Federal and state agencies monitor U.S. borders for plant pest introductions and watch for pest outbreaks throughout the nation. Still, new pests do slip past these defenses and enter the country. They are often first detected by those involved in crop production and identified by professionals at land-grant universities. The NCPDN will establish a “First Detector” network to help monitor the introduction of new plant pests or unusual pest outbreaks. First detectors are an integral part of the system and include:

- Growers
- Cooperative Extension Service personnel
- Crop consultants
- Pesticide applicators
- Commercial chemical and seed representatives
- Master Gardeners
- Others involved in plant growth or management

The North Central Plant Diagnostic Network will provide training to "first detectors" on techniques for identifying agro-terrorist threats and procedures for reporting pest problems.

First detectors will have access to the web-based diagnostic system and can report unusual pest occurrences, existing crop conditions or other information not normally submitted through the distance diagnostics network.

First detectors can also subscribe to an agricultural advisory system that provides warning and information concerning pest outbreaks or weather conditions that could trigger outbreaks.

The North Central Plant Diagnostic Network is one of the keys to our Homeland Security effort to protect agriculture in our nation’s Heartland. It is one of five regions in the National Plant Diagnostic Network.

The member states include: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin.

Photo Credits:
Cover: Peter McGhee, Entomology, MSU; Michigan Agricultural Weather Network, MSU; Steve Gower, Diagnostic Services, MSU.
Establishing a National Plant Diagnostic Network

"Because accidental and intentional introduction of plant pathogens and pests represent a threat to our agricultural production and security, the need for a rapid and coordinated detection and diagnostic network is more critical today than at any time in the past."

Ray Hammerschmidt, Plant Pathologist, Michigan State University

The North Central Plant Diagnostic Network

Protecting agriculture in the North Central region is vital to food security in the United States. The major crops grown in the region are:

- Corn
- Soybeans
- Dry beans
- Sugar beets
- Potatoes

The North Central region also boasts many specialty crops. Some of the specialty crops are:

- Blueberries
- Grapes
- Asparagus
- Christmas trees
- Ornamentals
- Cranberries

Plant pests, including weeds, insects and diseases, cause extensive annual yield losses to crops. The intentional and unintentional introduction of an exotic pest or pathogen into the North Central Region could directly increase these losses by exacerbating yield reductions, or indirectly by affecting the quality or marketability of a crop.

The United States Department of Agriculture is creating a National Plant Diagnostic Network made up of experts from the nation’s land-grant universities. The network will provide a united distribution system to quickly detect pests and pathogens that have been deliberately introduced into agricultural and natural ecosystems, identify them, and report them to appropriate responders and decision makers.

The North Central Plant Diagnostic Network is developing a web-based plant pest diagnostic and reporting system, which will...

The NPDN has regional centers, located at the following universities:
- Cornell University (Northeast)
- University of Florida (South)
- Michigan State University (North Central)
- Kansas State University (Great Plains)
- University of California, Davis (Western)
- National Agricultural Pest Information System (NAPIS at Purdue University)

Agricultural universities have a long and trusted relationship with those involved in food production. These universities have an existing infrastructure (the Cooperative Extension Service) that interacts closely and rapidly with growers. It is important to capitalize on their expert staff of plant scientists with vast experience in integrated pest management who have well-equipped plant pest and disease diagnostic labs.

The United States Department of Agriculture is creating a National Plant Diagnostic Network made up of experts from the nation’s land-grant universities. The network will provide a united distribution system to quickly detect pests and pathogens that have been deliberately introduced into agricultural and natural ecosystems, identify them, and report them to appropriate responders and decision makers.

The North Central Plant Diagnostic Network

The North Central Plant Diagnostic Network is developing a web-based plant pest diagnostic and reporting system, which will help land-grant personnel submit plant samples, digital images, and detailed crop information for pest diagnosis. Advantages include:

- Rapid evaluation and reporting of potential bioterrorist threats.
- Shorter response time for diagnosis.
- Established links among diagnostic labs in the NCPDN and to other labs in the NPDN.
- Established links to regulatory agencies (including the USDA’s Animal and Plant Health Inspection Service and each state’s Department of Agriculture).
- Better quality and uniformity of information associated with samples.
- Better record keeping and reporting of pest outbreaks.