

Work Plan Fiscal Year 2009

Cooperator:	Illinois Department of Agriculture		
State:	Illinois		
Project:	Soybean Commodity Survey		
Project funding source:	Survey of National Concern <input checked="" type="checkbox"/> Survey of State Concern <input type="checkbox"/> Other Line Item Pest <input type="checkbox"/>		
Project Coordinator:	Kelly Estes, Illinois Natural History Survey		
Agreement Number			
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This Work Plan reflects a cooperative relationship between the Illinois Department of Agriculture (the Cooperator) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ). It outlines the mission-related goals, objectives, and anticipated accomplishments as well as the approach for conducting an oak commodity survey and the related roles and responsibilities of the parties [e.g., mutual roles, APHIS role(s), Cooperator role(s)] as negotiated.

I) OBJECTIVES AND NEED FOR ASSISTANCE

(What relevant need or problem within the cooperator's mission area requires a solution in carrying out a public purpose of support or stimulation authorized by a law of the United States? How does the need or problem align with the mission area and strategic goals of APHIS?)

Ten million acres of soybeans are grown in Illinois, accounting for \$3 billion of the Illinois agricultural economy. Soybean rust (SBR) was identified in Illinois in 2006 in seven counties and six counties in 2007. Fortunately, the disease did not appear until late in the season, not affecting either soybean crop. This pathogen has been known to drastically reduce soybean yield. Losses have been documented up to 80% in areas where the disease commonly occurs. Optimal conditions for good growth and canopy development of the soybean crop are also the most optimal for the infection and spread of the soybean rust pathogen. Monitoring for this pathogen is needed to provide timely detection of the disease in order to enable proper application of fungicides, the only effective management option at this time.

Though not known to occur in the United States, should the old world bollworm, *Helicoverpa armigera*, be introduced, this particular pest has the potential to be devastating to Illinois agriculture. *Helicoverpa armigera* has a host range of over 180 cultivated crops and wild species. Included in the host range are corn and soybeans, two major crops of Illinois agriculture. Nearly 12 billion and 10 billion acres of corn and soybeans are grown in Illinois, respectively. In addition to potential hosts alfalfa, sorghum, and wheat, Illinois also produces a considerable amount of specialty crops that would be affected by the introduction and establishment of *H. armigera*, including tomatoes, snap beans, green beans, onions, and potato.

The soybean rust sentinel plot system is part of a coordinated framework for the surveillance, prediction, reporting, and management of soybean rust. This program is a cooperative effort between USDA, State Universities and Extension Systems, State Departments of Agriculture, industry, local producers, and the National Plant Diagnostics Network. The purpose of this system is to detect and monitor the progression of Asian soybean rust in the United States through a standardized, intense scouting program. By utilizing the pre-existing framework of the SBR plot program the Illinois CAPS program proposes to include surveys for the following targeted pests during weekly monitoring: Asian soybean rust, old world bollworm, soybean pod borer, yellow witchweed, and summer fruit tortrix moth.

II) RESULTS OR BENEFITS EXPECTED

The Cooperator seeks to conduct a program which is expected to result in:

- A.** What results or benefits will be derived from the cooperative effort? Use of bulleted Statements is acceptable.

The cooperator seeks to conduct a cooperative agricultural pest survey program aimed at the early detection of invasive soybean pests. Sentinel plots will be set up with the purpose of detecting Asian soybean rust, *Phakospora pachyrhiza* to provide an early warning system to Illinois agricultural producers. During the soybean rust survey, additional surveys will be conducted utilizing the soybean rust sentinel plot system. Extension educators will be contracted to complete surveys for multiple pests, including: old world bollworm, soybean pod borer, yellow witchweed, and summer fruit tortrix moth.

All survey data generated from this effort will be entered into the NAPIS database according to NAPIS reporting requirement outlined in the 2008 National CAPS guidelines.

III) APPROACH

What is the plan of action or approach to the work?

This survey will be conducted as part of the Illinois Sentinel Plot System. Soybean sentinel plots will be planted individually (separately) or as part of a commercially-grown field. Plots should be approximately 2500 square feet (50 ft x 50 ft). Except

for fungicide applications, plots should be maintained in the same manner as the commercially grown soybean crop. Sentinel plots will be sampled weekly; leaves will be submitted to the University of Illinois Plant Clinic for diagnosis. Data will be recorded according to sentinel plot protocol.

