

Moving Forward with Improved Scion and Rootstock Cultivars

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CITRUS EXPO





Grapefruit Rootstock Trial



Grapefruit Rootstock Trial



**Vernia on Pummelo x Shekwasha
3.5 boxes & 12.5 Brix in 2020–21**



OLL-8 on UFR-4 (4 years)



OLL-8 on UFR-4 (4 years)



OLL-8 on UFR-2 (4 years)

- **Early HLB-era experiences**
 - Older plantings, from pre-HLB days
 - Younger plantings, post-HLB arrival
 - Different conclusions on rootstock impacts
- **Current Experiences**
 - Inconsistencies: rootstocks, locations, growers, years
- **How to navigate the current time**
 - Generalized prescriptions?
 - “Personalized medicine”?
 - Do your own homework!
 - crec.ifas.ufl.edu/citrus-research/rootstock-trials/

Rootstock Recommendation Dilemma



EV 1 and EV 2



EV 2 on 4-year-old tree



Hamlin N13-32



Valquarius™



7-year-old Valquarius™

Nearly Seedless Midsweet UF 11-1-24



Productive, high solids, color score ~36, earlier maturity

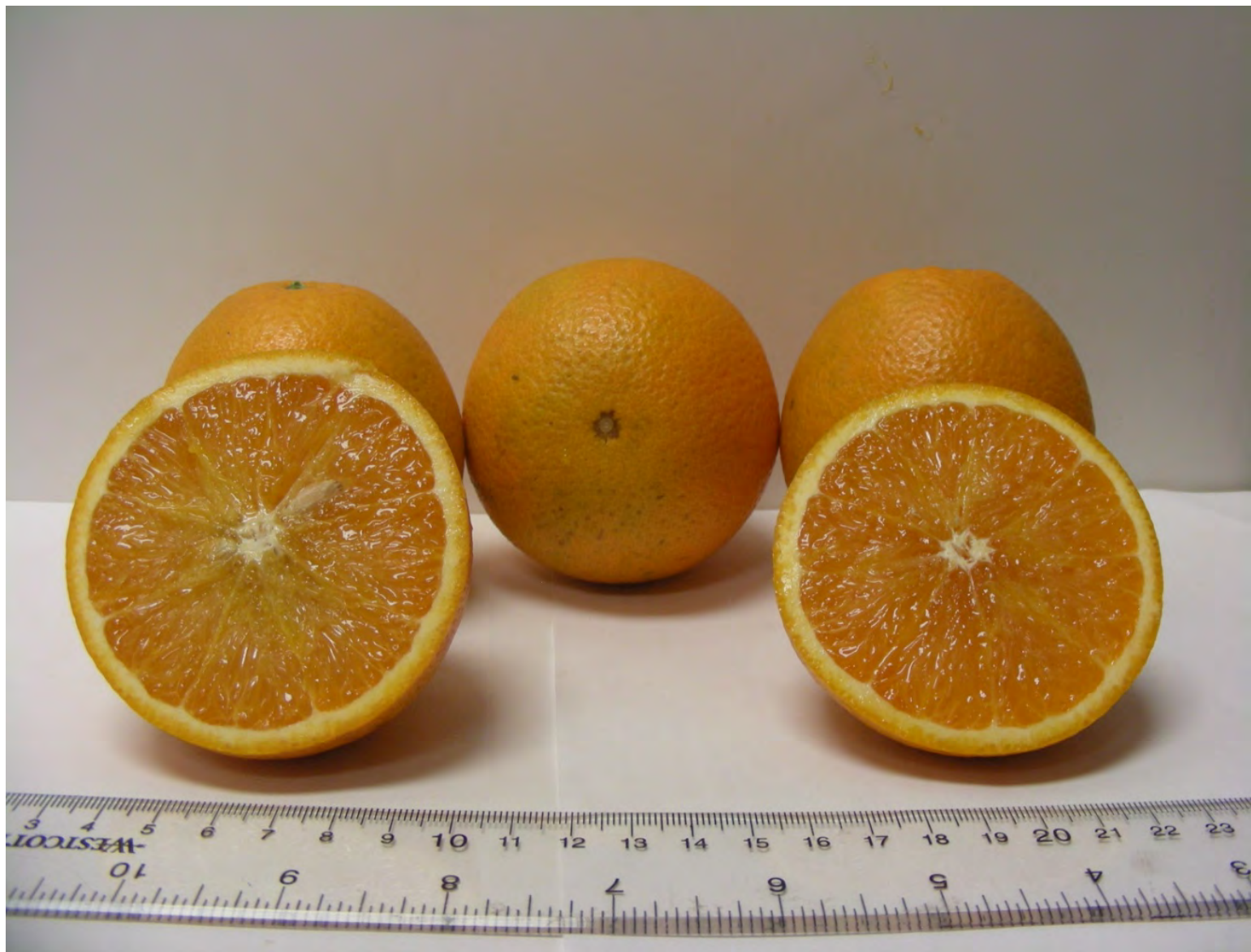


B9-65 Valencia

High yield and solids, even from young trees



Valenfresh™



OLL-8



**7-year-old OLL-8 trees on rough lemon (St. Cloud). 6.65 lbs. solids
2021- outperforming Vernia, Valquarius and Valencia**



