Development of High Quality True Sweet Oranges to Replace Hamlin

Researchers: Jude Grosser, Fred G. Gmitter, Jr., Maria Quirico, Maria Brenelli

Contact: Jude Grosser
jgrosser@ufl.edu

UF/IFAS CREC

Early-maturing (1st of December) Somaclone-derived seedling Vernia clone MB-R25-T9. Trees grown in Lee Alligator Grove, St. Cloud with no psyllid control.

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 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-T9 is showing good HLB-tolerance. Three new OLL clones have been identified that are maturing in early January, with higher brix and soluble solids than the 'Vernia' clones. Six of these 'Vernia' clones and the three OLL 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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