The old world bollworm trapping will be conducted with the SBR survey. Pheromone traps will be placed at or near 10 plots of the Illinois SBR sentinel plot program. These locations will consist of production agriculture with corn, soybean, wheat, and alfalfa and meet the old world bollworm MRA criteria. Pheromone traps will be placed in late June in each of the locations. Traps will be serviced bi-weekly. SSC Estes will coordinate the survey; traps will be monitored by University of Illinois Extension personnel.

Surveys for yellow witchweed and soybean pod borer will be visual surveys. These surveys will be completed at the time of the weekly SBR leaf collection.

The goal of this program is to combine multiple pest detection surveys to aid in the surveillance for invasive species. Funding is requested to provide trapping materials and pheromones as well as land rental for Illinois soybean producers. This survey will require travel; vehicle operation, mileage, and supplies associated with the travel are requested.

A. The Cooperator and APHIS Mutually Agree to/that:

- Maintain a State Cooperative Agriculture Pest Survey committee that will meet at least once a year to discuss fostering the goals of CAPS.
- Work together in carrying out field surveys, trapping, and data collections, setting emphasis on pest/diseases particularly identified that may pose an immediate risk to the agriculture of this state and the United States.
- Have representation at National and/or Regional annual meetings
- Utilize Cooperator and APHIS program funding, as outlined in the Financial Plan, within authorized parameters to support survey and detection activities. In addition, specific appropriated funding in the level authorized by the PPQ Eastern Region will be dedicated to the delivery of CAPS objectives listed above.

1. What is the quantitative projection of accomplishments to be achieved?

- a. By activity or function, what are the anticipated accomplishments by month, quarter, or other specified intervals?
 - The Illinois SSC and PSS will identify potential survey sites during winter 2009.
 - Planting of plots will occur in May and June 2009.
 - Pheromone placement will begin in June 2009.
 - Institute a weekly collection of leaves for screening, June 2009.

- Institute bi-weekly trap collection circuit upon placement of traps and begin visual surveys.
 - Continue scouting of plots and trap collection and replacement according to survey protocols.
 - Forward suspect specimen with PPQ Form 391 to area identifier as needed.
 - Complete survey, October 2009.
- b. What criteria will be used to evaluate the project? What are the anticipated results and successes?
- Pest detection surveys, outreach, and other project activities, are completed in the manner and time frame outlined in Section III.
 - All data collected from the pest detection surveys is entered into the NAPIS database in the timeframes outlined in Section V.
 - Maps of the pest detection survey activities are produced to aid in planning of future pest detection surveys, pathway risk analysis, and outreach activities
- c. What methodology will be used to determine if:
- Review the NAPIS database to ensure that data from the pest detection activities has been entered.
 - Review the accomplishment reports, supporting outreach materials (if applicable), and maps.

2. What type of data will be collected and how will it be maintained?

- a. Address timelines for collection and recording of data.
- Traps and visual surveys will be completed bi-weekly.
 - SSC Estes will screen traps for suspect specimen.
 - Suspects will be forwarded to USDA identifier for further identification.
 - Visual surveys will be recorded on data sheets, suspect samples will be collected for further identification.
 - Data will be maintained with paper and electronic samples.
 - Illinois SSC will compile negative summary records for submission to NAPIS database at completion of survey.
 - Data entry for positive record of target pest within 48 hours of confirmation.
- b. How will APHIS be provided access to the data?
- Final report to National Plant Board, December 2009.
 - Final written report to Eastern Region, April 2010.

B. The Cooperator will:

- Provide a State Survey Coordinator responsible for coordinating and completing all activities outlined in this Soybean Commodity Work Plan.
- The SSC will coordinate survey activities and ensure data entry, management, and quality.
- The SSC will act as liaison with the State PPQ office (including the SPHD and PSS) and the Illinois Department of Agriculture, the University of Illinois, and other cooperators in the development of exotic pest surveys and management plans.

