

# The Soybean Aphid, *Aphis glycines* Matsumura

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## Abstract

The soybean aphid, *Aphis glycines* Matsumura, is native to Asia and was first detected in the continental U.S. in Wisconsin during 2000. By 2003, 21 U.S. states and three Canadian provinces had confirmed reports of soybean aphid. Soybean aphid was originally mistaken for cotton or melon aphid, *Aphis gossypii* Glover, in the field, but soybean aphid is more likely to form high-density colonies on soybean plants. Significant yield loss can result from these aphid populations if left unchecked. Regular scouting of soybean fields and consultation with local extension specialists is necessary for proper management.



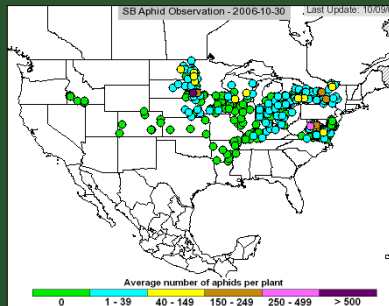
Photo: David W. Ragsdale, University of Minnesota, www.ipmimages.org



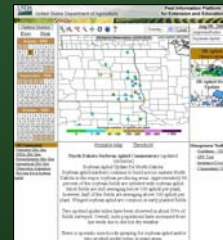
Photo: Ames Herbert, Virginia Tech, Tidewater, AREC, www.ipmimages.org

## Soybean Aphid (SBA) and PIPE-2006 Accomplishments

- Form a working group with an extension entomologist from each SBA-funded state. Conference calls scheduled on an as-needed basis.
- Extension entomologists developed sampling protocols, economic threshold statement, coordinated SBA monitoring within their states, and provided extension commentary.
- Data point map and extension commentary features were available for the 2006 season.
- 3009 data records for the average number of soybean aphids per plot available during 2006.



## Users Zoom into their State for Data Points and Specialist Commentary-Example North Dakota



## 2007 PIPE Soybean Aphid-Future Plans

- \$101,500 available for SBA PIPE in 2007
- Add 7 additional states to funding cycle
- Increase each of the 14 participating state's budgets by 18.5%
- Continue to review and revise sampling procedures and data entry protocols
- Simplify user interface
- Increased education materials
- Transition to specialist coordination-
- 2007 Co-National Coordinators
  - Eileen Cullen and Ames Herbert

## 2006 PIPE Soybean Aphid Extension Entomology Participants

- Wayne Bailey, University of Missouri
- Tracey Baute, Ontario
- Eileen Cullen, University of Wisconsin
- Chris DiFonzo, Michigan State University
- Michael Gray, University of Illinois
- Ron Hammond, The Ohio State University
- Ames Herbert, Virginia Tech University
- Thomas Hunt, University of Nebraska
- Janet Knodel, North Dakota State University
- Christian Krupke, Purdue University
- Doug Johnson, University of Kentucky
- Ken Ostlie, University of Minnesota
- Marlin Rice, Iowa State University
- Michele Roy, Quebec
- Kevin Steffey, University of Illinois
- Kelley Tilton, South Dakota State University
- Keith Waldron, Cornell University
- Jeff Whitworth, Kansas State University
- Amanda Hodges, SPDN, University of Florida, 2006 Initial Program Development Coordinator

## 2006 PIPE Soybean Aphid Additional Participants

- Bob O'Neil, Purdue University
  - Coordinated Ad-Hoc Research Effort
- Howard Schwartz, Colorado State University
  - Coordinated the SBR and SBA effort for sentinel plots in other legumes for the western U.S.
- Julie Golod, Pennsylvania State University
  - PIPE IT interface issues
- Susan Ratcliffe, NCIPMC, University of Illinois
  - Coordinated PIPE educational/outreach effort
- David Ragsdale, University of Minnesota
  - Instrumentally involved in initial sampling protocol development
- David Voegtlin, Illinois Natural History Survey
  - Expert specialist for aphid identification

## Identification of Soybean Aphid

Detailed taxonomic resources are available (Blackman and Eastop 2000; Voegtlin et al. 2004). New state and county records should be confirmed by a specialist.

The NPDN has hosted two diagnostic workshops that have covered specimen preparation and aphid identification issues.

SPDN 'Homoptera', December 2004, Gainesville, FL  
WPDN 'Homoptera', March 2006, Davis, CA

One of the NPDN Diagnostic Subcommittee's Standard Operating Procedures (SOPs) focuses on Soybean Aphid.

## Background Information

Several pre-existing project/working groups including:

- 1 USDA IPM-RAMP (Risk Avoidance and Mitigation Program)
- 2 NCSRP (North Central Soybean Research Program) projects
- S-1010 Soybean Insect CSREES Regional Project
- Suction Trap Network

During January/February 2006, additional funding (\$69,200) became available through the Pest Information Platform for Extension and Education (PIPE) program. PIPE was initiated in 2005 to facilitate management and dissemination of information regarding incidence, and spread, and management of soybean rust (SBR). Soybean Aphid is the first additional pest to enter the SBR PIPE model <http://www.sbrusa.net/>. PIPE is funded by the USDA, Risk Management Agency (RMA).

Coordination of dry beans, primarily common bean, *Phaseolus vulgaris* (Howard Schwartz), in the western U.S. also included aphid monitoring. Monitoring in dry beans represented the first additional crop(s) for the PIPE website.

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