CAPS Survey Accomplishment Report Template

CAPS Survey Report

Year:	2015
State:	Wisconsin
Cooperative Agreement Name:	CAPS Soybean Commodity Survey
Cooperative Agreement Number:	15-8255-0378-CA
Project Funding Period:	CY 2015
Project Report:	**CAPS Survey Report**
Project Document Date:	01/22/2016
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Quarterly Report	☐
Semi-Annual Accomplishment Report	☐
Annual Accomplishment Report	☒

A. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. When the output can be quantified, a computation of cost per unit is required when useful.

Field observations were made for three pests of national concern: Cucurbit beetle *(Diabrotica speciosa)*, yellow witchweed (*Alectra vogelii*), and Asian soybean rust *(Phakopsora pachyrhizi)* in accordance with published survey methods (visual, with laboratory confirmation for *Phakopsora*.) No primary target pest suspects were detected during the survey. Two hundred fields were projected in the work plan, 482 fields were surveyed.

During the survey effort, additional pest information was gathered, including plant sampling for exotic oomycetes, tissue sampling for soybean virus detection, and late-season soybean insect levels, including soybean aphid. These adjunct surveys provided additional pest information, providing efficiencies to the state's plant protection efforts.

50 soybean fields were tested early in the season for oomycetes (root rot organisms), 50 fields were sampled late in the season for a panel of viruses, and 482 fields were visually surveyed from May through September for target pests. A total of 582 sites were visited. No target pests were detected by visual survey. Maps of all three surveyed groups are attached.

Oomycete Survey results: The June 2-30 survey to determine the prevalence of soybean root rot caused by *Phytophthora sojae* found a 38% positive rate among the 50 samples tested. This substantial level of prevalence suggests that root rot was a common problem again this season, almost comparable to the 2014 results of 49% of fields sampled, the highest incidence of root rot since the DATCP soybean root rot survey began in 2008. Counties in which *P. sojae* was confirmed were Buffalo, Calumet, Chippewa, Columbia, Dodge, Dunn, Iowa, Kenosha, Lafayette, Manitowoc, Outagamie, Polk, Rock and Winnebago.

A recently-described Phytophthora species, *P. sansomeana*, was detected again this year in soybean roots from Dodge and Jefferson counties. *Phytophthora sansomeana* had previously been found on soybean in eight other counties: Calumet, Dane, Dunn, Eau Claire, Green, Outagamie, Marathon and Sheboygan, for a total of 10 counties since the first Wisconsin detection in Jefferson County in 2012.

Two other species of Phytophthora, *P. inundata* and *P. iranica*, were also found in 2015. The former was detected in soybean roots from Buffalo County, while the latter was isolated from plants from a Lafayette County field. It is not known if these new species cause disease on soybeans.

Cumulative results of this eight-year survey include the detection of five distinct

Phytophthora species in the state's soybean fields (also *P. pini* and *P.* sp. *personii*), four of which had never been found on soybeans in Wisconsin prior to this effort.

Soybean Virus Survey Results: Fifty soybean fields were sampled and tested for alfalfa mosaic virus (AMV), soybean dwarf virus (SbDV), and soybean vein necrosis virus (SVNV) in August when plants were in the R4 to R6 stages. In each field at four sites foliar samples were collected, aphids counted and disease observations were noted.

Twelve percent of fields were infected with SbDV, a marked decline from the 24% infection rate in 2014. Alfalfa mosaic virus was found in 12% of fields tested compared to 3% the year before. Soybean vein necrosis virus, a tospovirus first detected in Wisconsin in 2012, was found in 6% of samples. The detection of SVNV has declined since its initial find in 2012 when 35% of fields tested positive. Soybean vein necrosis virus is transmitted by thrips; the decrease in incidence may be associated with lower thrips populations in 2015. All virus testing was conducted at the Plant Industry Laboratory.

No Asian soybean rust *(Phakopsora pachyrhizi*), yellow witchweed (*Alectra vogelii)* or cucurbit beetles (*Diabrotica speciosa*) were detected in any of the 482 field observations.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = $20,547	Proposed = 200	Proposed = $102.74
Actual = $20, 547	Actual = 482	Actual = $42.63

1. **Survey methodology (trapping protocol):** Visual, for all primary target organisms.

