



2008 Wisconsin Crop Disease Survey

Wisconsin Department of Agriculture, Trade and
Consumer Protection

<http://pestbulletin.wi.gov/>

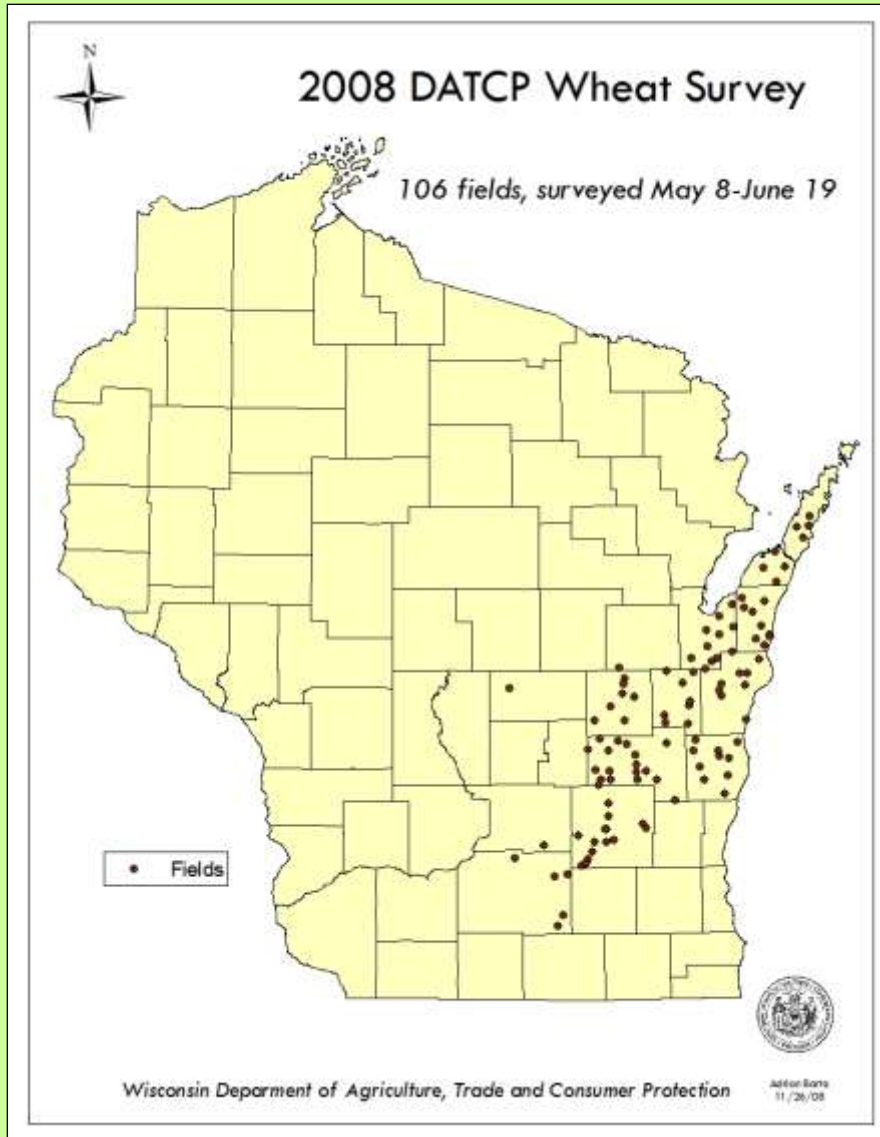
**Wisconsin Department of Agriculture, Trade and Consumer
Protection**

**Plant Industry Bureau
Pest Survey & Plant Industry Laboratory**

2008 Surveys

- **Early Season Diseases of Winter Wheat**
- **Early Season Diseases of Soybeans**
- **Soybean Viruses and Rust**
- **Snap Bean Viruses**
- **Viruses and Stewart's wilt of Seed Corn**
- **Soybean Cyst Nematode**
- **Potato Cyst Nematode**

Early Season Wheat Diseases



- **Survey of 106 fields in 11 wheat growing counties,**
- **50% of the wheat acreage in the state.**
- **In each field, at 5 sites, 10 plants are examined.**
- **Maturity from Feekes State 8.0 (flag leaf visible) to Feekes Stage 10.5.3 (flowering complete to base of spike).**

