

CAPS ANNUAL ACCOMPLISHMENT REPORT 2007

Wisconsin Department of Agriculture, Trade and Consumer Protection
Krista L. Hamilton, State Survey Coordinator

State Wisconsin
Year 2007 Annual
Agency Wisconsin Department of Agriculture, Trade and Consumer Protection

I. CORE LEVEL FUNDING ACTIVITIES

A. State Survey Coordinator

Name: Krista Hamilton
Agency: WI DATCP
Address: P.O. Box 8911
Madison, WI
Phone: 608.224.4594
Fax: 608.224.4656
Email: krista.hamilton@wisconsin.gov

B. Member name of National CAPS Committee: Robert Dahl

C. Compare actual accomplishments to objectives established for the period

Continued infrastructure development and support were key elements in the 2007 WI CAPS request, and greatly augmented the abilities of the State to assist with the goals of protecting our food supply and agricultural system. Funding for the laboratory technician position and supplies at the DATCP Plant Industry Laboratory were also critical components of the Core Work Plan. Testing for Potato Cyst Nematode (PCN) continued on pace during the final quarter of FY07 to meet the April 2008 deadline of 1,800 samples collected and processed. The PCN required a considerable expenditure of laboratory staff time and attention in 2007 to complete testing in a timely fashion.

D. If appropriate, explain why objectives were not met.*

All objectives were met.

E. Where appropriate, explain any cost overruns.*

None.

F. State CAPS Committee narrative-meeting dates, attendees, agenda.

The State CAPS Committee met on June 13, 2007. An agenda is attached.

G. NAPIS database submissions

With the exception of the PCN survey results (due to a survey timeframe extending to April 2008), all submissions were entered by Daniel Gerhardt well in advance of the target date of December 31. In addition, more survey results were entered in 2007 than in previous years (see table Page 2).

Table 1. NAPIS data entry checklist and dates.

Pest Name	Data Submitted	Data Entered	Entered in 2006?	Comments
Apple tortrix	11/08/07	11/08/07	NO	
Beech bark disease	12/03/07	12/04/07	NO	WDNR survey
Cherry bark tortrix	11/08/07	11/08/07	NO	
Emerald ash borer	11/14/07	11/14/07	NO	
Exotic wood borers	10/23/07	10/23/07	YES	25 species entered
Fruit tree tortrix	11/08/07	11/08/07	?	
Gypsy moth	11/29/07	11/19/07	YES	
Hemlock woolly adelgid	12/03/07	12/04/07	NO	WDNR survey
Japanese beetle	11/08/07	11/08/07	NO	
Karnal bunt	10/24/07	10/24/07	NO	
Leek moth	10/24/07	10/24/07	NO	
Light brown apple moth	08/27/07	08/27/07	NO	
Mollusks	01/02/08	01/03/08	YES (IN PART)	13 non-native species
Oriental beetle	11/14/07	11/14/07	NO	
Potato rot nematode	11/08/07	11/08/07	NA	
Sirex woodwasp	08/27/07	08/27/07	YES	
Small hive beetle	11/13/07	11/13/07	YES	
Soybean virus	10/23/07	10/23/07	?	
Soybean aphid	11/14/07	11/14/07	NO	
Swede midge	11/06/07	11/06/07	NO	
Potato cyst nematode	ongoing	02/29/08	YES	
Hydrilla verticillata	09/07/2007	09/07/2007	NA	

II. SIREX NOCTILIO WOODWASP SURVEY

A. Survey methodology (trapping protocol)

One hundred and twelve Lindgren funnel traps baited with Sirex lure (70% alpha pinene + 30% beta pinene) were set in 19 eastern and northern counties of the state, including Ashland, Bayfield, Brown, Door, Douglas, Iron, Florence, Forest, Kenosha, Kewaunee, Manitowoc, Marinette, Milwaukee, Oconto, Oneida, Ozaukee, Racine, Sheboygan, and Vilas. Placement of traps began on May 24 and was complete by July 18. Individual traps were checked every 2-3 weeks through October 26 and the contents were examined for foreign woodwasps, longhorned beetles, and bark beetles.