	Common Name	Scientific Name
Pest:	Cucurbit beetle	*Diabrotica speciosa*
	Yellow witchweed	*Alectra vogelii*
	Asian soybean rust	*Phakopsora pachyrhizi*
	Exotic Oomycetes	*tbd*

	Proposed	Actual
Sites (Locations):	200	482
Traps:	N/A	

Number of Counties:	46
Counties:	See attached map

2. **Survey dates:**

	Proposed	Actual
Survey Dates:	4/15-10/15/15	5/15-9/15

3. Benefits and results of survey: The primary target pests, cucurbit beetle *(Diabrotica speciosa)*, yellow witchweed (*Alectra vogelii*), Asian soybean rust *(Phakopsora pachyrhizi)*, were not detected. Survey efforts for other significant pests were conducted concurrently with the survey efforts, allowing increased efficiency of plant protection efforts in the state.

	Positive	Negative	Total Number
Traps/Sites	0	482	482

4. Database submissions: All data was entered into NAPIS as appropriate.

B. If appropriate, explain why objectives were not met.* Objectives were met.

C. Where appropriate, explain any cost overruns or unobligated funds in excess of $1,000. * (Required for Final Reporting. Report on semi-annual report if information is available.**)**

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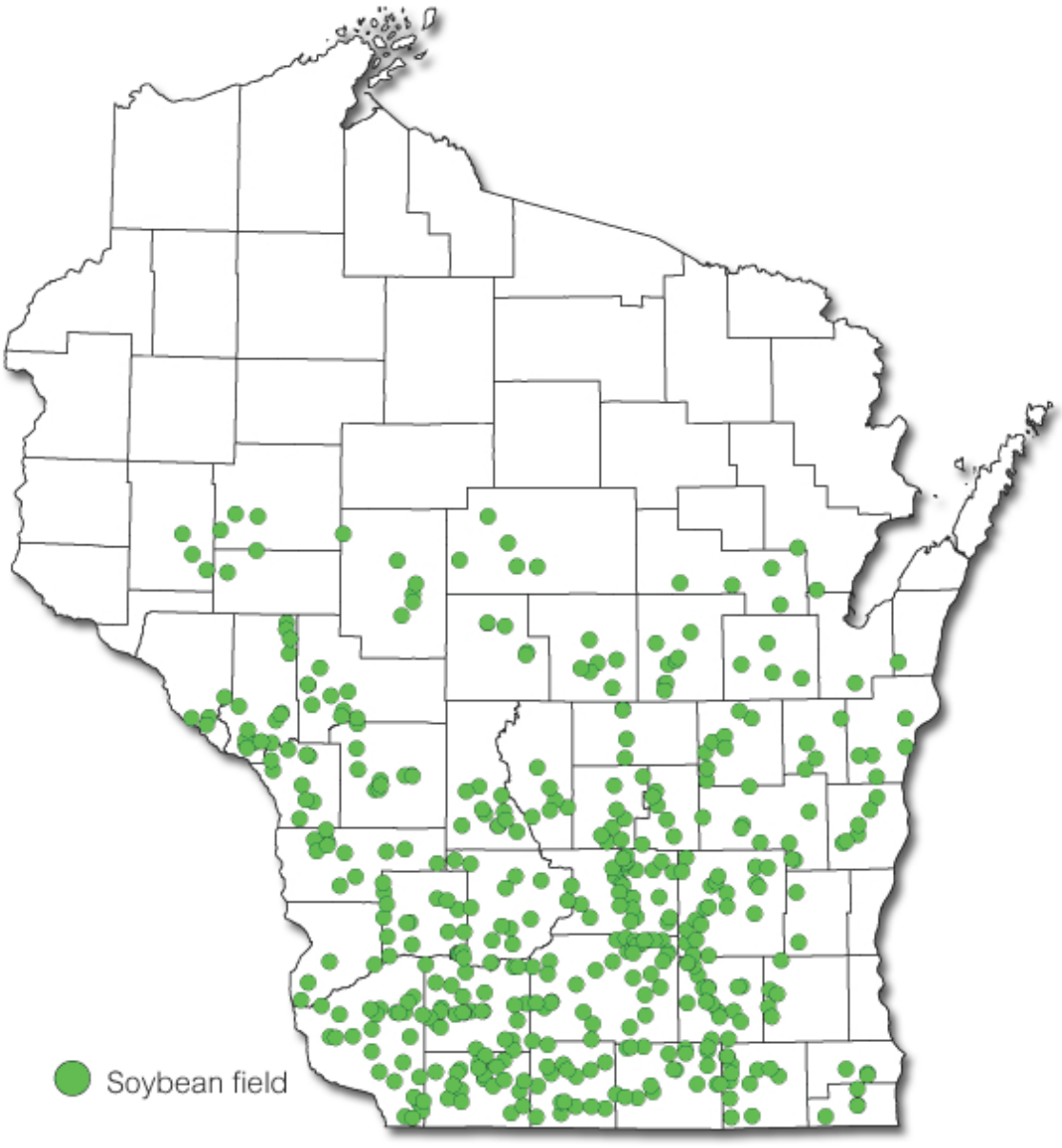
indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51

