9 New Citrus Rootstocks – Descriptions and Data

UFR-1 (U.S. Patent Pending)

- Seed available
- Experimental Designation: Orange 3
- Tetraploid
- High yield
- Low-to-Medium HLB
- Potential salinity tolerance
- Potential Diaprepes/Phytophthora complex tolerance
- Small-to-Medium sized tree
- High fruit quality
- High confidence; Good, also for use in Advanced Citrus Production Systems

‘UFR-1’ top worked onto Carrizo citrange rootstock

(~10 Year old Tree)
**UFR-2 (U.S. Patent Pending)**

- Seed available
- TC liners available
- Experimental Designation: Orange 4
- Tetraploid
- Medium yield
- Low-to-Medium HLB
- Potential salinity tolerance
- Medium sized tree
- Medium fruit quality
- Medium confidence; good at 3 locations, better on the Ridge, less impressive in flatwoods.

*Valquarius*® Valencia on ‘UFR-2’
Valquarius® Valencia on ‘UFR-2’

Vernia on ‘UFR-2’
Sugar Belle® ‘LB8-9’ on ‘UFR-2’
(two trees on left)
UFR-3 (U.S. Patent Pending)

- Seed available
- TC liners available
- Experimental Designation: Orange 15
- Tetraploid
- High yield
- Low HLB
- Small-to-Medium sized tree
- Medium-to-High fruit quality
- High confidence; good at St. Helena trial; good for ACPS

Valquarius® Valencia on ‘UFR-3’
(This photo shows ACPS potential. 5 year old tree)
UFR-4 (U.S. Patent Pending)

- Seed available
- TC liners available
- Experimental Designation: Orange 19
- Tetraploid
- Medium-to-high yield
- Low-to-medium HLB
- Medium sized tree
- High fruit quality
- High confidence; blight tolerance; diaprepes/phytophtora tolerance; good at 4 locations; good for ACPS

Vernia on ‘UFR-4’
Sugar Belle® ‘LB8-9’ on ‘UFR-4’
(five trees on left)

Valencia on ‘UFR-4’
(5 year-old tree, between two Rough Lemon trees planted at the same time)
UFR-5 (U.S. Patent Pending)

- Seed available
- Experimental Designation: White 4
- Tetraploid
- High yield
- Low-to-Medium HLB
- Potential Diaprepes/Phytophthora complex tolerance
- Small-to-Medium sized tree
- High fruit quality
- Medium confidence; good at St. Helena; good for Advanced Citrus production Systems; good against Diaprepes/Phytophthora in GH Test.

‘UFR-5’ grafted onto Swingle citrumelo rootstock

(~11 Year Old Tree)
UFR-6 (U.S. Patent Pending)

- Seed available
- Experimental Designation: Changsha mandarin + 50-7 trifoliate orange
- Tetraploid
- High yield
- Medium HLB
- Small-to-Medium sized tree
- High fruit quality
- Cold Hardy
- Medium confidence; good at 3 locations including SG Dunwoody/Clewiston; good for Advanced Citrus production Systems.

‘UFR-6’ planted in Lee Alligator Grove, Osceola County

(~ 8 Year Old Tree)
UFR-15 (U.S. Patent Pending)

- Seed available
- Experimental Designation: 46x20-04-37
- Diploid, Sour Orange type
- No yield data
- Low HLB
- Large sized tree
- Medium-to-High confidence; No HLB at Alligator Trail; Robust trees with good fruit set.

Valquarius® ‘SF14W-62’ on ‘UFR-15’ tetrazyg rootstock

(over 5 year old tree at St. Helena, Dundee FL)
‘UFR-15’ grafted onto Swingle citrumelo rootstock

(~10 Year Old Tree)
UFR-16 (U.S. Patent Pending)

- Seed available
- Experimental Designation: 46x31-02-13
- Diploid, Sour Orange type
- No yield data
- Low HLB
- Medium-to-large sized tree
- Medium-to-high confidence; performed well at St. Helena; 4-year old, HLB positive tree growing.
UFR-17 (U.S. Patent Pending)

- Seed available in fall 2014
- Experimental Designation: Green #2
- Tetrazyg
- Medium Yield
- Low HLB
- Small-to-Medium sized tree
- Medium-to-High confidence; cold hardy; performed well at St. Helena; Limited trees performed well at two other locations.
Table 1. Rootstock Data from 5-year old trees in the St. Helena trial – Dundee, FL.

<table>
<thead>
<tr>
<th>Scion</th>
<th>Rootstock</th>
<th>Lbs Solids/Box</th>
<th>Yield Boxes/Tree</th>
<th>Cumulative Yield (Boxes)</th>
<th>Trees with Symptoms as of March 2013</th>
<th>Number of Trees in Trial</th>
<th>Percentage with HLB as of March 2013 (5 Years)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>2012</td>
<td>2013</td>
<td>2011 (35 mo.)</td>
<td>2012 (47 mo.)</td>
<td>2013 (59 mo.)</td>
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<tr>
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<td>KUHARSKE</td>
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<td>5.83</td>
<td>0.15</td>
<td>0.75</td>
<td>1.08</td>
<td>1.98</td>
</tr>
</tbody>
</table>

NS - not significant fruit; na - data not available; * - control commercial rootstock

\( ^{1}\)As yield varies according to a host of conditions, it is rated for the age and size of tree based on the scientist’s experience and judgment in comparison to trees on Swingle or Carrizo.

\( ^{2}\)Rating for leaf symptoms, and overall tree appearance and condition regarding HLB incidence and severity.

\( ^{3}\)Given that the data/info available is less than what would ordinarily be used to assess a rootstock in some instances, a description of a rootstock’s attributes as known is provided along with the researcher’s professional opinion regarding potential.