B. Rationale underlying survey methodology

Sirex woodwasp is known to occur in Michigan, New York, Pennsylvania, and Ontario, Canada and is associated with ports of entry and foreign solid wood packing materials. The regions of Wisconsin closest to the known infestations and with substantial shipping received from Asia were trapped. Survey methodology was based upon the CAPS/APHIS *Sirex noctilio* trapping protocols dated 4/20/06.

C. Survey dates

May 01 to December 31, 2007 (trapping was conducted from May 24 to October 26, 2007).

D. Taxonomic services

Screening, identification and preservation was performed by Krista Hamilton of DATCP. A total of 37 woodwasp specimens were submitted to PPQ identifiers in Chicago, and all were determined to be one of the native species *Urocerus albicornis*, *Urocerus cressoni*, *Sirex edwardsii* or *Sirex nigricornis*.

E. Results of survey

The 2007 survey generated a total of 285 samples, including 81 native siricids. The natives collected were *Sirex edwardsii* (18 individuals), *Sirex nigricornis* (19), *Urocerus albicornis* (5), *Urocerus cressoni* (36), and unknown *Sirex* spp. (3). *Sirex noctilio* was not detected in Wisconsin in 2007.

F. Compare actual accomplishments to objectives established for the period.

The proposed trapping plan called for setting 108 traps, collecting 540 samples (5 checks x 108 traps = 540), and surveying 18 counties. Instead, a total of 112 traps were set in 19 counties, exceeding the projected trapping effort (104%). Fewer samples were collected because many of the traps captured few or no insects early in the season during the first two trap check intervals.

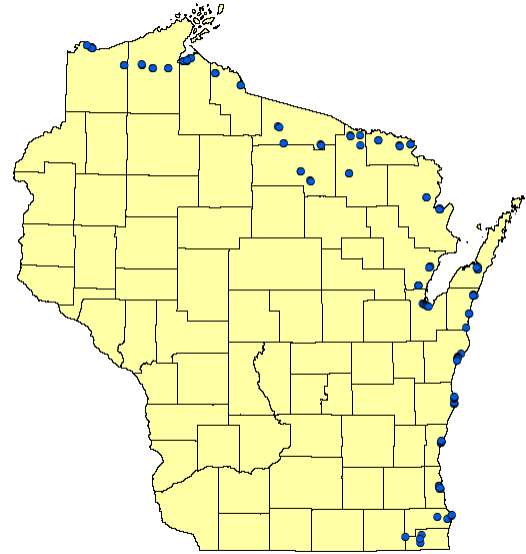
G. If appropriate, explain why objectives were not met*

All survey objectives were met.

H. Where appropriate, explain any cost overruns*

No cost overruns were incurred during this survey. A total of \$14,500 was received from the US Forest Service (with an equivalent match from DATCP) and \$5,828.56 in funds were provided by APHIS (with a match of \$1,939.12 match from DATCP). Thus, a total of \$36,767.68 was allocated for the survey, 6.3% of which was provided by APHIS.

2007 Sirex Woodwasp Survey Sites



Wisconsin Department of Agriculture, Trade and Consumer Protection

III. EXOTIC WOOD-BORER/BARK BEETLE SURVEY

A. Survey methodology (trapping protocol)

Sets of three Lindgren funnel traps baited with ultra-high release (UHR) ethanol lure only, alpha-pinene and UHR ethanol lures together, and a three-component exotic bark beetle lure were deployed at three sites in Milwaukee, Sauk, and Sheboygan counties. Two funnel traps baited with *Sirex* lure (70% alpha pinene + 30% beta pinene) were deployed at a Barron County lumber company site which receives red pine poles from *Sirex noctilio*-infested areas in New York State. Traps were placed in late April or early May, serviced at two-week intervals, and removed by late September.