Early Season Wheat Diseases

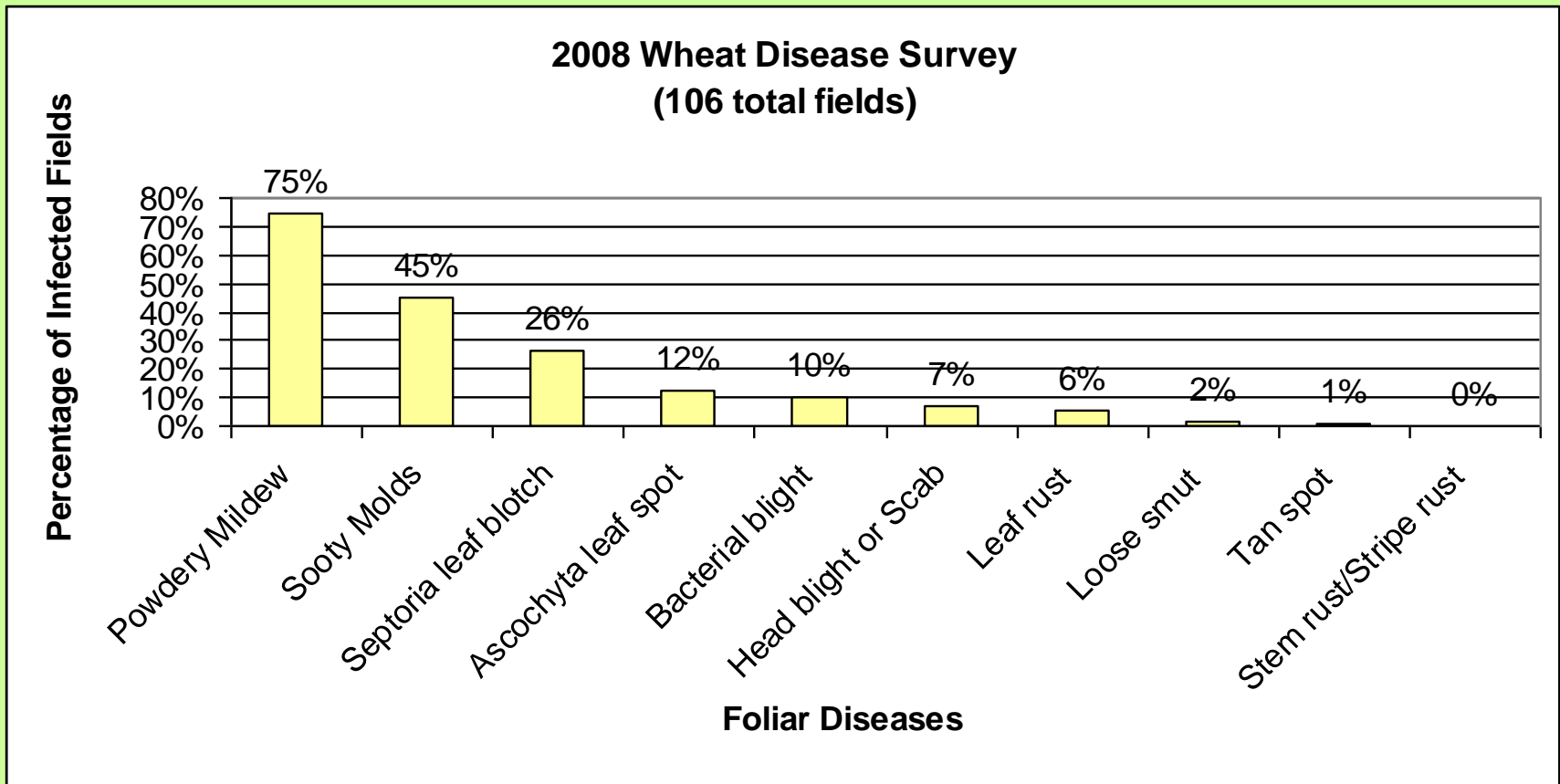


Powdery Mildew
Blumeria graminis



Septoria Leaf Blotch
Septoria tritici and *S. nodorum*

Early Season Wheat Diseases



Early Season Diseases of Soybeans



Root rot, *Phytophthora sojae*

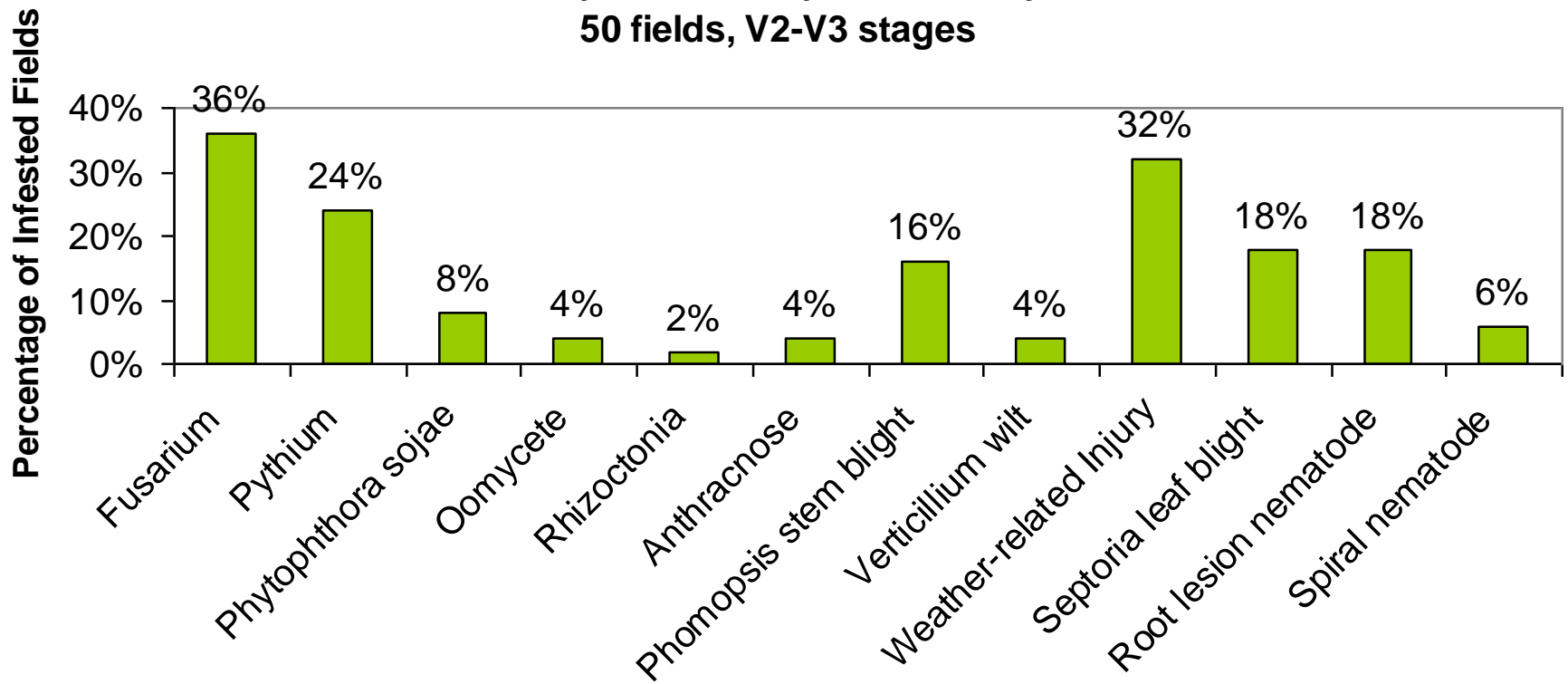
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Stem Blight, *Phomopsis* spp.

Early Season Diseases of Soybeans

Early Season Soybean Survey
50 fields, V2-V3 stages





Soybean Virus Survey

Field Sampling Method

Soybean fields were surveyed from early July to late August, when fields were at R2-R6 growth stages. Surveyors randomly collected leaves from five plants at four sites from each field without regard to symptom expression. Samples are stored on ice and transported to DATCP's Plant Industry Laboratory for testing.

Laboratory Methods RT-PCR and ELISA for Virus Detection



Foliar samples are tested by enzyme linked immunosorbent assay (ELISA), using Agdia reagents or reverse transcription polymerase chain reaction (RT-PCR).
AMV detection as described by Martinez-Priego et al., Plant Dis. 88:908, 2004; SbDV, Harrison et al. Plant Dis. 89:28-32, 2005.



Virus Vectors

- AMV: aphids, non-persistent transmission
- SbDV: aphids, persistent transmission by colonizing aphids.

