New Fresh Citrus Cultivars for Florida

Fred G. Gmitter Jr.
University of Florida-IFAS-CREC

Our Objectives

- Commercialization of new cultivars released for fresh citrus industry
- Evaluation of selections showing potential value
- Selection of superior candidates from within existing families
- Creation of new families using elite parents unique to the program
- Development of parents targeted to seedlessness and fruit quality
- Understanding the business, the marketplace, and the genetics of critical traits

UF-CREC Citrus Breeding

- Rootstocks
- Acid Fruit
- Sweet Oranges
- Mandarins
- Grapefruit/pummelo

Valenfresh™ sweet orange, a seedless selection of Valencia for fresh market or processing, late maturing and holds quality into June!

Seedless Valencia T2-21 – for fresh or processing. Delicious, seedless Valencia selection, fruit holds well on the tree, 3 weeks earlier than Valenfresh
Summary Impressions of Tangerines

<table>
<thead>
<tr>
<th>Tangerine</th>
<th>Extremely likely</th>
<th>Very likely</th>
<th>Somewhat likely</th>
<th>Not very likely</th>
<th>Not at all likely</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB8-9; Sugar Belle</td>
<td>19</td>
<td>38</td>
<td>25</td>
<td>20</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>S Belle</td>
<td>31</td>
<td>29</td>
<td>31</td>
<td>29</td>
<td>31</td>
<td>29</td>
</tr>
<tr>
<td>Dancy</td>
<td>39</td>
<td>28</td>
<td>39</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Minneola</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Clementine</td>
<td>14</td>
<td>6</td>
<td>7</td>
<td>14</td>
<td>6</td>
<td>14</td>
</tr>
</tbody>
</table>

Which one statement best describes how you might use this new variety of tangerine in your household?

- Would totally replace other orange varieties you buy
- Would sometimes replace other orange varieties you buy
- Would be use in addition to other orange varieties you buy
- Would be something that you would not buy at all

*Small base size, **Very small base, ªChicago only

NEW UF-IFAS Mandarins

- 900: September maturity; November quality
- Seedless Snack: Seedless mandarin, early season
- 950: Seedless, easy to peel, excellent color/flavor; “Florida Clementine”
- 411: AKA “Heather”, large, easy to peel, attractive, excellent flavor

UF 900: October 13, 2010

Tracking SS/Acid=Ratio

- **UF 900**
  - 9.56/0.81=11.8 (10-8-08)
  - 11.5/0.8=14.4 (10-20-08)
  - 7.2/1.4=5.14 (8-20-09)
  - 9.2/0.82=11.21 (9-16-09)
  - 9.4/0.7=13.43 (9-22-09)
  - 9.0/0.6=15.0 (9-29-09)
  - Rob (CREC), 9.2/1.05=8.76
  - “FL Tan”, 8.9/1.18=7.54

- **Fallglo**
  - 8.9/1.22=7.29 (10-8-08)
  - 10.6/1.1=9.63 (10-20-08)
  - 8.1/2=4.0 (8-20-09)
  - 8.9/1.3=6.84 (9-16-09)
  - 9.0/1.1=8.18 (8-22-09)
  - 8.7/1.22=7.13 (9-29-09)
“Seedless Snack”: delicious unique flavored early-maturing tangor, not a zipper-skin but can be peeled, good in November.

#950: NATURALLY SEEDLESS 2X!

EASY TO PEEL #950
UF 411: High Brix!

<table>
<thead>
<tr>
<th>Selections</th>
<th>Date</th>
<th>Brix</th>
<th>TSS/TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>411</td>
<td>1/28/09</td>
<td>17.40</td>
<td>19.65</td>
</tr>
<tr>
<td>711</td>
<td>1/28/09</td>
<td>13.00</td>
<td>13.67</td>
</tr>
<tr>
<td>Super Dancy</td>
<td></td>
<td>13.60</td>
<td>13.77</td>
</tr>
<tr>
<td>411</td>
<td>3/10/11</td>
<td>16.90</td>
<td>11.83</td>
</tr>
</tbody>
</table>

Summary Impressions of Tangerines

<table>
<thead>
<tr>
<th></th>
<th>Base Adults</th>
<th>411 Adults</th>
<th>Brix</th>
<th>TSS/TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>If this tangerine were available in your grocery store, how likely are you to buy it?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely likely</td>
<td>19</td>
<td>38</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Very likely</td>
<td>31</td>
<td>29</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Somewhat likely</td>
<td>26</td>
<td>6</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Not very likely</td>
<td>14</td>
<td>67</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Not at all likely</td>
<td>8</td>
<td>67</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Don’t know</td>
<td>3</td>
<td>31</td>
<td>12</td>
<td>3</td>
</tr>
</tbody>
</table>

Which one statement best describes how you might use this new variety of tangerine in your household?

- Would totally replace other orange varieties you buy
- Would sometimes replace other orange varieties you buy
- Would use in addition to other orange varieties you buy
- Would be something that you would not buy at all

Unique Characteristics of Red Pummelo C2-5-12

- Typical pummelo size, too large for packing house equipment
- Early maturing, ready for Thanksgiving and Christmas market with a pleasant, sweet flavor due to its high brix (11) and high sugar/acid ratio (12-13)
- Comparable to grapefruit in furanocoumarins (an alternative to red pummelo 5-1-99-5 that has very high furanocoumarins)
- Holds well on the tree, extending the period of harvest
- Canker tolerance unknown at present
Unique Characteristics of Red Pummelo 5-1-99-2

- Grapefruit-size, amenable to packing house equipment
- Unique non-bitter, sweet flavor due to its high brix (13) and high sugar/acid ratio (16-19 around Christmas)
- A favorite at NVDMC-sponsored fruit shows, potential for ‘Whole Foods’ type market
- Lower seed content than most pummelos (0-28)
- Lower than grapefruit in furanocoumarins
- Appears to be more canker tolerant than grapefruit
- Delicious juice that does not increase in bitterness during storage

UF 914: Low FC Grapefruit

- Brix 9.9; acid 0.99; ratio 10.0 (2/12)
- Ruby Red: Brix 9.2; acid 1.21; ratio 7.6 (2/12)
- Paradisin C, R Red vs. 914: 8.6 mg/l vs. none detected
- 6,7-DHB, Ruby Red vs. 914: 18.5 vs. 1.5 mg/l
- Bergamottin, R Red vs. 914: 15.6 vs. 0.7 mg/l
- Seedless; attractive red blush and flesh color
- Large grapefruit size (500 to 1000g)
- Juicy, sweet and grapefruit like flavor and aroma!

Thanks to NVDMC for Their Support