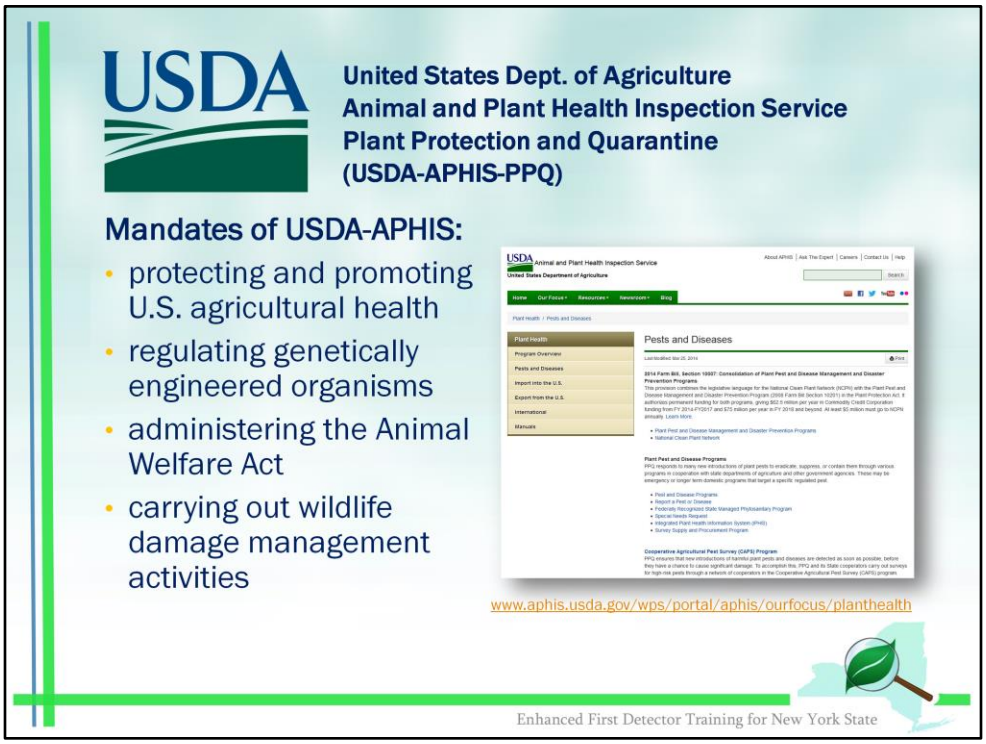
PARTNER AGENCIES AND THEIR ROLES

Enhanced First Detector Training

Many agencies, both federal and state, as well as various public organizations have come together to create the materials used for the Collaborative and Enhanced First Detector Training Workshops in New York. This presentation is designed to introduce the audience to the different agencies and organizations, what they do, and what roles they play in monitoring and managing invasive species that come into the United States.



The United States Department of Agriculture has many agencies and offices that it manages. Many of those agencies and offices play important roles in various invasive species efforts. Its mandates are listed on the slide.

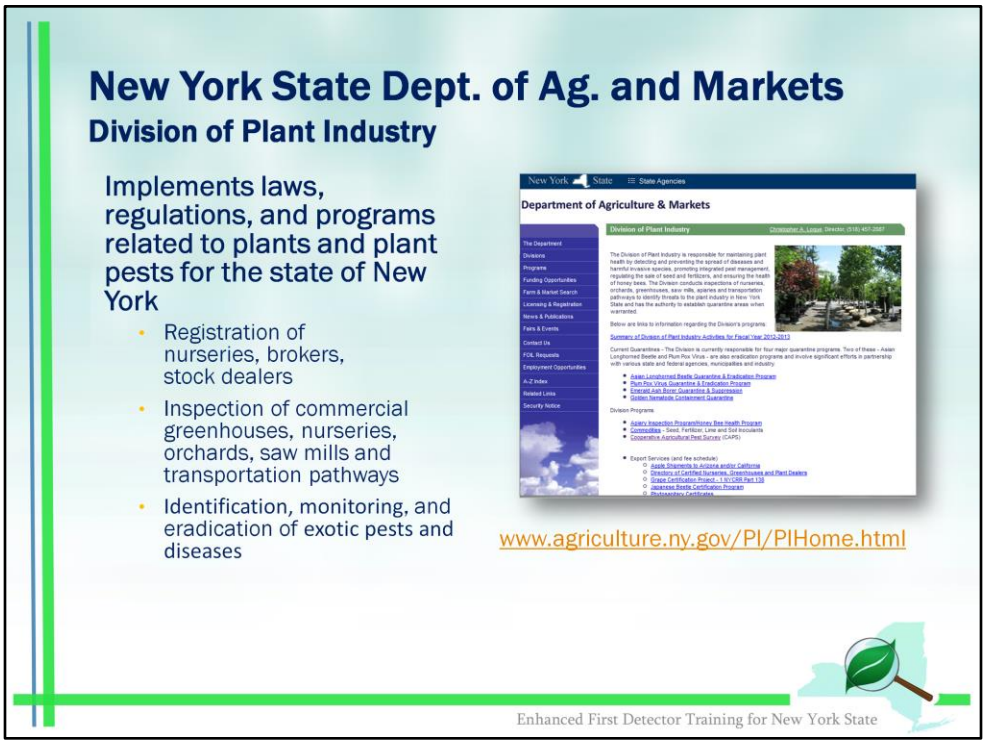
From the APHIS website: “Protecting American agriculture is the basic charge of the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). APHIS provides leadership in ensuring the health and care of animals and plants. The agency improves agricultural productivity and competitiveness and contributes to the national economy and the public health.”

