/- Bing</td>
<td>+/- Bing</td>
<td>31.5</td>
<td>371</td>
<td>15%</td>
<td>2.71</td>
</tr>
<tr>
<td></td>
<td>+13 days</td>
<td>+2</td>
<td>8.5 row (80% 9 row +)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Riker

- Super late (with Staccato)
- Strong flavor
- Good sweet/acid balance
- Very crunchy
- Very low rain cracking
- Pollinate with Skeena

<table>
<thead>
<tr>
<th>Harvest timing days</th>
<th>Bloom timing +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Rain crack suscept</th>
<th>Pitting 2013-16 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 27 days</td>
<td>+3-4 days</td>
<td>30.9</td>
<td>358</td>
<td>937</td>
<td>4% soak</td>
<td>2.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>84% 9 row</td>
<td></td>
<td></td>
<td>6% natural</td>
<td></td>
</tr>
</tbody>
</table>
Early Robin

- Discovered in a Rainier block in Washington
- Allows spread of blush harvest
- Very sweet – little acid
- Good firmness and size
- Low productivity
- Self-infertile $S_1S_3$

<table>
<thead>
<tr>
<th>Harvest timing days +/- Rainier</th>
<th>Bloom timing +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-16 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-13 to -17</td>
<td>+1</td>
<td>25.6 to 28.9</td>
<td>246 to 311</td>
<td>901 to 958</td>
<td>31%</td>
<td>2.62</td>
</tr>
<tr>
<td>-14</td>
<td></td>
<td>25.6 to 31.3</td>
<td>246 to 389</td>
<td>901 to 1015</td>
<td>31%</td>
<td>2.62</td>
</tr>
</tbody>
</table>

Oregon State University
Radiance Pearl

- Cornell University
- Early Rainier type
- Heavy producer
- Spreading tree habit
- Moderate to good rain crack resistance
- Blooms +3 \( S_1 S_{13} \) – Ebony Pearl, Rainier

<table>
<thead>
<tr>
<th>Harvest timing days +/- Rainier</th>
<th>Bloom timing +/- Bing</th>
<th>Size (mm)</th>
<th>Firm. (g/mm)</th>
<th>PFRF (g)</th>
<th>Cracking potential 2014-2016 (36% Skeena)</th>
<th>Pitting 2013-16 (Bing 2.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4.5</td>
<td>-3</td>
<td>32.0</td>
<td>408</td>
<td>967</td>
<td>19%</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88%</td>
<td>9 row</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lynn Long OSU Cultivars
Cemetery Block Variety Trial

Sweet Cherry Compatibility and Bloom Timing Chart

Many sweet cherry cultivars are unable to set fruit without a compatible pollinator that blooms at the same time and is from a different compatibility group. This chart will help you select the right pollinator for your chosen cultivar. For self-sterilized cultivars to set fruit, pollinizers must have at least one allele that is different than the main cultivar and these two cultivars must bloom simultaneously.
Sweet Cherry Cultivars
for the Fresh Market

A Pacific Northwest Extension Publication • Oregon • Idaho • Washington