Advances in New Cherry Varieties

Lynn E. Long

Oregon State University
Cultivar Trial

- Established 1996
- Evaluated 100+
- Cultivars & selections
- Potential candidates for PNW industry

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

• Greatest Interest
  – Early or very late
    • 10-12 days before Bing
    • Skeena/Sweetheart
  – Good shipping potential
    • China
    • Japan
    • Korea
  – Large (28 mm +)
  – Firm
  – Rain crack resistant
  – Flavorful
Relative Harvest Timing for Red and Blush Cultivars

Chelan
Royal Hazel
Black Pearl
Santina
Suite Note
Burg. Pearl
Coral
Bing
Ebony Pearl
Tamara
Skeena
Royal Helen
Royal Edie
Radiance Pearl
Rainier
Fruit Size of Interesting New Cultivars

![Bar chart showing fruit sizes for various cultivars.](chart.png)
Fruit Firmness of Interesting New Cultivars

- Chelan
- Royal Hazel
- Black Pearl
- Santina
- Suite Note
- Burgundy Pearl
- Coral
- Bing
- Ebony Pearl
- Tamara
- Skeena
- Royal Helen
- Royal Edie
- Radiance Pearl
- Rainier
Selah Skin Color as Related to Stem Force

$y = -0.0999x + 0.8656$

$R^2 = 0.1353$

Stem Retention Force (kg) vs. Skin Color at Harvest (CTIFL)
Pitting Tool
Pitting Potential

Royal Hazel
Black Pearl
Santina
Suite Note
Burgundy Pearl
Coral
Bing
Ebony Pearl
Tamara
Skeena
Royal Helen
Royal Edie
Radiance Pearl
Rainier

Pitting Index
50 fruit from each cultivar were 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>PFRF (g)</th>
<th>Cracking potential 2014-2017 (29% Skeena)</th>
<th>Pitting 2013-2017 (Bing 2.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-11 days</td>
<td>30.43</td>
<td>363</td>
<td>1317</td>
<td>11%</td>
<td>2.7</td>
</tr>
<tr>
<td>(67% 9 row)</td>
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</tbody>
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Oregon State University
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
- Blooms mid-early $S_4S_{13}$ – Chelan, Burgundy Pearl

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</tr>
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<tbody>
<tr>
<td>- 8.5 days</td>
<td>30.16</td>
<td>370</td>
<td>1040</td>
<td>5.5%</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>(64% 9 row)</td>
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</table>
Santina

- Very large
- Early
- Flavor is fair to good
- Tart/sweet but weak
- Heavily planted in Chile
- Nose end crack accentuated by rain
- Ships very well
- Self-fertile

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<tbody>
<tr>
<td></td>
<td>+/-Bing</td>
<td>30.7</td>
<td>319</td>
<td>1110</td>
<td>26%</td>
<td>(Bing 2.6)</td>
</tr>
<tr>
<td></td>
<td>-7 days</td>
<td></td>
<td></td>
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<td>(74% 9 row)</td>
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(29% Skeena)
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
- $S_2S_4$ (Benton)

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<tbody>
<tr>
<td>-5 days</td>
<td>30.3</td>
<td>317</td>
<td>1006</td>
<td>11%</td>
<td>2.4</td>
</tr>
<tr>
<td>(60% 9 row)</td>
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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 – Black Pearl, Ebony Pearl, Chelan

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<tbody>
<tr>
<td>-4 days</td>
<td>30.2</td>
<td>366</td>
<td>898</td>
<td>14%</td>
<td>2.7</td>
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<tr>
<td></td>
<td>(67% 9 row)</td>
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Coral Champaign

- UC Davis selection
- Never patented
- Third most popular cherry in California
- According to GFG from 2009-13 most widely planted new variety in Calif.
- Some new plantings in WA and OR
- Mid-season bloom $S_1S_3$ - Black Pearl, Burgundy Pearl

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<tbody>
<tr>
<td>-3 days</td>
<td>30.3</td>
<td>306</td>
<td>733</td>
<td></td>
<td>2.5</td>
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</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

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<th>PFRF</th>
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<th>Pitting 2013-2017 (Bing 2.6)</th>
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<tbody>
<tr>
<td>0 days</td>
<td>31.8</td>
<td>343</td>
<td>1251</td>
<td>8.7%</td>
<td>2.7</td>
</tr>
<tr>
<td>93%</td>
<td>9 row</td>
<td></td>
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Tamara

- Czech Republic
- About 1 week after Bing
- Excellent fruit size – 100% 9 row and larger
- Excellent firmness – 356 g/mm
- Very good flavor
- Possible replacement for Skeena?
- Stem pull force?
- $S_1S_9$ – Skeena, Attika

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<tr>
<td>+ 8 days</td>
<td>32.2</td>
<td>356</td>
<td>532</td>
<td>9%</td>
<td>2.34</td>
</tr>
<tr>
<td>(100 % 9 row)</td>
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Royal Helen

- Zaiger Genetics
- Very large
- Very firm
- Skeena/Regina timing
- Good flavor medium strong with meaty texture
- Mild sweet/acid balance
- High natural cracking
- $S_1S_4$ – Bing, Black Pearl

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<tbody>
<tr>
<td>+ 12 days</td>
<td>32.1</td>
<td>370</td>
<td>1261</td>
<td>17%</td>
<td>2.85</td>
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<tr>
<td>8.5 row</td>
<td></td>
<td></td>
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<td>(41% 8 row +)</td>
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</table>
Royal Edie

- Zaiger Genetics
- Very large
- Very firm
- Skeena/Regina timing
- Somewhat mild flavor
- Very meaty
- Crunchy
- 2013 & 2016 very high natural cracking
- $S_1S_4$ – Bing, Black Pearl

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<tr>
<td>+ 13 days</td>
<td>31.7</td>
<td>363</td>
<td>1296</td>
<td>15%</td>
<td>2.64</td>
</tr>
<tr>
<td></td>
<td>8.5 row</td>
<td></td>
<td></td>
<td>(84% 9 row +)</td>
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Radiance Pearl

- Cornell University
- Early Rainier type
- Spreading tree habit
- Moderate rain crack resistance
- Blooms $S_1S_{13}$ – Ebony Pearl, Rainier

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<tr>
<th>Harvest timing days +/- Rainier</th>
<th>Size (mm)</th>
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<th>Pitting 2013-2017 (Rainier 2.5)</th>
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<tbody>
<tr>
<td>-0.8 days</td>
<td>30.9</td>
<td>430</td>
<td>932</td>
<td>16</td>
<td>2.3</td>
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</tbody>
</table>
New Options for the PNW
Advances in Cherry Varieties?

• Varieties
  • It’s clear that there are exciting new varieties available to industry
  • None are perfect
  • But some may help to fill a particular need or timing