

Plant Protection and Quarantine Science & Technology

Plant Protection and Quarantine's Science and Technology core functional area consists of the National Clean Plant Network program and the Center for Plant Health Science and Technology (CPHST). CPHST provides scientific support for PPQ regulatory decisions and operations, and is responsible for ensuring that PPQ has the information, tools and technology to make the most scientifically valid regulatory and policy decisions possible. In addition, CPHST ensures PPQ's operations have the most scientifically viable and practical tools for pest exclusion, detection, and management. Currently, CPHST comprises approximately 230 scientists, analysts, and support staff at 7 laboratories, with satellite locations throughout the United States and in Guatemala. The Office of the Executive Director is headquartered on North Carolina State University's Centennial Campus in Raleigh, NC.

Laboratories and Programs Major Activities

National Clean Plant Network

- Supports 27 cooperators engaged in diagnosing germplasm for pathogen infections, applying therapies, and making 'clean plant' material available to industry. Since the program began in FY 2009, five specialty crop groups: fruit trees (stone and pome fruits), grapes, hops, berries (Fragaria, Vaccinium, and Rubus), and citrus organized under NCPN.

CPHST Beltsville Lab, Beltsville, MD

- Develops and validates new molecular diagnostic methods for high consequence plant pathogens, and provides training to U.S. and international diagnosticians.
- Conducts molecular diagnostic tests for plant pathogens for PPQ regulatory programs.

CPHST Fort Collins Lab, Fort Collins, CO

- Coordinates and supports the development of digital pest identification tools.
- Develops biological, chemical, and cultural control methods for invasive weeds.
- Supports the Cooperative Agricultural Pest Survey through development of protocols and manuals and spatial technology support.
- Develops methods for agricultural waste decontamination and disposal.

CPHST Miami Lab, Miami, FL and Raleigh, NC

- Develops inspection methods and phytosanitary treatment technologies for commodities.
- Evaluates commodity treatment efficacy and technology, certifies and audits treatment facilities, and develops treatment data systems.
- Supports biological control methods and analytical chemistry needs.
- Coordinates imported fire ant methods and routine chemical analyses through the Biloxi Station.

CPHST Mission Lab, Edinburg, TX

- Develops and conducts molecular diagnostics for arthropods and gastropods for identification and pathway analysis.
- Supports technology needs for fruit fly eradication programs.
- Develops methods for pest management and biological control programs for insect pests, particularly citrus pests.

CPHST Otis Lab, Buzzards Bay, MA

- Develops phytosanitary treatments for commodities.
- Develops and evaluates pest surveillance and management methods.
- Develops methods for biological control programs for insect pests, particularly forest pests.
- Supports commodity treatment and pest management methods for light brown apple moth and European grapevine moth through the California Station.

CPHST Phoenix Lab, Phoenix, AZ

- Develops methods to support the pink bollworm eradication program.
- Develops chemical and biological management methods for rangeland grasshopper and Mormon cricket.

CPHST Plant Epidemiology and Risk Analysis Lab, Raleigh, NC

- Conducts risk assessments to analyze potential pest risks associated with imported plant products in order to facilitate safe trade.
- Provides pest information and analyses to support exports of plant products.
- Identifies and assesses new pest threats and pathways.
- Collects and analyzes new information about plant pests to inform risk analysis work.

Biological Control Program

- Coordinates biological control methods development throughout CPHST and with cooperators to control invasive plant pests and weeds.

Fruit Fly Program

- Coordinates methods development throughout CPHST and with cooperators for exotic fruit fly exclusion and detection.

National Plant Protection and Laboratory Accreditation Program

- Evaluates laboratories outside of PPQ to ensure their capability to make accurate diagnostic determinations for regulatory purposes.
- Coordinates quality management initiatives for plant diagnostic laboratories.

National Scientific Technologies Program

- Assesses and transfers detection, identification, diagnostic, and exclusion tools and technologies to support PPQ programs.