USDA-APHIS has a branch called Plant Protection and Quarantine (USDA-APHIS-PPQ) that focuses on safeguarding “agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds to ensure an abundant, high-quality, and varied food supply”.

While Department of Home Security – Customs and Border Protection can inspect almost everything that comes into the United States, USDA-APHIS-PPQ retains the responsibility of inspecting all plants that are used for planting or propagation. They are the National Plant Protection Organization (NPPO) for the U.S. and are responsible for federal quarantines, regulations, and international trade issues. They have a state plant health director (SPHD) in every state who works closely with their state counterpart within the state department of agriculture (referred to as the state plant

regulatory official or SPRO) in pest response, pest detection, etc.

The USDA-APHIS-PPQ also has plant pest identifiers operating through the National Identification Services branch of PPQ (USDA-APHIS-PPQ-NIS) . Should a pest that is unknown to the area be detected, these identifiers can put a name to the specimen (if it has one – not all arthropods have a name or have ever been described at all as they are new to science).



Each state has a department of agriculture that works with the United States Department of Agriculture to protect the state's agricultural and natural resources.

The Division of Plant Industry is a regulatory entity within the New York State Department of Agriculture and Markets (NYSDAM). DPI works to detect, intercept and control plant and honey bee pests that threaten New York's native and commercially grown plants and agricultural resources. In doing so, they also help protect the state's natural resources and insure that the apiary industry is able to provide valuable pollination services for the state's diverse plant based agricultural industry.

The division is also responsible for the state's plant quarantine programs. Two of New York's active quarantine programs are also eradication programs (Plum Pox Virus and Asian longhorned beetle) so they involve significant efforts in partnership with other state and federal agencies, local municipalities and industry.

Within the Division of Plant Industry, there are approximately 25 horticulture inspectors who are assigned to various programs and projects around the state. There is a state apiculturist who is responsible for honey bee health programs and over-site of seasonal apiary inspectors and a biotechnology specialist who is responsible for the commodity inspection and licensing program.