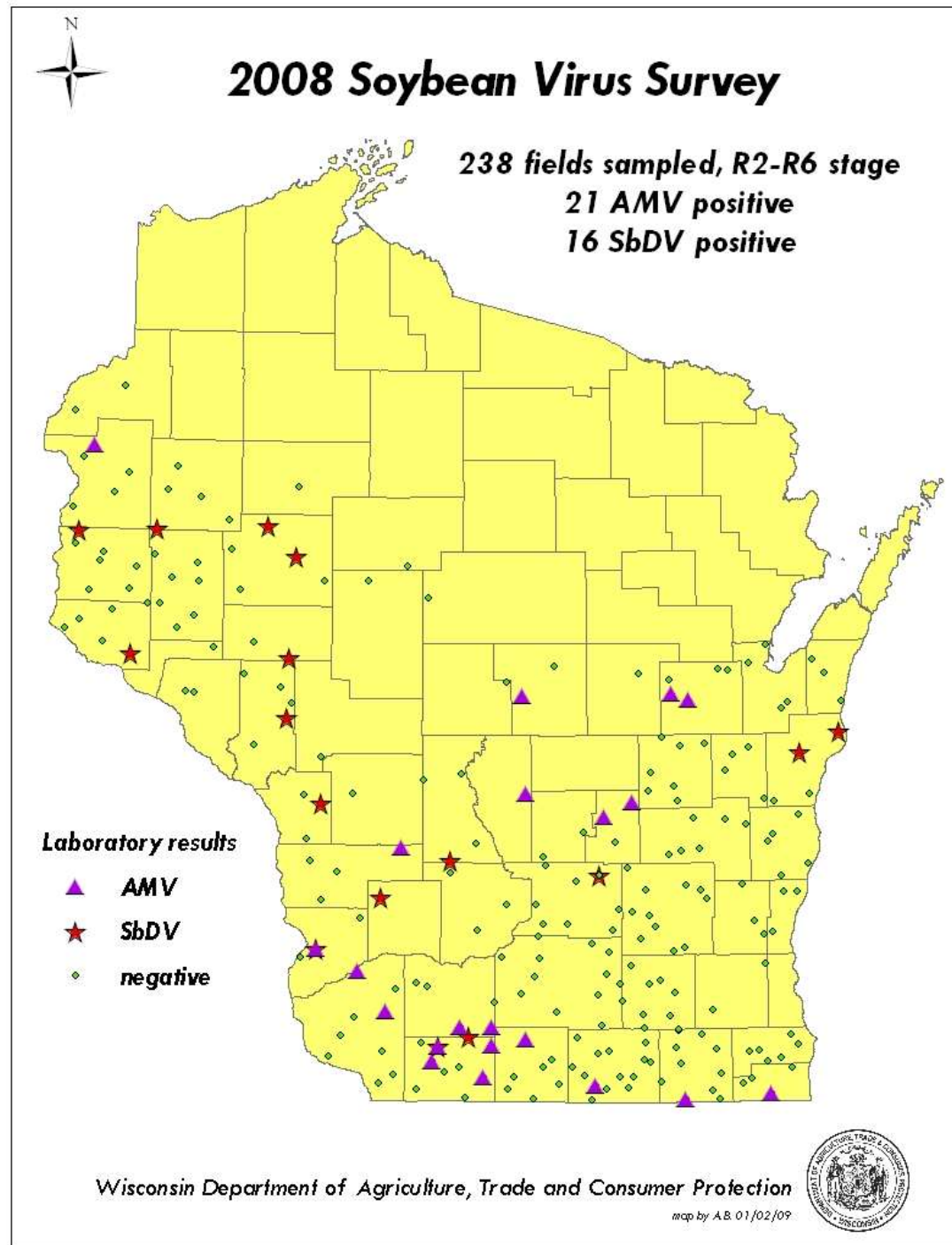
Soybean Dwarf Virus

SbDV causes severe yield losses on soybean in northern Japan.

- **SbDV is constantly present on forage legumes in US.**
- **Wisconsin clovers infected 43-66% (2004-2006).**
- **SbDV has been reported on soybeans in VA.**
- **SbDV was detected on soybeans in Wisconsin for the first time in 2003.**
- **Host range: more than 50 plants, including peas, beans, lupines, various clovers, beets, spinach....**

Soybean Virus Survey Results

- Total fields tested: 238
- Alfalfa mosaic virus: 21 positive sites
- Soybean dwarf virus: 16 positive sites
- Survey from July 15 to August 29, 2008.



Soybean Virus Overview 2002-2008

Year	Total Fields Surveyed	AMV	BPMV	CMV	POTY	SbDV
2002	177	NA	29.9%	NA	NA	NA
2003	286	NA	4.2%	0.3%	0.3%	1.7%
2004	293	1.0%	0.0%	0.0%	0.0%	1.7%
2005	276	NA	0.0%	NA	0.0%	1.4%
2006	188	NA	0.0%	NA	0.0%	3.2%
2007	227	2.2%	0.4%	0.0%	0.4%	3.1%
2008	238	8.8%	NA	NA	NA	6.7%

Asian Soybean Rust

Phakopsora pachyrhizi

USDA Website <http://sbr.ipmpipe.org/cgi-bin/sbr/public.cgi/>



Brown spot disease
Septoria glycines

- DATCP scouted 238 fields in 2008. No Asian Soybean Rust (ASBR) was observed in fields in 2008. Lab testing is pending.
- Northern most finds were in five counties in Illinois, late in the season.