B. Rationale underlying survey methodology

The survey conformed to protocols specified in the Exotic Wood Borer/Bark Beetle National Survey Field Manual, proposed by PPQ/EDP/EP Staff (03/10/2006). The list of survey sites was identified based on past USDA EAN history for SWPM violations, facilities receiving frequent shipments accompanied by dunnage or other SWPM, and importers receiving bulk cargo such as steel, marble, cast iron products, heavy machinery, and wooden spools. Trapping was limited to high-risk locations, for efficiency.

C. Survey Dates

January 1 to December 31, 2007 (trapping was conducted from April 01 to September 30).

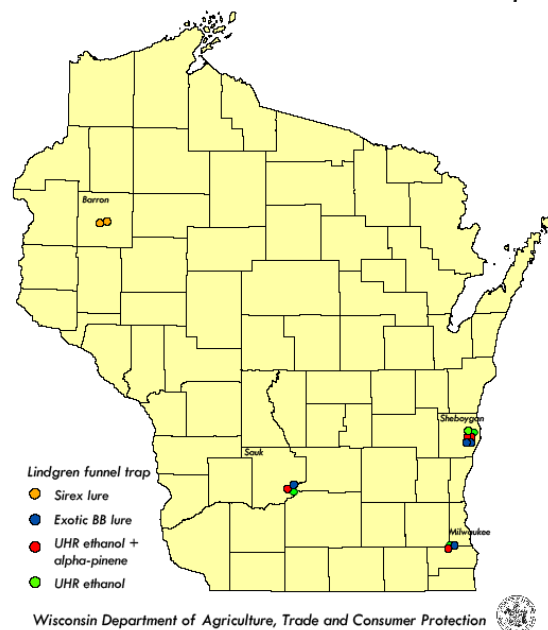
D. Taxonomic services

Samples were processed by the DATCP entomologist, Krista Hamilton. No suspects were submitted to the USDA APHIS PPQ identifier in Chicago, IL.

E. Results of Survey

A total of 14 Lindgren funnel traps were set at four high-risk locations in four counties. Six traps (two sets of three traps) were set at a company in Kohler (Sheboygan County), three were set at a facility in Prairie du Sac (Sauk County), three were set at a landfill in Franklin (Milwaukee County), and two were set at a pole and lumber company in Barron (Barron County). No exotic bark beetles or longhorned beetles were detected in Wisconsin in 2007.

2007 Exotic Bark Beetle Wood-Borer Trap Sites



F. Compare actual accomplishments to objectives established for the period.

The work plan indicated trapping would be conducted in at least four Wisconsin counties and four counties were surveyed (100%).

G. If appropriate, explain why objectives were not met*

All survey objectives were met.

H. Where appropriate, explain any cost overruns*

None.

III. SOYBEAN PESTS SURVEY

A. Survey methodology (trapping protocol)

A detection survey was conducted for soybean rust and several other soybean pests including various soybean viruses (soybean dwarf virus, bean pod mottle virus, alfalfa mosaic virus), frogeye leaf spot (*Cercospora sojina*), white mold (*Sclerotinia sclerotiorum*), soybean aphid (*Aphis glycines*), bean leaf beetle (*Ceratoma trifurcata*), Japanese beetle (*Popillia japonica*),

soybean pod borer (*Maruca vitrata*), and other diseases and pests which may be encountered in soybeans. Fields were sampled during the R2 to R4 stages of growth to assess seasonal soybean aphid densities while treatment was still beneficial. At each field, 40 leaves (new trifoliates) were collected for virus testing at the DATCP Plant Industry Lab, soybean aphid numbers were counted, and soybean rust incidence was determined.

B. Rationale underlying survey methodology

Sampling fields at the R2-R4 stages of growth facilitates accurate comparison of survey results from year to year and indicates peak aphid levels during a given season. In addition, surveying for a broader range of soybean pests at each site (rust, viruses, soybean aphids, bean leaf beetle) increases the efficiency of the survey and allows for the collection of more field data.

