Plant Pathology Seminar Series

Adapting new technologies for the molecular diagnostics of high consequence and regulatory plant pathogens

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Abstract

Plant diseases continue to threaten agriculture and food production systems worldwide. In this global economy, agricultural biosecurity depends largely on rapid detection of emerging or known diseases domestically and at ports of entry to establish quarantine measures or enforce phytosanitary restrictions. The USDA APHIS PPQ Science and Technology Laboratory in Beltsville, Maryland, focuses on using the latest technology for the molecular detection and diagnostics of plant pathogens of high consequence for the United States. Over the years, technologies like CANARY, isothermal amplification, and High Throughput Sequencing have been used to support decisions that safeguard US agriculture and trade. This presentation will discuss the successes and challenges in the diagnosis of plant pathogens, and current efforts using the latest technologies.

Biography

Dr. Yazmín Rivera obtained her Doctoral degree from SUNY-College of Environmental Sciences and Forestry, and her MS and BS from the University of Puerto Rico-Mayaguez Campus in her native Puerto Rico. She currently works as an Assistant Laboratory Director at the USDA APHIS PPQ Science and Technology Beltsville Laboratory leading the Methods Development Team. She has led projects using High-Throughput Sequencing (HTS) as a diagnostic tool for virus detection, generation of whole genomes through HTS to support plant pathogen diagnostic method development and evaluation. She has participated on national and international efforts to standardize protocols and guidelines for using HTS as a diagnostic tool for plant virus detection. Before joining PPQ, Dr. Rivera worked as a Post-Doctoral Intern on the Integrated Clinical, Extension, Research and Regulatory Program in which she gained experience on plant pathogen diagnostics, extension education, and identification of PPQ intercepted fungi. She served on the APS Public Policy Board for two years. Her research as a Post-Doctoral Research Associate at USDA ARS involved the use of genomics for studying the population genetics of downy mildew pathogens of ornamental plants and boxwood blight fungi.

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