

WSU Plant Pathology Seminar

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Linking Regional Monitoring with Molecular Ecology Assess Dynamics of Vector-Borne Plant Pathogens



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Abstract: Insect species that transmit plant pathogens threaten agricultural crops worldwide, and in the PNW are major pests of dryland crops (wheat, legumes), tree fruits, and irrigated vegetable and seed crops. Insect vectors are notoriously difficult to control, however, as they are often generalists that move between non-crop and crop hosts over broad landscapes. Producers are also risk averse when managing vectors given the potential damage they may incur due to disease outbreaks. In this presentation I will discuss how teams of WSU research and extension scientists have partnered with USDA and industry colleagues to conduct regional monitoring of insect vectors and plant pathogens. Using a variety of tools from a molecular ecology toolkit, we also identify pathways of vector and pathogen movement over broad landscapes. Our work is designed to aid farm industries better forecast outbreaks of insect vectors and plant pathogens to improve effectiveness of management.

Short biography of Dr. David Crowder

Dr. Crowder is a Professor of Entomology and Director of Decision Aid Systems (DAS) at WSU. His laboratory uses experiments and models to assess factors mediating dynamics of insect populations and insect-borne pathogens in agricultural ecosystems. As the Director of the WSU DAS, Dr. Crowder coordinates regional studies of insect pests and plant pathogens and leverages these studies along with site-specific weather data to guide management. He receives dual BS degrees in Computer Science and Environmental Science and a MS in Environmental Science at the University of Illinois, and a PhD in Entomology from the University of Arizona.