C. Survey dates

The field portion of survey was carried out from July 12 to August 31, 2007. Disease diagnostic work was performed by Plant Industry Laboratory personnel from July 31 to October 23, 2007.

D. Taxonomic services

DATCP Entomologist, Krista Hamilton (primary insect screening).

DATCP Plant Industry Lab, Anette Phibbs (primary disease screening).

Confirmation by USDA identifiers as appropriate.

E. Results of survey

Soybean viruses and rust

Virus symptoms were detected in 14 of 227 soybean fields sampled as part of the annual soybean rust and virus survey (see map Page 6). Results were as follows: bean pod mottle virus (one field positive in Grant County); soybean dwarf virus (seven fields positive: Vernon [1], La Crosse [2], Walworth [1], Grant [2], and Crawford counties [2]); potyvirus group (one field positive in Dane County); cucumber mosaic virus (all negative); alfalfa mosaic virus (five fields positive: Crawford [1], Marathon [1], Monroe [1], Racine [1], and Sauk [1]).

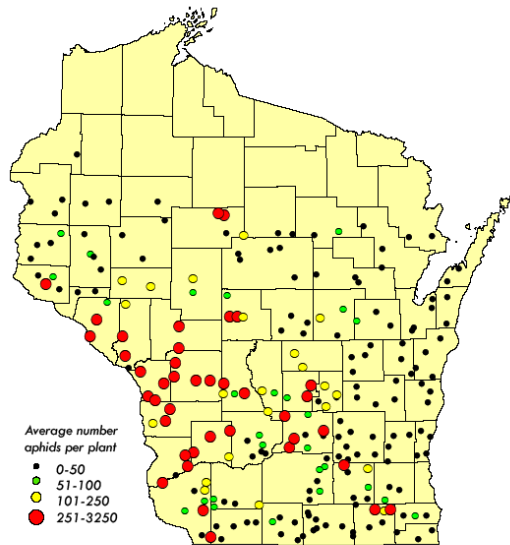
All soybean foliage (40 leaves per field) was tested for bean pod mottle virus, cucumber mosaic virus, and potyviruses using DAS ELISA. Testing for alfalfa mosaic virus and soybean dwarf virus was performed using reverse transcription (RT) - polymerase chain reaction (PCR) (1, 2), which can detect lower levels of viral infections than DAS ELISA. No Asian soybean rust was detected in any of the 227 Wisconsin soybean fields surveyed in 2007.

Soybean aphid

Examination of 227 soybean fields between July 12 and 31 found non-economic soybean aphid populations at 83% of the survey sites (see map Page 6). High or economic populations were detected at 17% of the sites, located principally in the west central district and portions of the southwest, south central, and central districts. Moderate populations were detected in the central and north central districts, and low populations were found over much

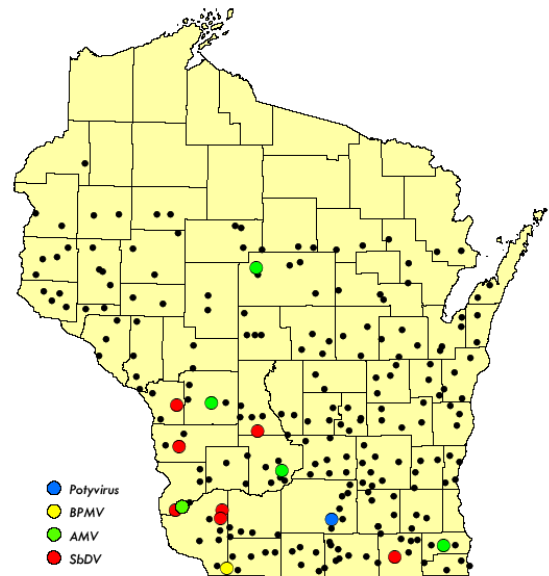
of the southeast, east central, northwest, and northeast districts. The 2007 statewide average number of soybean aphids per plant was 164. This compares to 69 aphids per plant in 2006, 118 aphids per plant in 2005, 11 aphids per plant in 2004, and 758 aphids per plant in 2003. The 2007 survey documented the heaviest soybean aphid densities since 2003 when populations of this species escalated to record levels in Wisconsin and the Midwest.

