

Field Trials of Rootstocks and Scions: What Can They Tell Us?



By Harold Browning

Plant breeding programs have been a mainstay of citrus production worldwide. They have served as a basis for gradual improvement in fruit quality, adaptability to varying growing environments, and most importantly, to disease management. For that reason, new germplasm has been a front line of pursuit in the fight to develop management programs for HLB in Florida and elsewhere in the world. Work continues to unravel genetics and to understand how to make new combinations of germplasm using conventional breeding tools and biotechnological tools. This is important, but the Citrus Research and Development Foundation (CRDF) is critically interested in helping growers learn more about the current materials that are available for planting in Florida.

The breeding programs of the U.S. Department of Agriculture's Agricultural Research Service and the University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) have focused much of their attention on addressing HLB. If you are reading this, you are already aware of the various releases of rootstocks, breeding projects underway and wide range of field trials that exist in Florida. As if anticipated, UF/IFAS developed and adopted an early-release process about the time that huanglongbing (HLB) was first reported in Florida. The goal was to deliver rootstock and scion alternatives in a shorter time with less accompanying evidence of performance so that growers could plant them and begin to learn from direct experience. With escalating challenges from exotic diseases like citrus canker and HLB, it was believed that shifting the timeline for availability, while shifting some of the risk of performance evaluation to growers, would allow new materials to be delivered in "real time."

CRDF recognizes that during this critical period in responding to HLB, new plant materials must be considered. That is the basis for concentrated effort and attention to field trials comparing new germplasm in Florida to our established standard rootstocks and scions. HLB has forced a new game plan. With dozens of field trials at grower sites and public research facilities, we must learn as much as possible from these trials. Growers want to try new materials, but want to consider all available information in making choices. They are turning to nursery professionals for recommendations, as they have always done, and nurseries likewise have limited experience.

The availability of new materials through rootstock and scion release always raises questions about performance. When added to the unknowns surrounding HLB, the limitations on performance history with new materials (and even with our standards under HLB pressure) are paralyzing.

We must learn as much as we can, as soon as we can, so growers planting resets or new groves can make the most informed decisions. The good news is that there are a large number of trials in the field that can provide data and information to help fill the gaps. CRDF will continue to push forward to take advantage of this investment by all.

Harold Browning is Chief Operations Officer of CRDF. The foundation is charged with funding citrus research and getting the results of that research to use in the grove.



Column sponsored by the Citrus Research and Development Foundation