1. By function, what work is to be accomplished?

- The Illinois CAPS program will work with the University of Illinois SBR Sentinel Plot coordinator for the duration of the survey, which is expected to begin in May and be completed in September.
- The University of Illinois Plant Clinic will screen weekly samples from the sentinel plot system for Asian soybean rust and other plant diseases. They will also act as a clearinghouse for trap samples to be sent to and then collected by the Illinois CAPS program.
- Illinois SSC will coordinate the placement of old world bollworm traps in 10 Illinois locations. Traps will be checked and serviced bi-weekly for the duration of the survey which is expected to begin in late June and be completed in September.
- Illinois SSC will be responsible for screening all trap collections for target species. Suspect specimens will be submitted along with PPQ Form 391 to regional identifier.
- Illinois SSC will provide reference material for visual surveys of yellow witchweed and soybean pod borer.
- Illinois SSC will be responsible for purchasing supplies related to the pest survey.
- Illinois SSC will ensure all documents, forms, and reports are processed and filed according to schedule.

2. What resources are required to perform the work?

Survey and diagnostic guidelines, trapping supplies (including traps & lures, collection, and preservation equipment)

3. What numbers and types of personnel will be needed and what will they be doing?

- Kelly Estes (INHS, SSC) will provide assistance to the University of Illinois SBR sentinel plot program as needed. The SSC is responsible for coordinating and completing all activities outline in this CAPS work plan. The SSC will coordinate survey activities, be responsible for trap screening, and ensure data entry, management, and quality.
- University of Illinois Extension educators – will provide assistance with visual surveys and trap collection.

- Greg Rentschler (USDA, PSS) – assist with survey coordination/site selection.
- USDA identifiers – provide diagnostic support if suspect specimen found on traps.
- The SSC will act as liaison with the State PPQ office (including the SPHD and PSS) and the Illinois Department of Agriculture, the University of Illinois, and other cooperators in the development of exotic pest surveys and management plans.

4. What equipment will be needed to perform the work? Include major items of equipment with a value of \$5,000 or more.

- a. What equipment will be provided by the cooperator?
Microscopes for screening specimens, field and survey tools, insect pinning and curating equipment, insect storage cabinets
- b. What equipment will be provided by APHIS?
- c. What equipment will be purchased in whole or in part with APHIS funds?
No anticipation of purchasing equipment over \$5,000.
- d. How will the equipment be used?
Equipment will be used for general survey practices, screening, and preserving target specimen.
- e. What is the proposed method of disposition of the equipment upon termination of the agreement/project? N/A

5. Identify information technology equipment, e.g., computers, and their ancillary components. All information technology supplies (e.g., small items of equipment, connectivity through air cards or high speed internet access, GPS units, radios for emergency operations etc.) should be specifically identified.

6. What supplies will be needed to perform the work? Identify individual supplies with a cumulative value of \$5,000 or more as a separate item. **All information technology supplies (e.g., small items of equipment, connectivity through air cards or high speed internet access, GPS units, radios for emergency operations) should be specifically identified above.

- a. What supplies will be provided by the Cooperator?
Consumable office supplies include copying costs, diskettes, printer, and copier paper, ink cartridges, batteries, and other miscellaneous renewable materials and supplies will be provided.
- b. What supplies will be provided by APHIS? Pheromone lures for trapping.

- c. What supplies will be purchased in whole or in part with APHIS funds?
Trapping supplies: lures, vapoona killing agents, replacement traps and stands, specimen collecting containers, alcohol, pins, and storage boxes.
- d. How will the supplies be used?
Supplies will be used in trap collection, specimen screening and preservation.
- e. What is the proposed method of disposition of the supplies with a cumulative value over \$5,000 upon termination of the agreement/project?
N/A

7. What procurements will be made in support of the funded project and what is the method of procurement (e.g., lease, purchase)?
(Cooperator procurements shall be in accordance with OMB Circulars A-102 or A110, as applicable.) N/A

8. What are the travel needs for the project?

- a. Is there any local travel to daily work sites? Who is the approving official? What are the methods of payment? Indicate rates and total costs in the Financial Plan.

Vehicles for use will be provided by the Cooperator. The Cooperator will provide for all operational costs of the vehicles. Travel will be required to sites to set up and take down traps.

- b. What extended or overnight travel will be performed (number of trips, their purpose, and approximate dates). Who is the approving official? What is the method of payment? Indicate rates and total cost in the Financial Plan. none

9. Reports:

- a. Submit all reports to the APHIS Authorized Department Officer's Designated Representative (ADODR). Reports include:
 - 1. Narrative accomplishment reports in the frequency and time frame specified in the Notice of Award, Article 4.
 - 2. Financial Status Reports, SF-269, in the frequency and time frame specified in the Notice of Award, Article 4.