New Release OLL-20

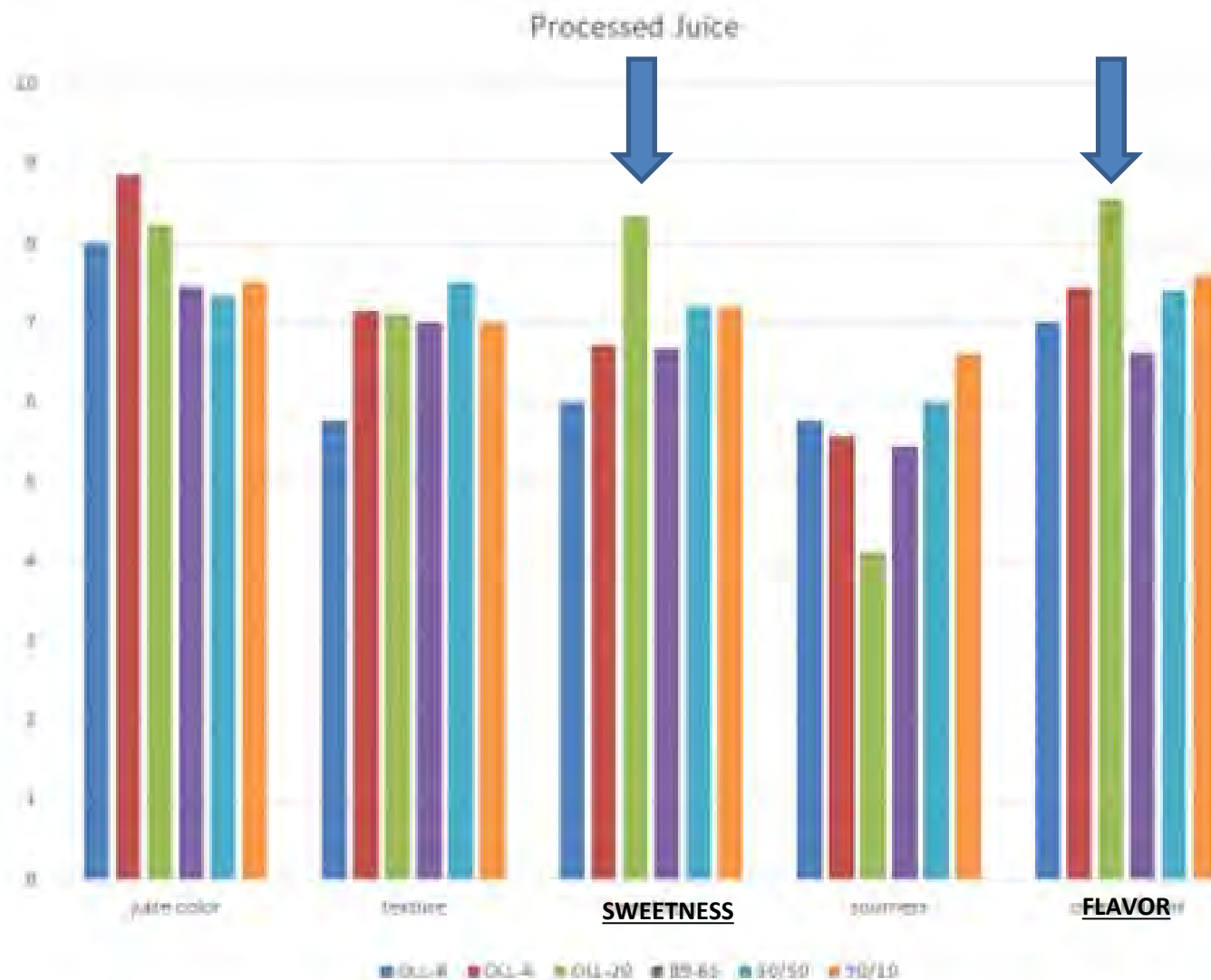


Figure 9. February 19, 2019 UF-CREC Juice Display Results (subjective meanscores from display attendees; scale of 0-10 with 10=perfect score). B9-65 is a superior clone of Valencia, 50/50 is a 1:1 blend of pasteurized Valquarius and LB8-9 Sugar Belle® juice; 90/10 a 9:1 blend of the same.



CREC-Developed Oranges and Rootstocks

SW Florida 2021




Fresh
from
Florida



Sugar Belle® near Vero Beach, HLB+ >8 years !

The HLB Tolerance of LB8-9; Sugar Belle®



- **Sugar Belle harvest periods are compressed, 3-4 weeks**
- **How much fruit can move through a narrow window?**
- **Can Sugar Belle® contribute to the OJ stream?**
- **Can clever marketing move more fresh fruit?**
- **Marketing quality requires quality**
- **2020 was a bad year for Sugar Belle® quality; will our changing climate mean more bad years?**

LB8-9 Sugar Belle® Considerations



'BINGO'



Typical Fruiting Habit



'Bingo' at Harvest 30 Sept. 2015



'Bingo' 2 weeks after Degreening (L)

16 October 2015

- **Very early and attractive, easy to peel and always seedless, superb eating experience; competitive with imported southern hemisphere fruit (late season W. Murcott/Tango)?**
- **Tree establishment and dieback challenges, but also vigorous growth and HLB tolerance**
- **Cropping challenges: fruit set/size, splitting, fruit drop**
- **Harvest challenges: clipping required**
- **Early conclusions based on young trees, are they valid?**

