

NPDN Preparation and Response to the Introduction of Soybean Rust

Sponsored by the NPDN Diagnostics Sub-Committee



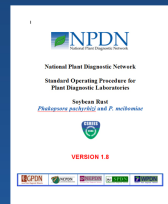
Diagnostician Training



Photo Reid Frederick, USDA-ARS



Photo Carrie Hammon, University of Florida



- Workshops for diagnosticians for the rapid identification of Asian soybean rust have been coordinated by the NPDN Diagnostician Sub-Committee over the past two years.
- Prior to the introduction of soybean rust, ten key diagnosticians from across the Nation participated in a morphological identification workshop held jointly at both the Agriculture Research Service, Fort Detrick, MD and USDA, APHIS, PPQ, CPHST Laboratory, Beltsville, MD.
- Twenty-four diagnosticians from across the Nation participated in morphological training at the Agriculture Research Service, Fort Detrick, Maryland.
- Sixteen member diagnosticians participated in molecular training at the USDA, APHIS, PPQ, CPHST Laboratory, hosted by Laurene Levy, where they acquired and performed the real-time polymerase chain reaction (PCR) protocol.
- A number of diagnostician training sessions were conducted with instruction by the APHIS National Mycologist, Mary Palm, using a conference call format with pre-made, pre-mailed slide sets of spores.
- Regionally based, hands-on laboratory training sessions were also conducted.
- Diagnosticians nationwide received instruction for how and what information to transmit to the National Repository.
- Reviewed and up to date standard operating procedures for the identification of *Phakopsora pachyrhizi* and *P. meibomia* were produced and provided to NPDN diagnosticians.
- The rapid identification of *P. pachyrhizi* in the U.S in 2004 can be attributed to NPDN supported diagnostician trainings.

Support and Funding

- NPDN diagnostic laboratories were provided support in the form of coordinated meetings with permit officials and provision of completed templates for the application of permits for the possession of soybean rust killed spores.
- Funding from USDA-CSREES provided diagnostic laboratories with the ability to upgrade their existing equipment including the purchase of digital photography equipment for long distance diagnosis.
- NPDN regional center laboratories received additional funding from USDA-CSREES in conjunction with APHIS-PPQ to purchase supplies and equipment for real-time polymerase chain reaction (PCR) for diagnosis of soybean rust.
- The upgraded equipment in NPDN laboratories and the real-time PCR capabilities of the regional center laboratories increased the speed of sample processing and provided APHIS-PPQ with the ability to delegate secondary identification responsibilities for the confirmation of soybean rust.



Photo Carrie Hammon, University of Florida



Photo Kent Loeffler, Cornell University

First Detector Training



Photo Dr. Gary Bergstrom, Cornell University

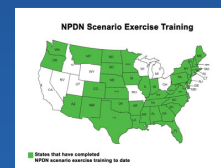
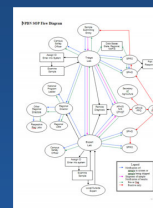


Photo Kitty Cardwell, USDA-CSREES

- County agents, certified crop consultants and others have been trained to become First Detectors utilizing training modules produced by the NPDN Training and Education committee.
- These training modules focus on how first detectors should handle and submit samples of high risk pests and pathogens including soybean rust.
- To date, over 3000 registered First Detectors have been trained Nationwide.
- First Detectors trained by the NPDN have provided assistance in the proper handling and submission of suspect soybean rust samples for diagnostic processing.

Scenario Exercise Training

- Scenario exercise training developed by the NPDN involving the participation of Land Grant University Diagnosticians, NPDN Directors and personnel, State Department of Agriculture Personnel, County Cooperative Extension Agents, State Plant Regulatory Officials, State Plant Health Directors, APHIS-PPQ Laboratory Personnel and Regulatory Officials has been conducted in 39 states and Puerto Rico.
- Scenario exercises are simulations of the finding of a select agent in a given state. This training provides participants the opportunity to practice the appropriate communication protocols under a non-emergency situation.
- The chain of events that led to the rapid communication of the discovery of *P. pachyrhizi* and the subsequent confirmation of Asian Soybean Rust in Louisiana in 2004 was directly due to scenario exercise training conducted by the NPDN.



Websites and Newsletters

- Email alerts were sent to first detectors and diagnosticians about the movement of soybean rust into Columbia and its subsequent movement into the U.S.
- Confirmed identifications across the U.S. have been posted on the NPDN website as well as the regional websites.
- Regional newsletters have been used to disseminate information about recent finds of soybean rust in the U.S.
- The NPDN has provided a continuous and up to date information clearing house on soybean rust through websites, newsletters and email alerts for first detectors and diagnosticians throughout the U.S.

