

The NPDN's Continued Efforts to Prepare and Respond to the Introduction of Soybean Rust



Sponsored by the NPDN Diagnostics Sub-Committee



Diagnostician Training



Photo Reid Frederick, USDA-ARS



Photo Carrie Harmon, University of Florida

- Since April 2003, the NPDN Diagnostician Sub-Committee has coordinated workshops for diagnosticians to rapidly identify Asian soybean rust.
- Prior to the introduction of soybean rust in 2004, ten key diagnosticians participated in a morphological identification workshop held at both the Agriculture Research Service, Fort Detrick, MD and USDA, APHIS, PPQ, CPHST Laboratory, Beltsville, MD.
- Twenty-four diagnosticians 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.
- The APHIS National Mycologist, Mary Palm, conducted many trainings 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 since 2004 can be attributed to diagnostician trainings supported by NPDN.

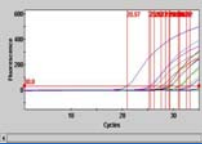
Support and Funding



Photo Carrie Harmon, University of Florida

- Meetings with permit officials and permit templates provided support to the NPDN diagnostic laboratories.
- Funding from USDA-CSREES provided diagnostic laboratories with the ability to upgrade their existing equipment- such as digital photography equipment for long distance diagnosis.
- NPDN regional center laboratories received additional funding from USDA-CSREES and APHIS-PPQ to purchase supplies and equipment for real-time PCR.
- 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.

Research



In cooperation with USDA-ARS personnel, a number of the regional laboratories participated in a real-time PCR study designed to detect the presence of soybean rust in the early stages of infection.

Extension



Photo Kent Loeffler, Cornell University

The Diagnostics Subcommittee helped coordinate NPDN members who work with the Pest Information Platform for Extension and Education (PIPE), the system that tracks Soybean Rust incidence through sentinel plot survey.

Scenario Exercise Training



- Scenario exercise training, developed by the NPDN, involves 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. The training has been conducted in 44 states and Puerto Rico.
- Scenario exercises are simulations of the discovery of a select agent in a given state. This training provides participants with the opportunity to practice the appropriate communication protocols in 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.

Identifications

Year	States Detected	Total
2004	AL, AR, FL, GA, LA, MS, MO, TN, SC	9 States
2005	AL, IL, GA, LA, MS, NC, SC, TX	8 States
2006	AL, AR, FL, GA, IL, IN, KY, LA, MS, MO, NC, SC, TN, TX, VA	15 States

SBR detected in 15 States total since 2004.

Websites and Newsletters



- Email alerts informed 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. are posted on the NPDN website, the regional websites and in the NPDN National Newsletter.
- Regional newsletters disseminate information about recent finds of soybean rust in the U.S.
- The NPDN provides 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.

