

Phoenix Project May Take Flight



By Rick Dantzer, CRDF chief operating officer

The Citrus Research and Development Foundation (CRDF) recently convened a joint meeting of its board, Research Management Committee and Select Committee on Plant Improvement to discuss the pathway forward in plant breeding. Many other industry partners participated. The most likely long-term solution to HLB is widely considered to be plant breeding.

A CRDF staff idea that participants considered was the Phoenix Project, which proposes to develop an evaluation system to categorize existing germplasm into three levels. The goal is to find the best and most tolerant HLB citrus varieties from existing plant materials. These would then be grown in large enough quantities to infuse the industry with trees that will significantly increase citrus production until biotech programs develop high-quality citrus varieties that are sufficiently HLB tolerant or resistant for sustained future fruit production.

Of critical importance is presenting growers with enough data to convince them that new releases are worth planting. To do this, the Phoenix Project would use the CRDF Select Committee on Plant Improvement (perhaps expanded to include more citrus growers, Extension agents, nursery owners, regulatory officials, juice processors and researchers) to adjudicate the suitability of advancing germplasm for large-scale propagation. Citrus breeders, researchers, industry partners and growers would nominate varieties for consideration based on supporting data.

The Select Committee would then debate the nominations, ultimately placing them into one of three levels. Level 1 would be those cultivars possessing sufficient data to suggest propagation for mass distribution. Such candidates would be submitted to the Florida Department of Citrus' Program for Expedited Propagation of HLB Tolerant and Resistant Trees. Level 2 would be those that have sufficient data to support consideration but need additional testing on a larger scale. Level 3 would be cultivars for which there is insufficient data to support further industry interest at this time.

To get robust field trials started to test candidates in Levels 1 and 2, CRDF would lease three tracts of land, one in each major citrus-growing region of the state.

In addition to the Phoenix Project, attendees considered other policy questions, such as the importance of more genotyping. Processors emphasized the need for breeders to measure limonene as well as Brix, acid and ratio. Also, the group heard a presentation from Eric Triplett and Zhonglin Mou of the University of Florida Institute of Food and Agricultural Sciences on mature transgenics that Mou has created and Triplett's effort to get them approved by regulatory authorities.

The general sense of the group was that all tools in the toolbox needed to be developed, regardless of whether the industry ultimately chooses to pull those triggers or not. Helpful to the discussion was hearing the experience of apple breeders who have successfully permitted six transgenic and three CRISPR apple varieties, including CRISPR varieties that are being sold in Italy.

The Phoenix Project has not yet been formally considered by the CRDF board. If a decision is made to proceed, a meeting of a reconstituted Select Committee on Plant Improvement will occur to begin reviewing germplasm.



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