

2025 PPCDL Proposed Course descriptions

ELISA Fundamentals Workshop

This 2-day in-person workshop will cover all aspects ELISA testing using commercially available kits. Lectures will cover the fundamentals of ELISA, different testing approaches and advantages and disadvantages of ELISA types with an emphasis on Good Lab Practice (GLP). The hands-on portion will give participants exposure to processing samples, the ELISA workflow and results interpretation.

Seed Pathogen Testing Workshop on CGMMV, ToBRFV, Pospiviroids

Seed Pathogen Testing Workshop is a 2-day workshop that has lectures and a hands-on training component. Lectures include a background of seedborne viral diseases of cucurbits and solanaceous plants and review of methods for the detection and identification of seedborne viral pathogens, focusing on nucleic acid extraction principles and methods of manual and high throughput extraction from seeds. The hands-on portion of the training will focus on manual and high throughput nucleic acid extraction from cucurbit and solanaceous seeds. Robotic nucleic acid extraction training will be provided on ThermoFisher Scientific KingFisher Apex nucleic acid purification systems.

Returning 2025! Phytoplasma Molecular Detection Workshop

The Phytoplasma Molecular Detection Workshop will be returning in 2025. This 2-day workshop provides an introduction on Phytoplasmas, their taxonomy and disease symptoms associated with some of these bacterial pathogens of interest to APHIS PPQ. The hands-on portion of the training will focus on available phytoplasma-infected samples and cover sample preparation, DNA extraction/purification, molecular assays, and interpretation of results.

Sample Submission for Confirmatory Diagnostic Testing

This virtual workshop will describe how to submit suspect samples, including Select Agents, for regulatory confirmatory diagnostic testing at the PPCDL. The presentation will focus on answering questions about the steps of the diagnostic process, sample quality, shipping procedures, and who needs to be contacted at various steps. Questions covered include: What determines if a sample needs confirmatory diagnostic testing? How to start the process of submission? Who needs to be informed or contacted? How are results reported and to whom? What materials need to be included in the shipment? Where is the suspect sample sent? How does one learn if steps are changed? Participants will also have ample time to ask their own questions.

Bioinformatics of Sanger Sequencing Workshop

The Bioinformatics of Sanger Sequencing Workshop is both a lecture and hands-on based training that familiarizes participants with Sanger sequencing. This course will be held in-person at the PPCDL over two full days this year. During the training, PPCDL scientists will cover the basics of Sanger sequence analysis, constructing multiple sequence alignments and phylogenetic trees, using NCBI tools beyond BLAST, and more. Case studies showcasing the identification of a wide range of plant pathogenic viruses, bacteria, and fungi using sequence analysis will be covered.

Phytophthora 101 Workshop

The Phytophthora 101 Workshop is a 4-day program combining lectures with hands-on lab activities. The workshop covers DNA extraction methods from host woody and leaf tissue, real-time PCR protocols for diagnosing *Phytophthora austrocedri* (ITS and COX assays), the *P. kernoviae* complex (ITS1 and ITS2 assays), and *P. ramorum* (ITS and Elicitin assays), as well as results interpretation. Each day includes lectures, lab work, and discussions on participant results, troubleshooting, and best lab practices for optimal outcomes.