Approved and signed by

_____ **Date:** _____
Cooperator

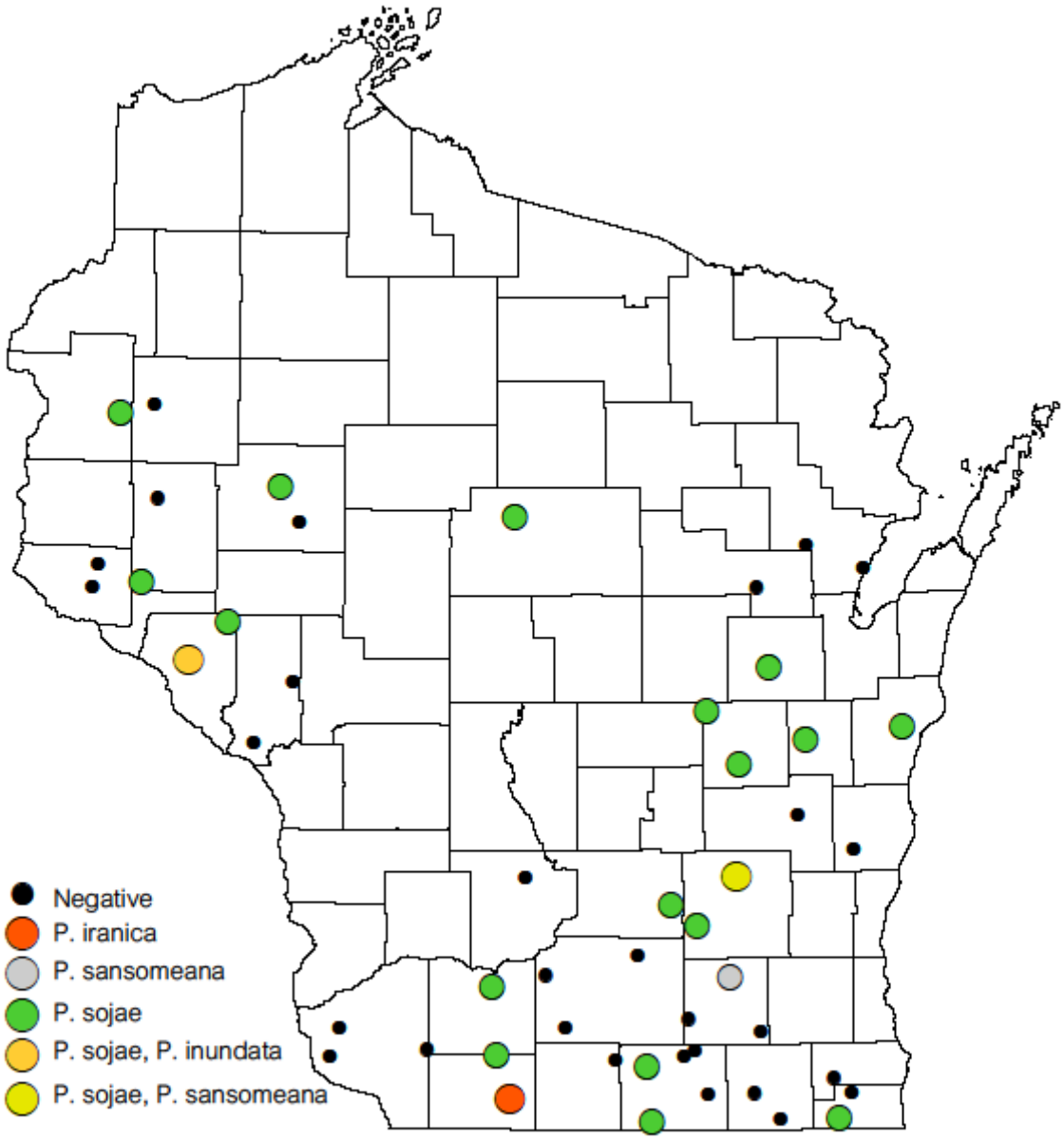
_____ **Date:** _____
ADODR

CAPS Soybean Pest Survey Sites 2015



Wisconsin Department of Agriculture, Trade and Consumer Protection

