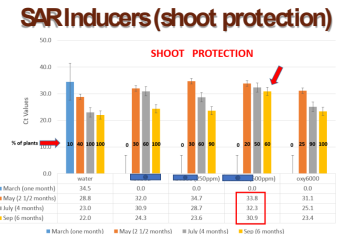
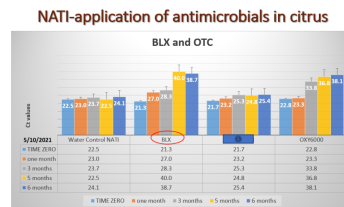


Collaborative Approach Between Academics, Growers, and Agrochemical Industry to Discover, Develop, and Commercialize Therapies for HLB

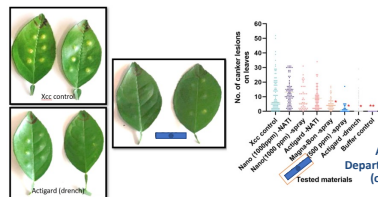
Researchers: Ozgur Batuman, Denise Manker, Kranthi Mandadi, Cristina Davis

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obatuman@ufl.edu

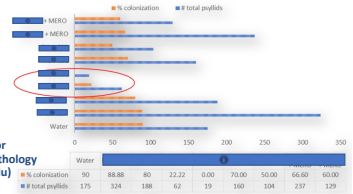
UF/IFAS SWFREC



Screening of SAR inducers for canker: preventive



Are SAR inducers also ACP deterrents?



Researchers from UF/IFAS, Texas A&M, UC Davis, and Bayer Crop Science, situated in Lyon-France, Mannheim-Germany, and California, USA, are continuing work on developing effective therapies for HLB. A therapeutic screening pipeline was established where thousands of compounds with the potential to control HLB are being screened first in silico and later in laboratory, greenhouse, and field conditions, respectively. In this process, we have already identified compounds of interest that include a class of synthetic plant defense inducers (PDI) and natural antimicrobial

extracts that are now being tested for their efficacy in preventing HLB infection of young shoots and slowing HLB infection of new trees. Although some compounds were phytotoxic when used in high concentrations, we utilized the hairy-root (laboratory) and greenhouse screening assays to determine non-phytotoxic concentrations. By applying PDI treatments ahead of ACP colonization to activate plant defense (priming) and prevent bacterial infection, we observed that young flushes were being protected from HLB. Some of the preliminary experimental results

were encouraging and provided a substantial delay in HLB infection (~3-7 months) after 2-3 applications. Moreover, some PDIs also were significantly effective in citrus canker control (see photo). We are now testing some of these compounds on newly established citrus trees in four different grove sites in Florida. We are analyzing leaves from these treated plants for metabolomic response to develop an early and more sensitive HLB detection method, allowing us to better assess the efficacy of our applications without any lengthy delay.

Funding

USDA National Institute of Food and Agriculture
 U.S. DEPARTMENT OF AGRICULTURE