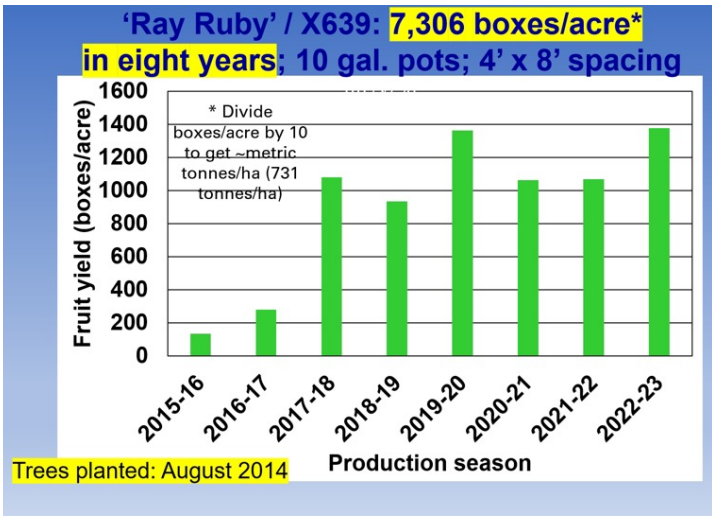
Citrus Under Protective Screen (CUPS)

Researchers: Arnold Schumann, Ariel Singerman, Jawwad Qureshi, Mark Ritenour

Contact: Arnold Schumann, schumaw@ufl.edu

UF/IFAS CREC



Take Home Message:

- After 8.5 years, the HLB incidence in the UF/IFAS CREC CUPS is just over 0.5%.
- Citrus canker does not survive in CUPS, which is a great benefit for grapefruit production.
- Although three hurricanes (2017, 2022) damaged the CUPS, repairs were made and citrus production continued unabated, with no damage to tree canopies and no fruit drop.

Summary: After eight seasons of citrus fruit production in citrus under protective screen (CUPS), research at the UF/IFAS CREC demonstrated that the modified environment provided by anti-insect screen houses excludes Asian citrus psyllids (ACP), prevents huanglongbing (HLB), increases tree growth rates, yields and fruit quality, while also preventing citrus canker and tree damage from hurricanes. The added value of storm protection by CUPS is very important given that a conventional grove can take up to five years to recover from hurricanes. Cumulative red grapefruit yields of 7,306 boxes per acre were measured over eight seasons, with annual yields twice reaching 1,400 boxes per acre. Packout of the fruit at a commercial packinghouse was usually in the 99 to 100% range due to excellent fruit size and internal quality. Fruit drop in the CUPS was nearly zero. The amount of irrigation water, fertilizer, herbicide and pesticide used per dollar of net fruit revenue produced in CUPS is only a fraction (10-16%) of that used in HLB-affected groves because the trees in CUPS grow twice as fast, with healthy roots to efficiently absorb the water and nutrients and healthy trees to utilize them optimally. Grapefruit varieties are well suited for CUPS fruit production because they thrive in the hot screen houses, produce high yields, and exhibit minimal alternate bearing. Other promising varieties for CUPS are 'Murcott', 'W. Murcott', 'Early Pride', 'Dancy', Sugar Belle®, 'Kinnow', 'Temple', 'Minneola', UF914, and 'Valencia'. Some of those varieties have strong alternate bearing patterns. 'Persian lime', 'Eureka' lemon, and 'Meyer' lemon also thrive in CUPS.

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