NYSDAM horticulture inspectors are backed up by lab services provided by the NYS

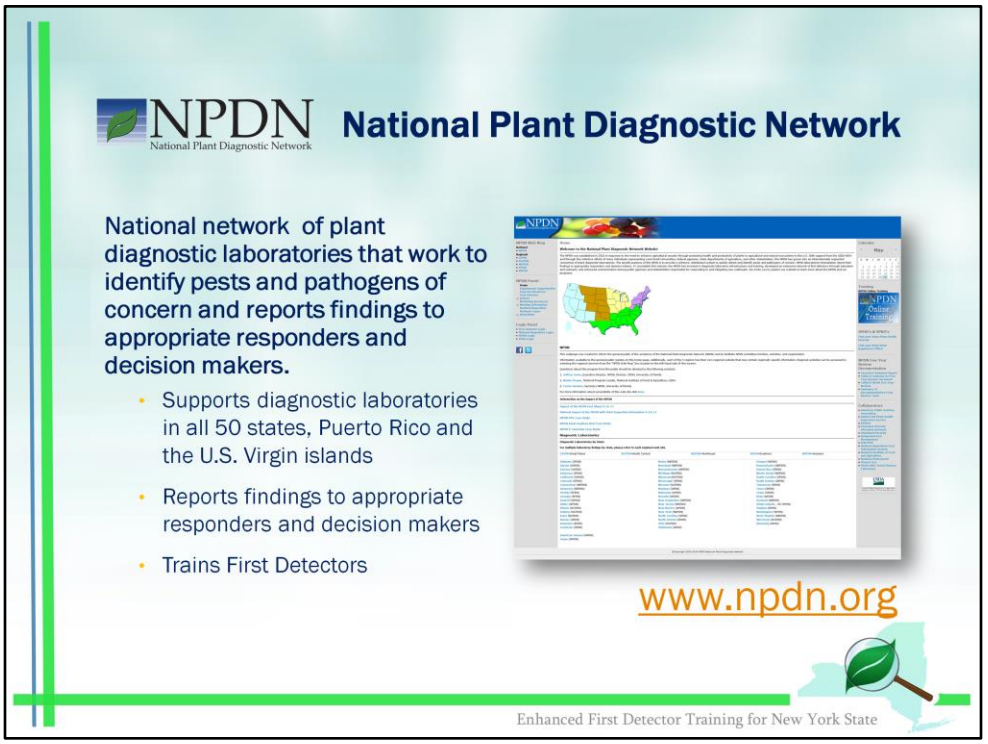
Food Testing Laboratory (part of NYSDAM), the NYS Seed Testing Lab (part of Cornell University's Geneva Experiment Station), the Entomology Diagnostic lab and the Plant Diseases Diagnostic Laboratory located on the Cornell Campus.

The Cooperative Agricultural Pest Survey Program (CAPS Program) is managed by USDA-APHIS Plant Protection and Quarantine (PPQ) and serves as a second line of defense against entry of harmful plant pests and weeds through surveys targeted at specific known pests. In each state, the CAPS program is directed by USDA's State Plant Health Director (SPHD) and NYS's State Plant Regulatory Officer (SPRO) and conducted by the Division of Plant Industry of the NYS Department of Agriculture and Markets.

The CAPS program surveys for exotic species that may have arrived into the U.S. (maybe through imported commodities) but have not yet been reported or detected. USDA funding is provided through cooperative agreements between state departments of agriculture and land grant universities for these surveys to be conducted.

Local offices of the CAPS Program may engage in public outreach as well.

CAPS survey targets can include plant diseases, insects, weeds, nematodes and other invertebrate organisms.



The National Plant Diagnostic Network (NPDN) has diagnostic labs in every state (http://www.npdn.org/). Most of the NPDN members are land grant university diagnostic labs associated with cooperative extension, but state department of agriculture labs may be NPDN labs in some cases.

All NPDN labs accept physical samples of pests and pathogens for identification. In addition, many of the NPDN labs are able to accept digital samples through local digital diagnosis systems. If they identify a suspect pest of regulatory concern, NPDN labs have been trained to communicate and work with national identification specialists as well as state specialists to disseminate that information. This way, appropriate action to eradicate or control the plant pest can be taken.

The NPDN also has opportunities for traditional, face-to-face training and e-learning online training regarding plant pest issues (www.firstdetector.org). The more people there are making observations and being vigilant about potentially invasive pests in their gardens, or fields, or where they like to hike, the quicker the appropriate agencies can respond to a pest before it spreads. Those that take this training are referred to as First Detectors. This training is specialized for those in and associated with the plant industry, though any interested person can access their online training modules and attend a training session.

Protect U.S. and the Sentinel Plant Network are partner programs with the National Plant Diagnostic Network.

Protect U.S. is involved with invasive species education for small farm producers, homeowner, and K-12. They provide online training for clientele and scripted presentations for educators on the latest invasive species issues. They also develop lesson plans for teachers (correlated with the National Science Education Standards) that focus on invasive species education.

The Sentinel Plant Network (SPN) was developed as a First Detector program specifically designed for public gardens. This partnership extends NPDN diagnostic and First Detector training expertise to public gardens throughout the United States, Mexico and Canada. They provide workshops, online training, and access to NPDN labs for plant pest identification. This also helps in the fight against invasive species.

