



**M.S. in Plant Pathology, Graduate Research Associateship at THE OHIO STATE UNIVERSITY-
WOOSTER CAMPUS, DEPT. PLANT PATHOLOGY**

Anticipated Start Date: Fall 2017 or Spring 2018

Validation and implementation of food safety strategies in hydroponic specialty crops

Food safety is critical to the fresh produce industry in Ohio. In addition to being a public health concern, food safety issues have had an adverse economic impact on growers and packers. While the FSMA Rule will be implemented shortly, solutions for meeting the requirements in hydroponic greenhouses, and particularly the water quality and sanitation standards are lacking. 1) The Ohio State University will develop prevention, control and intervention strategies for hydroponic leafy greens. Researchers from the Departments of Plant Pathology and Human Sciences, Human Nutrition, Wooster and Columbus, will lead this project. 2) We will establish die-off rate metrics for water contamination in regular and flooding conditions, and protocols for four different water treatments. Surface sanitation protocols will be tested. Comprehensive Food Safety Programs (water management and surface sanitation) will be developed and translated into user-friendly SOPs. 3) We will achieve this through the following objectives: 1) quantify food safety risks due to greenhouse water contamination in leafy green hydroponic production during regular and emergency events (flooding) over time, 2) establish water treatment protocols and quantify the impact of water sanitation protocols on plant yield and health, 3) assess effectiveness of sanitation protocols to mitigate food safety hazards associated with contaminated surfaces and 4) develop specialty crops specific, science-based food safety programs encompassing standard operating procedures for water management and surface sanitation in leafy green hydroponic operations. This study will enable the implementation of food safety strategies in hydroponic specialty crops and lead to long-term improvements in the safety of Ohio grown fresh produce.

Desired qualifications: Bachelor's degree in microbiology, food science, food microbiology or a related discipline.

For more information about the M. S. Plant Pathology Graduate Program, application requirements and procedures, visit plantpath.osu.edu/gradapply

CONTACTS

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