

Indiana Cooperative Agricultural Pest Survey

2015 Annual Report Corn Commodity Survey

1 January – 31 December



Department of Entomology at Purdue University
Indiana Department of Natural Resources (IDNR)
United State Department of Agriculture (USDA), Animal and Plant Health Inspection Service
(APHIS), Plant Protection and Quarantine (PPQ)

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CAPS 2015 Annual Report

Year:	2015
State:	INDIANA
Cooperative Agreement Name:	Indiana Agricultural Pest Surveys (CAPS) 2015
Cooperative Agreement Number:	15-8218-0332-CA
Project Funding Period:	1 January 2015 – 31 December 2015
Project Report:	CAPS Corn Commodity Survey
Project Document Date:	30 March 2016
Cooperators Project Coordinator:	Larry W. Bledsoe
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Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

A. 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.*

Objective 1. Utilize cooperator and APHIS program funding, as outlined in the financial plan to conduct a corn commodity survey, process trap samples, and deliver results to the NAPIS database. The Cooperator will conduct a program that is expected to provide information about the presence or absence of potentially damaging exotic pests including old world bollworm, *Helicoverpa armigera*, silver Y-moth, *Autographa gamma*, Egyptian cotton leafworm, *Spodoptera littoralis*, cotton cutworm, *Spodoptera litura*, brown stripe downy mildew, *Sclerophthora rayssiae* var. *zeae*, Philippine downy mildew, *Peronosclerospora philippinensis*, and downy mildew, *Peronosclerospora maydis* and Asiatic witchweed, *Striga asiatica*.

Accomplishments

a. Corn commodity survey:

Proposed and actual funding was \$4,773.

Proposed data were 1,429 records. Actual data were 1,671 records.

Actual cost per unit was \$2.86.

a1. Survey Methodology: Survey methods for moths and diseases were adapted from the CAPS Corn Commodity Guidelines (23 July 2010). Five high-risk trap sites with high concentrations of grain crops (field corn and soybean), vegetables (primarily tomato, sweet bell pepper, and sweet corn), were identified. Five universal bucket traps (green/yellow/white) with lures and kill strips were placed at five locations at each site for each of old world bollworm, *Helicoverpa armigera*, Egyptian cottonworm, *Spodoptera littoralis*, cotton cutworm, *Spodoptera litura* and silver Y-moth, *Autographa gamma*. Traps were set on 12-15 May and were serviced weekly through the end of the reporting period, 10 -14 August. Plant diseases were assessed by testing symptomatic tissue from 38 counties in collaboration with the Purdue Plant Pest and Diagnostic Laboratory. Survey for Asiatic witchweed, *Striga asiatic*, in five counties was developed using the CABI Invasive Species Compendium website <<http://www.cabi.org/isc/datasheet/51786>>, “Approved Methods” for Yellow Witchweed, *Alectra vogelli*, and *S. asiatica* internet images.

a2. Moth survey locations and dates;

Trap period extended weekly mid May to mid August (14 sample dates).

1. La Porte Co. Pinney-Agricultural Center, Wanatah, IN, set 5/13.
2. Knox Co. Southwest-Purdue, Vincennes, IN, set 5/12.
3. Randolph Co. Davis-Purdue Agricultural Center, Farmland, IN, set 5/12,
4. Tippecanoe Co. Meigs-Purdue Horticultural Center, Lafayette, IN, set 5/13.
5. Whitely Co. Northeast-Purdue Agricultural Center, Columbia City, set 5/14.