2007 Soybean Aphid Survey Results
R2 to R4 growth stages



Wisconsin Department of Agriculture, Trade and Consumer Protection

2007 Soybean Virus Survey Results



Wisconsin Department of Agriculture, Trade and Consumer Protection

F. Compare actual accomplishments to objectives established for the period.

The survey plan proposed 200 sites in 56 Wisconsin counties. A total of 227 sites in 60 counties were surveyed (114%).

G. If appropriate, explain why objectives were not met*

Survey objectives were exceeded.

H. Where appropriate, explain any cost overruns*

None.

IV. FRUIT TREE TORTRIX SURVEY

A. Survey methodology (trapping protocol)

Pheromone traps for the FTT were distributed to the DATCP Apple Pest Trapping Network, made up of 33 selected orchard growers around the state. Thirty five traps and lures were placed by mid-May and checked each week for the presence of exotic fruit moths. Any moths captured in the FTT traps were submitted to DATCP for identification.

B. Rationale underlying survey methodology

Using the established trapping network and cooperator labor allows coverage of the state in an efficient fashion. Growers are not required to make identifications, but simply forward trap catches. This survey relies on trained and experienced volunteers from around the state.

C. Survey dates

May 01 to September 01, 2007.

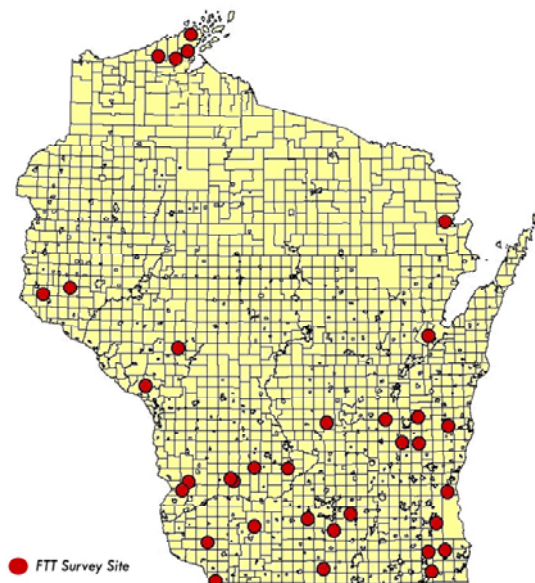
D. Taxonomic services

Screening was performed by Krista Hamilton of DATCP or Steve Krauth of the UW-Madison Insect Research Collection.

E. Results of survey

Suspect FTT moths were captured in Racine County during the week of May 25, 2007 and were submitted to the DATCP entomologist for identification. The two moths were identified as native species in the genus *Archips*: one *Archips argyrospilus* (fruit tree leafroller) specimen and one *Archips* sp., possibly *rosaceana*. Survey results for the fruit tree tortrix, *Archips podana*, were negative.

2007 Fruit Tree Tortrix Survey Sites



F. Compare actual accomplishments to the objectives established for the period

Trapping supplies were shipped to cooperators by March 16, and pheromone traps were placed by May 1 or earlier. Thirty five traps were set in 33 orchards in 20 counties, compared to 30 traps projected in the 2007 work plan (117%).

G. If appropriate, explain why objectives were not met*

All of the objectives set for this survey were met.

H. Where appropriate, explain any cost overruns*

None.

