Bayer Project Update

By Rick Dantzler, CRDF chief operating officer

It's been a while since this column addressed the project the Citrus Research and Development Foundation (CRDF) and its private-sector funding partners, PepsiCo and Coca-Cola, have underway with Bayer Crop Science. It is the most expensive in CRDF's history at $12,610,000, so the fiscal impact alone makes it worthy of discussion.

Started in early 2017, the project has two objectives: 1) to develop a plant defense modulator (PDM) to cause the plant's natural defenses to fight HLB, and 2) to develop an antibacterial microbe to kill liberibacter, the bacteria that causes citrus greening.

Because of the project's size and scope, a committee was formed to oversee it. The committee meets at least twice a year. Work on the project is taking place in Bayer labs in France, Germany and California, and there are three field trials in Florida to test the products that show promise.

To date, Bayer has developed a PDM that is quite promising. Referred to as its "H Class," the product has survived all of Bayer's internal milestones on the way to commercialization. Unfortunately, development is expected to take 10 to 12 years, so it isn't going to provide help soon. Nevertheless, it is a product that Bayer is very excited about, especially since it has shown efficacy against phloem-living bacteria in several vegetables, something that is necessary for product development since the citrus market alone is not large enough to support the amount of investment Bayer would have to make ($200 to $250 million) to bring a product to market.

The development of an antibacterial microbe is not as mature, even though Bayer has several compounds it is testing with many more in the pipeline. With the project's funding, Bayer has built a high-throughput system to test 500 compounds per calendar quarter. So far, approximately 3,000 of 55,000 compounds Bayer has identified as good possibilities for efficacy against liberibacter have been tested. While the time to develop a product of this nature is less than the PDM, it is still five to seven years out once Bayer decides to bring it to market.

Here's where we are on the money: The project is fully paid through June 30, 2020. However, at a burn rate of nearly $5 million last year (when the project was up and operating at maximum scale), CRDF simply can't continue funding the project at such a level. Bayer has provided a scaled-back work program, primarily by eliminating one of the three field trials, but even that costs $3,400,700 per year, which is still beyond CRDF's means.

Consequently, we have asked the California Citrus Research Board to assist, and its research committee has recommended approval. If the board ratifies the recommendation, our plan would be to jointly apply for a U.S. Department of Agriculture National Institute of Food and Agriculture grant, and co-fund, along with PepsiCo and Coca-Cola, bridge funding until Uncle Sam makes up his mind, which we believe will happen before the end of this year. Keep your fingers crossed that federal funding comes through, because that is most likely the only way the project can continue beyond this calendar year.

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