Bingo Considerations



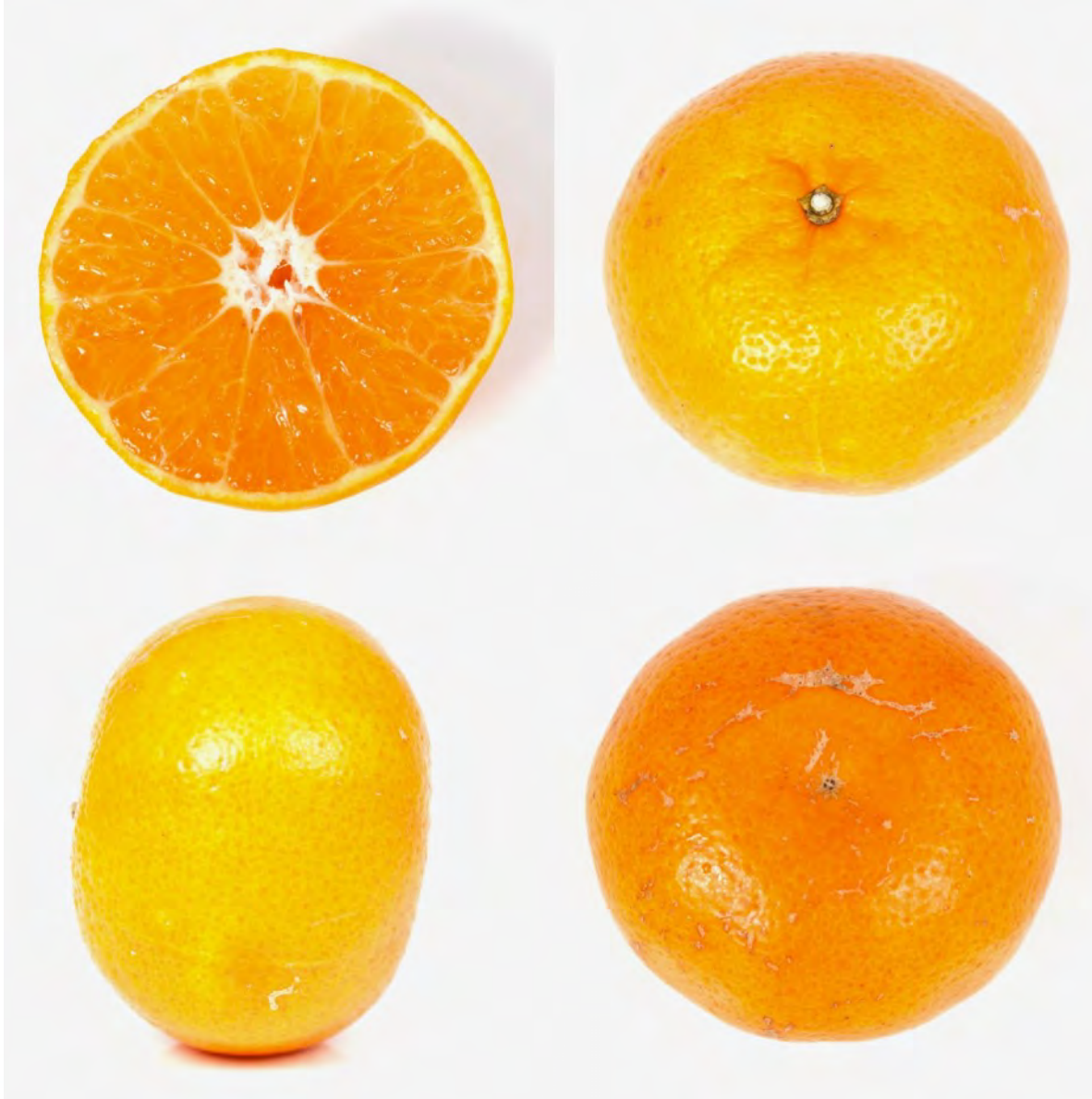
Original Seedling Tree 7-6-27



Bingo 3rd Year Pruned Trees



Bingo 3rd Year Pruned Tree



Marathon



Marathon



Marathon/Sour Orange 4 yr



Harvest: 30 Sept 2015



2 weeks post-degreening, top rows treated

1420: Response to Ethylene

Selection	Degreening	6 weeks of storage	8 weeks of storage		
		Healthy Fruit (%)	Healthy Fruit (%)	Total Decay (%)	Total Peel Breakdown (%)
BB-4-8-20	yes	100.00	62.50	25.00	12.50
	No	100.00	75.00	12.50	12.50
Bingo	yes	100.00	92.30	7.70	0.00
	No	100.00	92.85	0.00	7.15
1420	Yes	100.00	100.00	0.00	0.00
	No	100.00	100.00	0.00	0.00
Fallglo	Yes	100.00	66.66	33.33	0.00
	No	100.00	83.33	16.66	0.00

Post-Harvest Performance

- **Early and attractive, fairly easy to peel and always seedless, good quality; competitive with imported southern hemisphere fruit (late season W. Murcott/Tango)?**
- **Longer harvest season, can be held into December**
- **Good HLB tolerance**
- **Doesn't seem to bear fruit precociously on vigorous rootstocks**
- **Clipping likely is not required**
- **No long-term experience with growers until now, so risk is higher**