10. Are there any other contributing parties who will be working on the project?

- a. List Participating Agency/Institution:
University of Illinois Department of Crop Sciences
University of Illinois Department of Natural Resources and Environmental Sciences

b. List all who will work on the project:

Kelly Estes, SSC
Greg Rentschler, PSS
Carl Bradley, U of IL
Nancy Pataky, U of IL
Steve Knight, USDA
Mark Cinnamon, IDA
University of Illinois Extension Educators

c. Describe the nature of their effort:

The above mentioned individuals will provide guidance and assistance. The individual nature of their efforts will range from providing information to completing surveys.

d. Contribution:

Kelly Estes, SSC – coordinate survey efforts, assist with survey, screen samples
Greg Rentschler, PSS – provide information and guidance, survey coordination
Carl Bradley, U of IL – assist with survey coordination (pathogens)
Nancy Pataky, U of IL – screen soybean leaf samples
Steve Knight, USDA – provide information and guidance
Mark Cinnamon, IDA – provide information and guidance
University of Illinois Extension Educators – conduct visual survey and collect trap captures

C. APHIS Will:

- The SPHD and PSS will provide guidance and assist in the determination and prioritization of survey sites.
- Lures for the trapping part of the survey will be acquired through APHIS.
- PPQ Regional Identifiers will assist with confirmation of suspected target pest identifications.
- Funds will be provided to the Cooperator to cover the costs outlined in the financial plan. In addition, specific appropriated funding, in the level authorized by the APHIS Eastern Region, will be dedicated to the delivery of CAPS objectives listed above.
- The ADODR will track the Cooperative Agreement to ensure that all survey data are entered into NAPIS by the completion date of the Cooperative Agreement, or date agreed upon in work plan.

1. What equipment will be needed to perform the work? Include major items of equipment with a value of \$5,000 or more.

a. Will Equipment be loaned or provided by APHIS? Yes No
(If

Yes, please list: N/A

b. How will the equipment be used? N/A

IV) GEOGRAPHIC LOCATION OF PROJECT

- A.** Is the project statewide or in specific counties, townships, and/or national or state parks? (list all that apply)
This is a statewide project that will be conducted in 10 counties in Illinois. These counties will be confirmed in spring 2009 (Whiteside, Ogle, Lee, Grundy, Adams, Champaign, Woodford, Macon, Madison, and Jefferson). Should any of these counties not fit into the workplan qualifications, a suitable replacement county will be determined in the spring.
- B.** What type of terrain (e.g., cropland, rangeland, woodland) will be involved in the project? cropland
- C.** Are there any unusual features which may have an impact on the project or activity such as rivers, lakes, wild life sanctuaries, commercial beekeepers etc? (list all that apply) no
- D.** Identify the kind of data to be collected:
Data collected will be used to complete all NAPIS entry requirements including, but not limited to date, location, pest, positive or negative pest status, trap type, and duration of trap.
- E.** How will the data be maintained?
SSC Estes will maintain written and electronic records.
- F.** Establish criteria to evaluate the results and successes of the project:
- Pest detection surveys, outreach, and other project activities, are completed in the manner and time frame outlined in Section III.
 - All data collected from the pest detection surveys is entered into the NAPIS database in the timeframes outlined in Section V.
 - Maps of the pest detection survey activities are produced to aid in planning of future pest detection surveys, pathway risk analysis, and outreach activities
- G.** Methodology used to determine if the results and benefits are achieved:
- Review the NAPIS database to ensure that data from the pest detection activities has been entered.
 - Review the accomplishment reports, supporting outreach materials (if applicable), and maps.

V) DATA COLLECTION AND MAINTENANCE

- A.**
- All survey data from cooperative agreements involving pest surveys will be entered into the NAPIS database.

- a. First record for the State and/or County will be entered within **48 hours** of confirmation of identification by a qualified identifier.
- b. All other required records, both positive and negative survey data, must be entered **within two weeks** of confirmation.
- c. All records are to be entered into the NAPIS database by **December 1** of the year of survey, so these data can be included in the yearly Plant Board Report.