

## Current Research Objectives

Dr. Evan Johnson, Research Assistant Scientist, Plant Pathology, CREC ([egjohnson@ufl.edu](mailto:egjohnson@ufl.edu)) and Dr. Megan Dewdney, Associate Professor, Plant Pathology, CREC ([mmdewdney@ufl.edu](mailto:mmdewdney@ufl.edu))

**Research topic:** HLB management

**Primary Research Objective(s):** Develop Zinc oxide based nanoparticles for systemic movement in citrus trees and management of HLB

**Research Goal:** Develop a spray or soil drench applied chemical treatment to improve HLB yield

**Outcomes to date:** We have demonstrated systemic movement of the Zinkicide nanoparticles from roots to leaves using citrus canker inoculations. A low-cost and stable agricultural formulation has been developed for EPA registration. This formulation has been shown to produce a dose dependent yield improvement. Zinkicide has also been shown to increase fruit size, improving the quality of fruit from HLB-affected trees  
An agrichemical manufacturing company has licensed the technology and developed a large-scale synthesis method. Possible registrants (Agrichemical companies) have been actively pursuing licensing agreements for EPA registration and sale of Zinkicide nanoparticles after yield responses presented at the IFAS booth at Citrus Show in January and Citrus Expo in August 2018.

**Funding source for this objective(s):** USDA-SCRI-CDRE, previously CRDF