

# Plant Pathology Seminar Series

## Diagnostic Re-thinking: Development and deployment of new molecular testing for berry pathogens

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### Abstract

The global berry industry is very competitive and involves propagating of planting stocks and shipping them from nurseries to fruit production fields across wide geographical borders. This huge plant movement presents various plant health challenges. I will share with you the development of new detection tests for Rubus yellow net virus. This very under-studied virus has either infectious form, or non-infectious form that does not pose any phytosanitary risk. However, not much information was published about these forms, and current diagnostic tests used by regulatory agencies do not discriminate these two forms. This has unnecessarily interrupted movement of raspberry nursery plants. I will also present the deployment of an assay for quantification of the main major strawberry pathogens, even with very low inoculum densities. This assay includes systematic grid plant sampling in the nursery field totaling hundreds of acres. Samples are then subjected to high volume DNA extraction and purification before molecular diagnostics using pathogen-specific quantitative PCR. Test result, with field scale geospatial information, is then used by the operation teams in US and EU for targeted harvest of clean nursery plants.



### Biography

Dr. Ho was born and raised in the Mekong delta from south east Asia. He completed his BS in Agriculture at Can Tho University, Vietnam, with a dissertation on rice mycoherbicides. Thien then went to the Indian Agricultural Research Institute, New Delhi for an MS in plant pathology and worked on characterization of a tospovirus in mungbean. In 2003, he joined the University of Oxford in England for a DPhil in Biochemistry and studied plant antiviral gene silencing mechanism. Thien did his postdoc at Oxford and Dundee (Scotland) before coming to the US to work on berry viruses for Dr. Ioannis Tzanetakis (University of Arkansas) and the National Clean Plant Network. Since 2015, Thien is a plant pathologist at Driscoll's in Watsonville, CA, leading the company's nursery and molecular pathology research and service for strawberry, raspberry, blackberry, and blueberry.

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**Zoom Link and ID:** <https://wsu.zoom.us/j/93395333254>

Meeting ID: 933 9533 3254

Passcode: 305936

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