Marathon Considerations

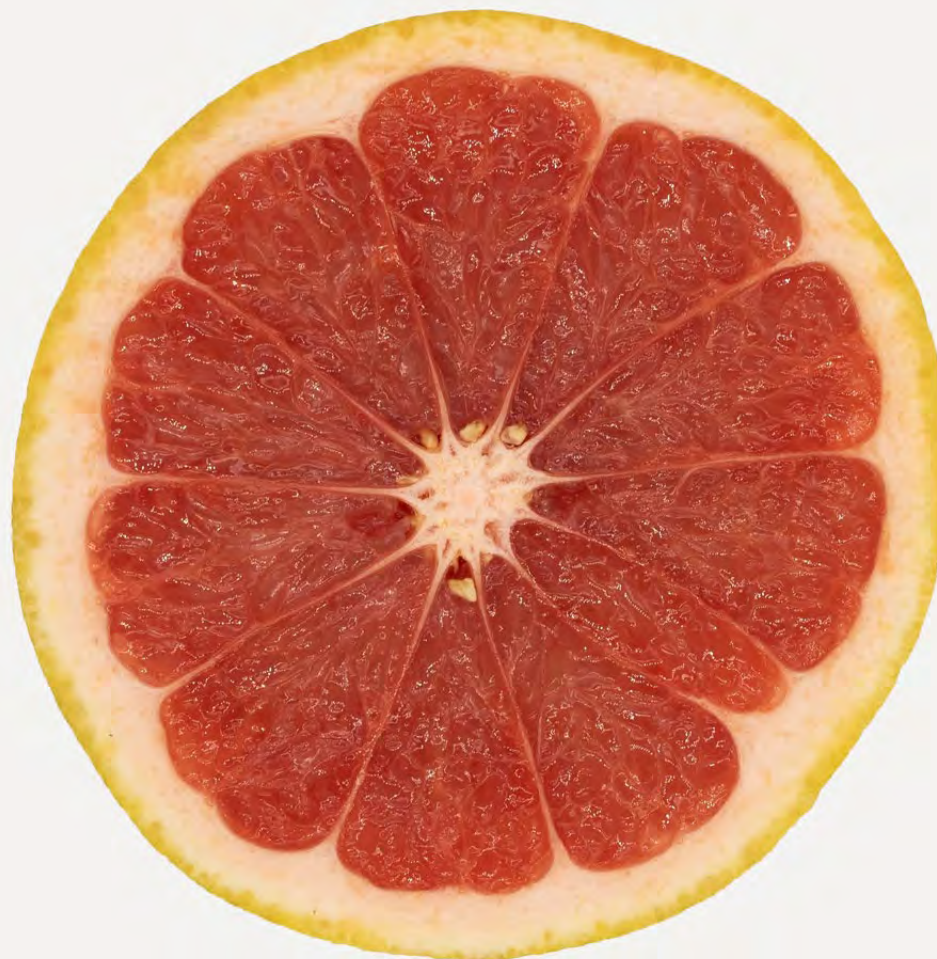
UF 914

- Red flesh color
- Attractive peel blush
- Grapefruit size (+)
- Grapefruit flavor and aroma
- Tender and juicy flesh
- Very low in FC's (GJE)
- Seedless
- Good brix, lower acid
- SWEETER!



- **Potential medical claim to make, to recapture the “Senior Market”**
- **Is there a basis to market UF 914, other than the counter to the drug interaction? Yes! Focus group also showed that “grapefruit haters” really enjoyed UF 914 fruit**
- **Focus group showed it is distinguishable from grapefruit to ordinary consumers**
- **South Korea, what they buy, and how they use it**
 - **Red grapefruit, to mix with sugar and tea or “shojiu”**
 - **White fleshed “Sweeties” for fresh, but red is BETTER!**

What to think about UF 914?



UF 914 CUPS Fruit
January 2021



Lemons for Processing

- **CE-D-5 1-9-42** **0 min; 1 max; avg=0**
- **TDA-D-3 1-16-16** **0 min; 0 max; avg=0**
- **Bea-D-5 1-15-23** **0 min; 1 max; avg=0**

Seed Numbers in New Lemon Releases



Seedless Lemons

- Many new sweet oranges with improved quality have been released; they are gaining traction, with growers and processors
- Several fresh cultivar options released under the Fast Track
- Rootstock releases from UF and USDA are having an impact; there is no simple answer for “what to plant?”, but there is a lot of information that can provide guidance
- As with any financial investment, individuals should determine their own risk tolerance and balance this with potential rewards
- CREC breeding team is making a new hire to expand our trials, generate more insightful information, and to study how best to manage our new cultivars for success

Conclusions



What's new, 2031?



THANK YOU!

We acknowledge with gratitude the support of our industry over the years.