

# Development of High Quality True Sweet Oranges to Replace ‘Hamlin’

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## Take Home Message:

- Reliable improved high-quality early- and mid-season sweet oranges are becoming available.
- Early maturing ‘Vernia’ clones may allow the juice plants to open December 1.
- New clones producing higher brix from trees with HLB can solve the current brix crisis in our industry.

**Effort Statement:** Another season of data from trees without psyllid control validates the earlier maturity of these selected clones.

**Summary:** The Florida Processing Industry has always relied on ‘Hamlin’ as the primary orange for the first half of the season. However, ‘Hamlin’

has fallen out of favor because of its higher susceptibility to huanglongbing (HLB), which causes both reduced juice quality and severe fruit drop prior to harvest. Thus, our industry badly needs more robust replacement sweet orange cultivars that produce higher quality juice from the beginning of December until mid-January when ‘Valquarius’ and ‘Vernia’ mature. We are screening selected somaclone-derived nucellar seedling populations of OLL (Orie & Louise Lee) and ‘Vernia’ sweet oranges and we have discovered a higher-than-expected rate of useful genetic variation. Now 10 clones of ‘Vernia’ have repeated three consecutive seasons for earlier optimum maturity the first week of

December, reaching ratios of 15 with grade A juice color. Among these, clone MB-R25-T7 has produced the highest brix (13 from February fruit), and MB-R25-9 continues to show the best HLB-tolerance. Three new OLL clones FB-7-35, FB-4-6 and FB-4-13 have repeated multiple seasons for January maturity, with higher brix and soluble solids than the ‘Vernia’ clones. All of these promising new clones have been entered into the Parent Tree Program (PTP), as necessary for subsequent commercialization. Continued evaluation of these new sweet oranges should quickly improve the portfolio of sweet orange cultivars needed to guarantee season-long, high-quality juice for our NFC industry.

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