V. SMALL HIVE BEETLE

A. Survey methodology (trapping protocol)

Five hundred and four hives in 35 counties were opened and visually inspected for the Small Hive Beetle (SHB), *Aethina tumida* in fall. The counties surveyed were: Adams, Barron, Calumet, Chippewa, Clark, Columbia, Crawford, Dane, Dodge, Dunn, Fond du Lac, Grant, Green, Kenosha, La Crosse, Lafayette, Manitowoc, Marathon, Milwaukee, Monroe, Outagamie, Polk, Portage, Racine, Richland, Rock, Sheboygan, Trempealeau, Vernon, Walworth, Washburn, Waukesha, Waupaca, Waushara and Wood. Bee packages shipped into the state were also visually inspected for SHB.

B. Rationale underlying survey methodology

Hives selected for inspection are primarily those of migratory beekeepers, as colonies leave Wisconsin for such states as Alabama, California, Florida, Georgia, Mississippi, and Texas.

C. Survey dates

August 31 to October 31, 2007.

D. Taxonomic services

Liz Meils, State Apiarist (primary screening).

E. Results of survey

Of the 504 hives examined, SHB was found in hives in Dodge, Milwaukee and Sheboygan counties. Small hive beetle was also detected for the first time in Brown County in 2007, but not as part of the CAPS funded survey.

In addition, hives were inspected for a number of honeybee pests and diseases, including American Foulbrood (AFB), European Foulbrood (EFB), chalkbrood, sacbrood, Deformed Wing Virus (DWV), as well as Africanized honeybees. American Foulbrood was found in 4.5% of hives, EFB was found in 1.4%, chalkbrood was found in 8.1%, sacbrood was found in 2%, and DWV was found in 8.1% of hives. No Africanized honeybees were found during the annual survey.

F. Compare actual accomplishments to objectives established for the period

The work plan estimated a minimum of 500 hives would be inspected in 2007. A total of 504 were examined (101%).

G. If appropriate, explain why objectives were not met*

All objectives were met.

H. Where appropriate, explain any cost overruns*

None.

VI. MOLLUSK SURVEY

A. Survey methodology (trapping protocol)

The mollusk survey was contracted to the Milwaukee Public Museum, as it is the organization with sufficient expertise in malacology.

B. Rationale underlying survey methodology

The efforts are two-fold: to conduct a sample of mollusks around the state, focusing on areas around rail yards, garden centers and other areas of high risk for mollusk introduction; and to delimit a known infestation of *Helix pomatia* in a Milwaukee County park.

C. Survey dates

March 01 to December 31, 2007.

D. Taxonomic services

Identification by Joan Jass of the Milwaukee Public Museum, with confirmation by USDA identifiers as needed.

E. Results of survey

See attachment.

F. Compare actual accomplishments to objectives established for the period.

A total of 105 sites in all 72 counties of the state were surveyed for exotic mollusks. This number of sites meets the proposed objectives set for the survey time frame (100%).

G. If appropriate, explain why objectives were not met*

Not applicable.

H. Where appropriate, explain any cost overruns*

None to date.

VI. SWEDE MIDGE SURVEY

A. Survey methodology (trapping protocol)

Delta traps baited with a lure specific to the Swede midge (*Contarina nasturtii*) were positioned in crucifer cropland and/or cruciferous weeds in Dane, Iowa, Rock, and Walworth counties. Trap liners were collected and replaced by cooperators or DATCP survey personnel every 1-2 weeks from mid-July through October.

B. Rationale underlying survey methodology

Pheromone traps in the host crop.

C. Survey dates

June 01 to October 25, 2007.

D. Taxonomic services

Identification by Clarissa Hammond of DATCP, with confirmation by USDA identifiers.

E. Results of survey

Finds were negative.

F. Compare actual accomplishments to objectives established for the period.

The work plan estimated six traps would be set; instead, five traps were set (83%).

G. If appropriate, explain why objectives were not met*

Time constraints combined with difficulty finding cooperators and suitable survey sites.

H. Where appropriate, explain any cost overruns*

None to date.

SIGNATURES

_____	date _____	_____	date _____
Krista Hamilton, SSC WI DATCP		JoAnn Cruse, SPHD USDA/APHIS	