a2. Continued: Foliar disease survey locations and sample dates

- | | |
|----------------------------------|---|
| 6. Adams Co. 6/5 | 25. Marshall Co. 8/17 |
| 7. Benton Co. 7/17, 8/28, 9/2 | 26. Miami Co. 6/4, 6/18 |
| 8. Boone Co. 8/28 | 27. Montgomery Co. 8/21 |
| 9. Clark Co. 7/7, 7/17 | 28. Newton Co. 8/28 |
| 10. DeKalb Co. 6/19 | 29. Noble Co. 6/12, 7/15, 8/21, 8/28 |
| 11. Dubois Co. 6/4 | 30. Parke Co. 6/4 |
| 12. Elkhart Co. 6/17, 8/20, 8/28 | 31. Porter Co. 9/17 |
| 13. Fountain Co. 5/29, 6/2 | 32. Posey Co. 9/2 |
| 14. Gibson Co. 9/2 | 33. Pulaski Co. 9/11 |
| 15. Hamilton Co. 6/29 | 34. Shelby Co. 6/4 |
| 16. Harrison Co. 6/12 | 35. St. Joseph Co. 8/20, 8/21, 8/28 |
| 17. Hendricks Co. 6/18 | 36. Starke Co. 6/1, 7/15, 8/27, 9/17 |
| 18. Huntington Co. 7/10 | 37. Steuben Co. 8/20, 8/28 |
| 19. Jasper Co. 9/11 | 38. Tippecanoe Co. 5/28, 7/28, 7/31, 8/21, 8/27 |
| 20. Jennings Co. 7/14 | 39. Tipton Co. 8/17 |
| 21. Kosciusko Co. 8/28 | 40. Vanderburgh Co. 8/26 |
| 22. LaGrange Co. 6/4, 8/20, 8/28 | 41. Wabash Co. 6/10, 7/16 |
| 23. Lake Co. 9/17 | 42. Warren Co. 9/2 |
| 24. LaPorte Co. 5/28, 8/17, 8/20 | 43. White Co. 9/11 |

a2. Continued: Asiatic witchweed survey locations and sample dates

- 44. La Porte Co. 7/17.
- 45. Knox Co. 7/13.
- 46. Randolph Co. 7/14
- 47. Tippecanoe Co. 7/17.
- 48. Whitely Co. 7/14.

a3. Benefits and Results of Survey:

No target species were recovered. As in previous years, several species of endemic noctuid moths responded to the specific pheromones resulting in large numbers of moths to screen by micro-dissection.

a4. Database submissions:

Old world bollworm, *Helicoverpa armigera*,
 Date Range: 05-18-2015 thru 8-14-2015
 Counties 5 Sites 5 Pos 0 Neg 325

Egyptian cottonworm, *Spodoptera littoralis*,
 Date Range: 05-18-2015 thru 8-14-2015
 Counties 5 Sites 5 Pos 0 Neg 325

Cotton cutworm, *Spodoptera litura*,
Date Range: 05-18-2015 thru 8-14-2015
Counties 5 Sites 5 Pos 0 Neg 325

Silver Y-moth *Autographa gamma*;
Date Range: 05-18-2015 thru 8-14-2015
Counties 5 Sites 5 Pos 0 Neg 325

Philippine Downy Mildew, *Peronosclerospora philippinensis*,
Date Range: 05-18-2015 thru 9-17-2015
Counties 38 Sites 117 Pos 0 Neg 127

Java Downy Mildew, *Peronosclerospora maydis*,
Date Range: 05-18-2015 thru 9-17-2015
Counties 38 Sites 117 Pos 0 Neg 117

Brown Stripe Downy Mildew, *Sclerophthora rayssiae*,
Date Range: 05-18-2015 thru 9-17-2015
Counties 38 Sites 117 Pos 0 Neg 117

Asiatic witchweed, *Striga asiatica*,
Date Range: 07-13-2015 thru 7-17-2015
Counties 5 Sites 4 Pos 0 Neg 20

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

All objectives for reporting period (1 January to 31 December 2015) were met.

C. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000.*

All funds were expended with no cost overruns.

D. Supporting Documents (if applicable) none attached

****indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.5***

Approved and signed by

Philip T. Marshall (Cooperator)

Date: _____

Gary W. Simon (ADODR)

Date: _____