

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

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*Left: standard ‘Valencia’; Right: Somaclone-derived seedling ‘Vernia’ reset. 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. Another consequence of this is the later opening of processing plants, that now usually occurs the first week of December. 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. Our program recently released two early-maturing ‘Valencia’ clones ‘EV-1’ and ‘EV-2’. With the later plant opening date, processors have deemed these selections as ‘too early’, as they reach peak maturity in mid-November. Thus, our program is now focused on the December to mid-January harvest window. 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. Eight clones of ‘Vernia’ have repeated

two consecutive seasons for earlier optimum maturity the first week of December, and two OLL clones have repeated for optimum maturity the first week of January. Four of these ‘Vernia’ clones and the two OLL clones have already 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.

## Funding