Soybean Phytophthora Survey Results 2015



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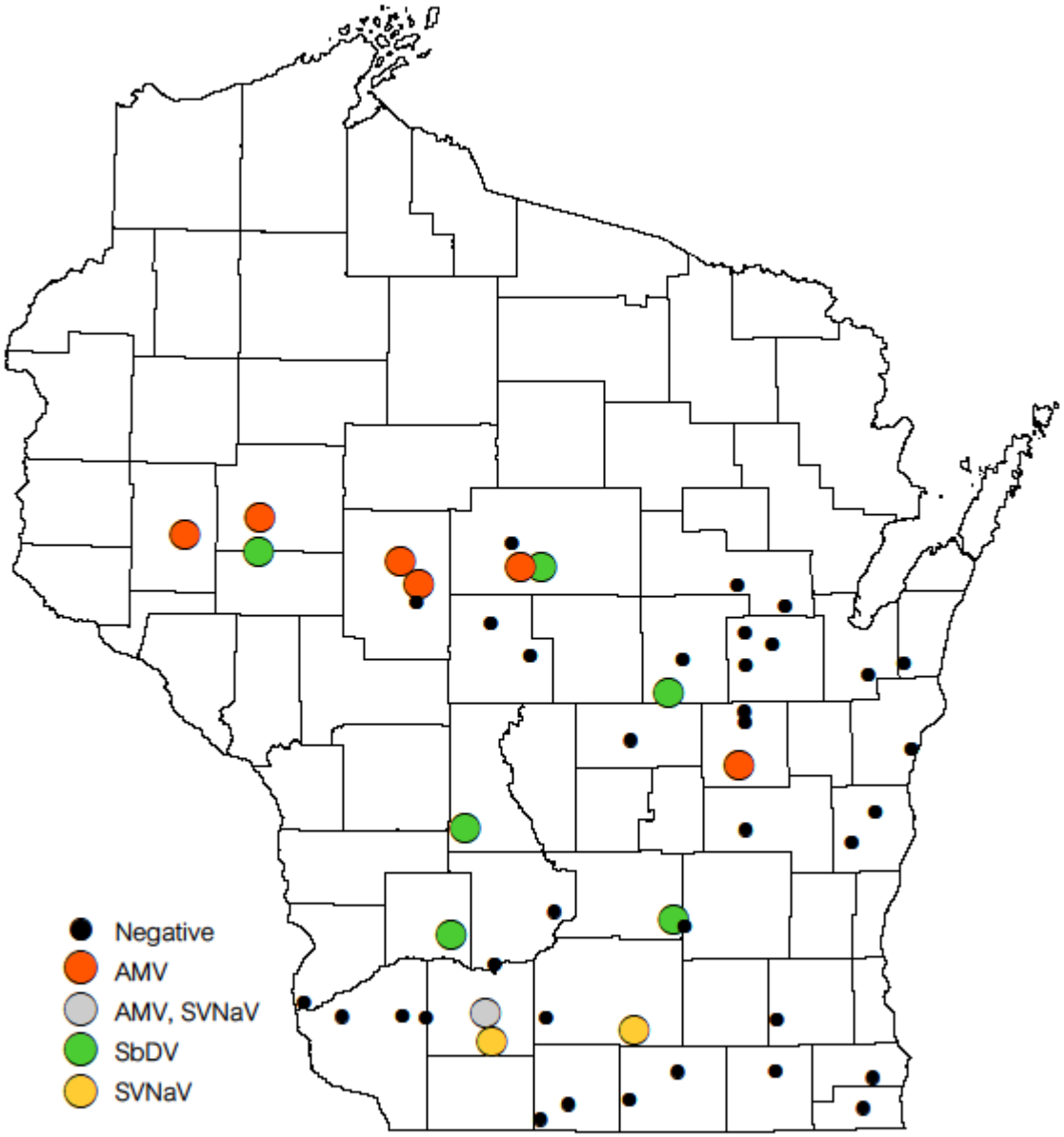
Soybean Virus Survey Results 2015



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