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Snap Bean Virus Survey 2008

- 25 fields were sampled.
- BPMV, POTYviruses, SBMV, ToRSV, TRSV, TSV all negative.
- CMV: 2 positive fields in Portage Co.
- AMV: 1 positive in Langlade Co.
- Looking for more fields in 2009, please contact Anette.Phibbs@wi.gov
Phone (608) 266-7132
- Free Sampling and Testing.



DATCP, Plant Industry Laboratory
4702 University Ave, Madison WI 53702

Seed Certification

DATCP-Plant Industry Bureau and Laboratory provide seed field inspections, testing and phytosanitary certification.

- Corn: Stewart's Wilt, HPV, MDMV, WSMV
- Soybean: SCN, Fungal Diseases and Viruses
- Cucumbers: Fungal and Bacterial Diseases

Stewart's Wilt (*Pantoea stewartii*)

HPV, MDMV, WSMV

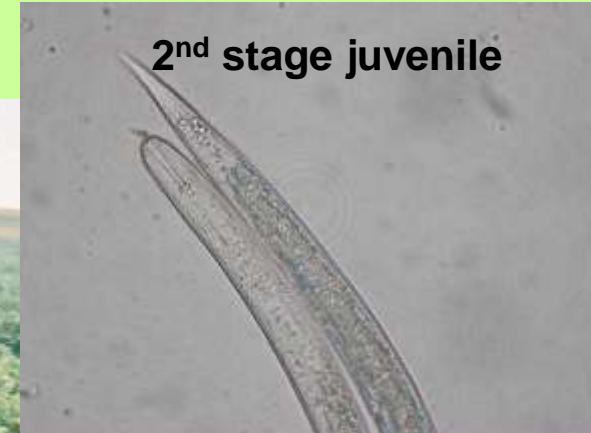


Gray leaf spot
Cercospora zeae-maydis

- In 2008, 95 corn fields in 9 counties inspected.
- Stewart's Wilt: 2 positive sites in Rock Co.
- MDMV: 2 plots positive in Columbia Co.
- HPV, WSMV all negative.

Soybean Cyst Nematode (SCN)