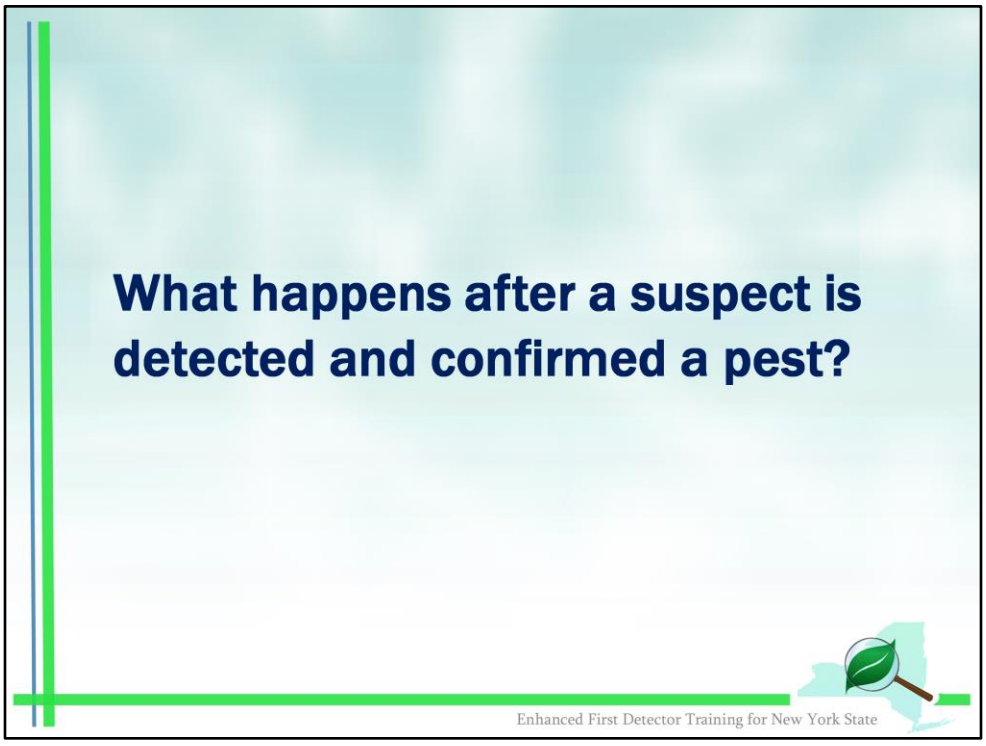
Through research, Land Grant Universities help fill the gap that occurs between the detection of new invasive species and action that should be taken to effectively manage or eradicate invasive pests. They also work with the ornamental and agricultural industries in areas such as developing Integrated Pest Management Programs for specific plants or crops, developing disease and pest resistant cultivars, and basic research on the effects that invasive species have on a state's natural, ornamental and agricultural landscapes.

Cooperative extension (as part of the Land Grant University system) converts the information provided by the state and federal agencies and discovered by the researchers into educational material that can be delivered to the public through local county extension offices.

Audiences for this material include homeowners, Master Gardeners and Master Naturalists as well as small farm producers and industry.

Extension faculty and agents also work with local First Detectors to help identify local plant pests and help submit suspect samples to the appropriate places (such as the state NPDN labs).

A list of extension offices can be found here - http://www.csrees.usda.gov/Extension/.



Once a suspect species is detected, it is identified (involving the local NPDN lab, USDA-APHIS-PPQ, and state agricultural agency).

If it is, indeed, an introduced species, it is determined if it is a pest for which CAPS is actively monitoring, an organism that is a known pest in another country, and what is known about it in general.

If it is a invasive pest, then it is determined if the population is small enough to be eradicated (this is done by USDA-APHIS-PPQ and the state agricultural agency). If not, it is determined how best to manage it (this is done by USDA-APHIS-PPQ, state agricultural agency, and land grant researchers).

Information on the pest is then sent out around the country (through the NPDN) and locally (through Cooperative Extension) to help monitor for the spread of this invasive species or to identify additional populations.

Researchers at land grant universities continue to investigate the invasive pest and help determine the impact it will have in the state in terms of impact to the natural ecosystem, the agricultural ecosystem, and any economic impact.

This is how all these agencies work together to mitigate the effects of invasive species.

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Adapted for New York

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Collaborating Agencies

- U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS)
- Cooperative Agricultural Pest Survey Program (CAPS)
- Florida Department of Agriculture and Consumer Services (FDACS)
- National Plant Diagnostic Network (NPDN)
- Sentinel Plant Network (SPN)
- Protect U.S.
- University of Florida Institute of Food and Agricultural Sciences (UF-IFAS)