

# Progress with Rootstock Screening for HLB Tolerance/Resistance

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*One-year old tree of dark red grapefruit clone N40-11-7 on a cutting of 'gauntlet' rootstock S10xS15-12-25.*

The ultimate solution to the HLB problem is having good rootstocks that can mitigate or eliminate HLB impacts in any grafted commercial scion. With this, growers could profitably grow any scion including grapefruit, 'Hamlin', or even 'Murcott'. Thus, our rootstock breeding efforts focus on directly screening new rootstock hybrids for their ability to confer HLB tolerance or perhaps even resistance to grafted scions. To date, approximately 18,000 hybrid seeds have been

screened in our high throughput 'gauntlet' screening process. We have identified several promising hybrids showing the ability to transmit HLB tolerance across the graft union into the infected 'Valencia' scion. Most of the promising new rootstock candidates are from the 'gauntlet' screening, but we have also identified a few from other field trials, including apparent deletion mutants of x639 and UFR-1. A few of these rootstock candidates show no CLas replication in the

roots, and suppression of CLas in the scion. These rootstock candidates are being propagated by rooted cutting and tissue culture micropropagation (Agromillora Florida Inc., Wildwood, FL, and Philip Rucks Nursery TC Lab, Frostproof, FL) for subsequent Stage 2 trials. Several of the most promising selections also have good genetics to battle other rootstock issues including high salinity and citrus blight.

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