Heterodera glycines

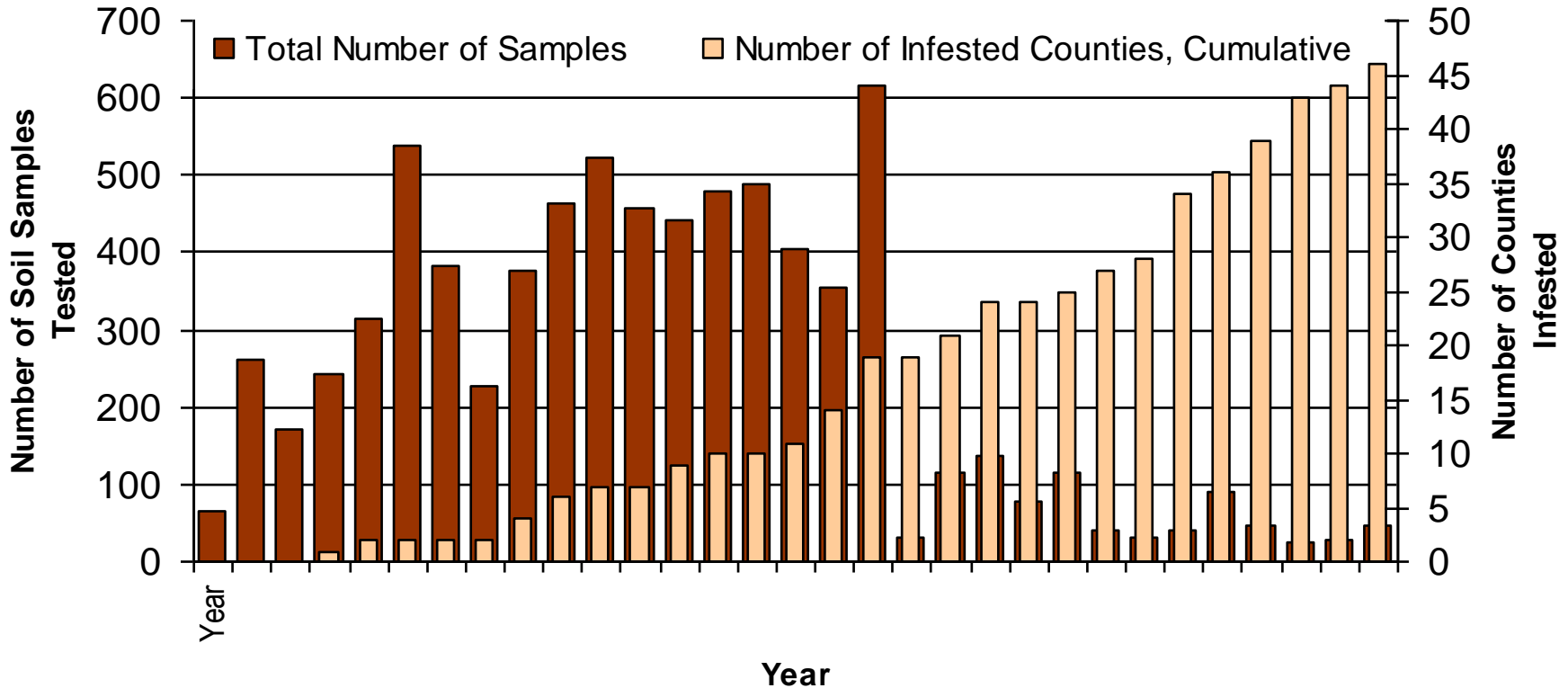


Female cyst with eggs

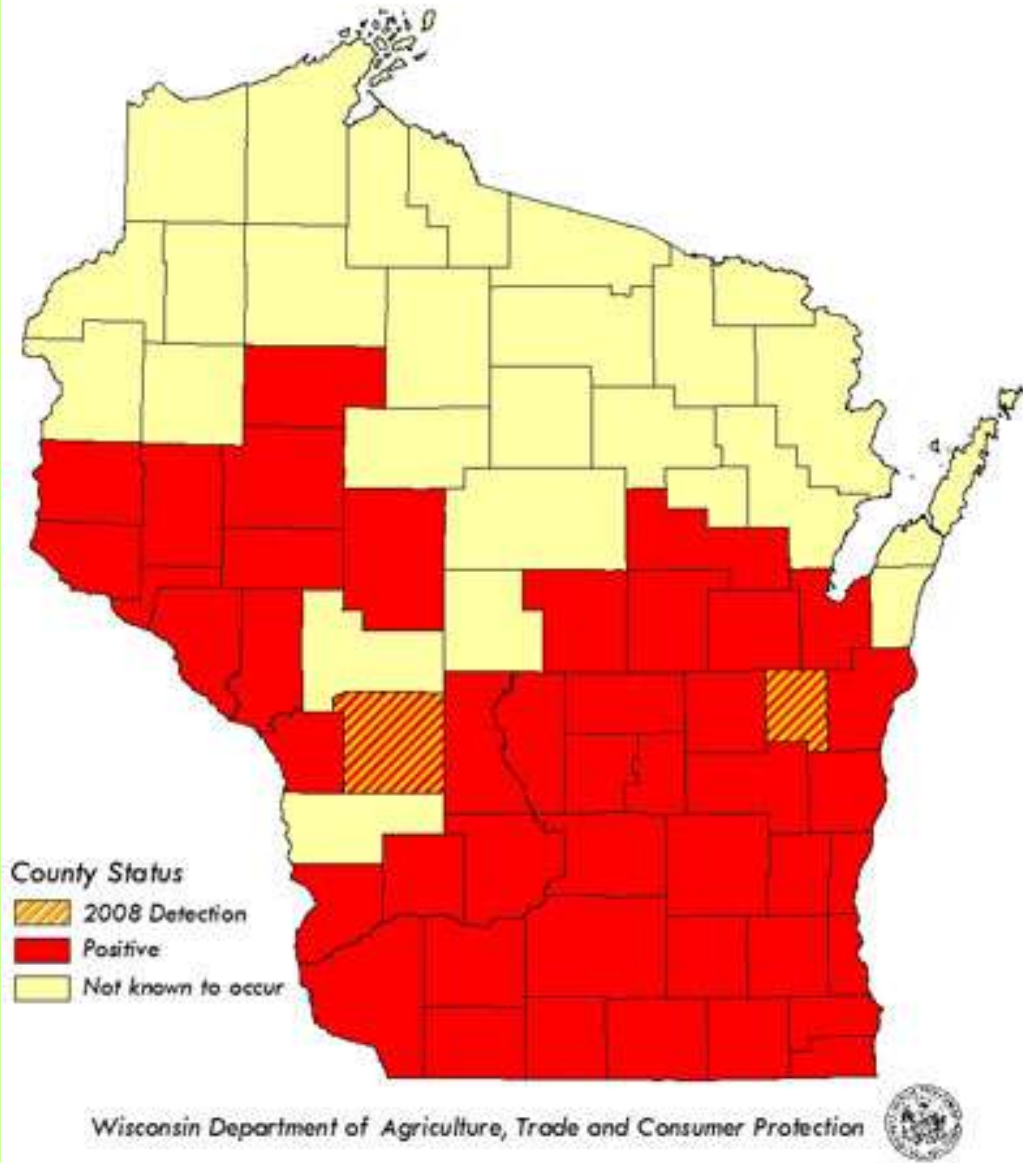
Infested Soybean Field

Department of Agriculture, Trade & Consumer Protection

Wisconsin Soybean Cyst Nematode Survey 1978 to 2008



2008 Soybean Cyst Nematode Survey



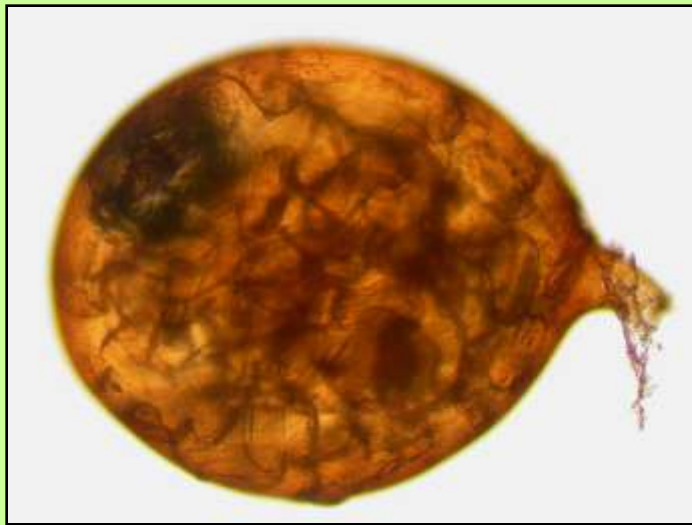
- Prevalence of Soybean cyst nematode (SCN), (*Heterodera glycines*) based on cumulative UW/DATCP consensus data from annual soil surveys of soybean fields.
- Surveyed and infested soybean acreage comprises 85.5% of the soybean crop in the state.

Potato Cyst Nematode (PCN) Survey

2007: 1,808 soil samples

2008: 610 soil samples

All fields were free from PCN.

