

Highlights of the 2002 Plant Disease Survey

Adrian Barta and Anette Phibbs

Wisconsin Department of Agriculture, Trade & Consumer Protection

DATCP Crop Pest Survey

- Monitor endemic pest and pathogen populations for changes
- Detect introductions of potential new pest species

DATCP Crop Pest Survey

- Work with Federal and University programs to provide a coordinated response to threats
- Inform farmers, other concerned parties and the public of pest and disease situations

Bean Pod Mottle Virus

- Bean Pod Mottle Virus (BPMV) is a relatively new disease of soybeans in Wisconsin
- This virus is vectored by the bean leaf beetle (*Cerotoma trifurcata*)



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Laura Sweets, University of Missouri & Marlin E. Rice, Iowa State

Infection by BPMV can:

- Reduce pod formation
- Reduce seed size, weight and number
- BPMV may also contribute to green stem syndrome and seed mottle, and may predispose the plant to seed infection by *Phomopsis*

BPMV--Sample Collection

- Leaf samples were collected from 177 fields throughout WI
- The uppermost completely unfurled trifoliate was collected from five random plants at each of five sites in the field (25 leaves total)
- Leaves were placed on ice in the field and frozen in the lab (-20C) until tested

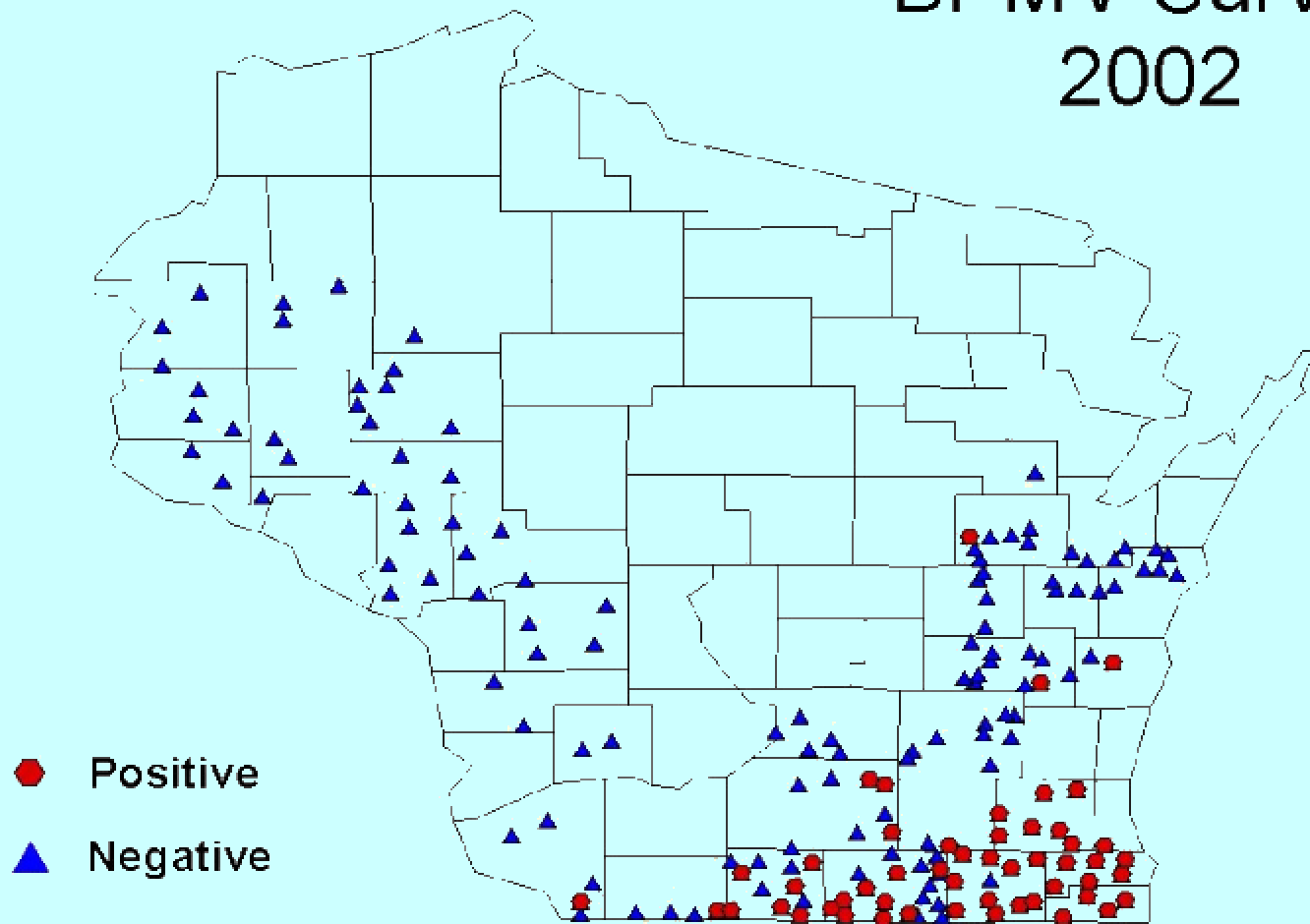
BPMV--ELISA Testing

- DAS ELISA Pathoscreen kits (Agdia)
- Composite sample of 0.2 grams of leaf tissue, taken from 10 leaves per field

BPMV--Results

- Positive results were obtained for 53 of the 177 fields sampled
- Positive fields were located primarily in the southern two tiers of counties, with the highest concentration of positive fields in the Southeast region of the state

BPMV Survey 2002



BPMV--Future Concerns

- Repeat survey with more fields
- Take bean leaf beetle (*Cerotoma trifurcata*) observations when collecting leaf tissue
- Survey for other legume viruses such as clover yellow mosaic virus (CYMV) and soybean dwarf virus (SbDV)

Potato Mop Top Virus

- Potato Mop Top Virus (PMTV) was discovered in 2002 in Aroostook County, Maine
- Canada claimed that it had identified the virus in potato shipments originating in 10 U.S. states (not including WI) since January 1, 2001



PMTV-Politics

- The USDA proposed a federal quarantine of potato seed tubers from states which did not test for the virus, and planned to require testing of individual farms if a state tested positive for PMTV
- The USDA has since decided against a quarantine

PMTV-Testing

- Samples were taken from 579 certified seed potato lots
- 3,242 tubers were sampled
- TAS ELISA testing was done according to a protocol devised by USDA

PMTV-Results

- No tubers tested positive for PMTV
- Wisconsin certified seed tubers may continue to be shipped interstate

PMTV-Future Concerns

- PMTV is vectored by *Spongospora subterranea*, an organism not known to occur in Wisconsin. A preliminary survey was conducted in 2002, but a more extensive survey is needed to confirm the disease-free status
- National and international concerns may require additional testing for PMTV in the future

- For weekly updates on pest conditions throughout the growing season:
- The Cooperative Pest Survey Bulletin
- <http://datcp.state.wi.us/arm/environment/insects/pest-bulletin/>