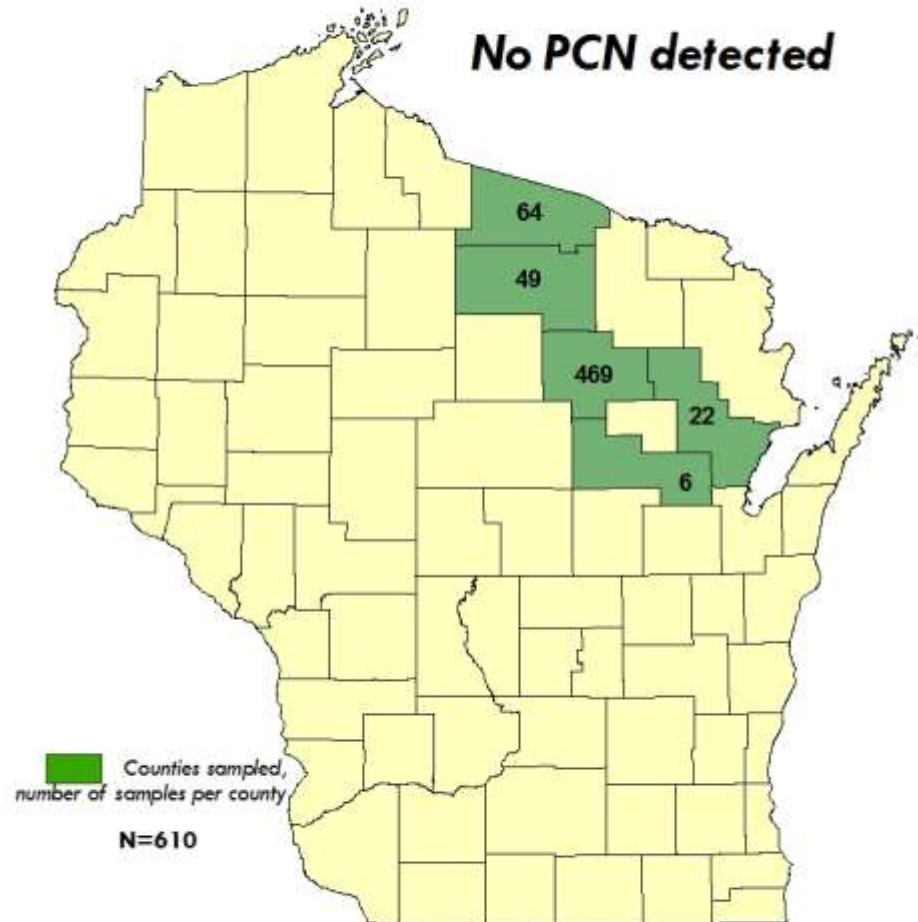


Globodera pallida,
Globodera rostochiensis

2008 Potato Cyst Nematode Survey

3,050 acres of seed potato fields sampled

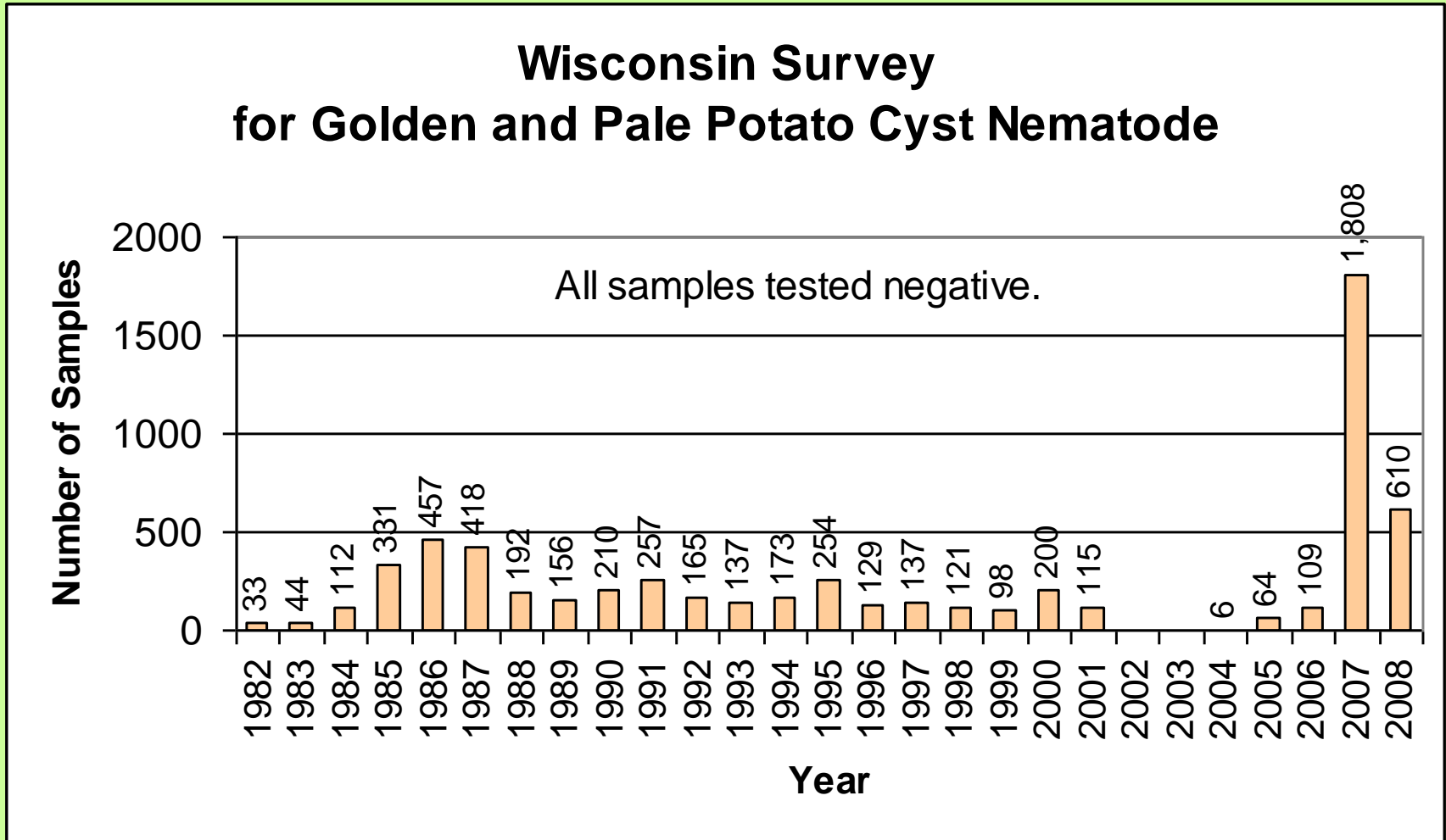
No PCN detected



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Potato cyst nematodes have never been detected in Wisconsin.

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DATCP Plant Industry Laboratory



DATCP Plant Industry Pest Survey

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