

Indiana Cooperative Agricultural Pest Survey

2015 Annual Report Nursery & Retail Plant 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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25 February 2016

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NATURAL RESOURCES

USDA

APHIS

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 Nursery & Retail Plants Survey
Project Document Date:	30 March 2016
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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. Utilize cooperator and APHIS program funding, as outlined in the financial plan to conduct a nursery and retail plant 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*, sudden oak death, *Phytophthora ramorum*, and boxwood blight, *Calonectria pseudonaviculata*.

Accomplishments

a. N&RP survey:

Proposed and actual funding was \$17,330.

Proposed data were 1,120 records. Actual data were 879 records.

(*C. pseudonaviculata* records are represented by 189,336 plants)

Actual cost per record was \$19.72.

a1. Survey Methodology (trapping protocol): This survey was integrated with the annual plant nursery and retail outlet inspections conducted by Indiana Department of Natural Resources. State nursery inspectors set and monitored traps for old world bollworm, *H. armigera*, sampled foliage of ornamental boxwood cultivars (*Buxus spp.*) for boxwood blight, *C. pseudonaviculata*, and observed and sampled a wide range of susceptible perennial plant foliage for *P. ramorum* according to CAPS Approved Methods. Samples were sent either to Purdue University Plant Pest & Disease Laboratory or to the Department of Entomology. For moth survey, traps were deployed and serviced at 45 nurseries and/or retail plant outlets. One plastic bucket trap (unitrap) with lure and kill strip was placed per site for old world bollworm, *H. armigera*, in May and serviced biweekly for 3 months. CAPS SSC prescreened suspect moths by micro dissection of male genitalia. Boxwood blight, *C. pseudonaviculata*, was assessed visually by examining plants grown and/or sold by dealers and nurseries. Symptomatic tissue was sent to Purdue Plant Pest and Diagnostic Laboratory. Potential host plants of Sudden Oak Death disease were sampled in 19 counties from April through August. Indiana Department of Natural Resource personnel selected potentially symptomatic parts of susceptible species from Indiana nurseries and other landscape plant retail outlets and sent to Purdue Plant Pest Diagnostic Laboratory to test for the presence of *P. ramorum*. Samples were tested using an enzyme-linked immunosorbent assay (ELISA) consistent with the *P. ramorum* Nursery Survey Manual (Revised April 30, 2007) USDA-PPQ. Confirmation testing (PCR) of suspect *Phytophthora spp.* positive samples was performed by Michigan State University. Data are accessible through the NAPIS database.

a2.1. Old world bollworm survey locations and dates;

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|--|--|
| 1. Bartholomew Co. 5/14 – 7/25 5 sites | 9. Harrison Co. 5/2 - 7/25; 1 site |
| 2. Boone Co. 5/15 - 8/18; 2 sites | 10. Hendricks Co. 5/15 - 8/18; 4 sites |
| 3. Clark Co. 5/11 -8/14; 2 sites | 11. LaPorte Co. 5/11 – 8/3; 2 sites |
| 4. Dearborn Co. 5/8 – 8/14; 1 site | 12. Marshall Co. 5/1 – 7/24; 5 sites |
| 5. DeKalb Co. 5/8 – 8/14; 5 sites | 13. Porter Co. 5/11 – 8/3; 2 sites |
| 6. Dubois Co. 5/12 – 8/11; 2 sites | 14. Ripley Co. 5/14 – 9/9; 2 sites |
| 7. Floyd Co. 5/11 – 8/14; 2 sites | 15. Vanderburgh 5/11 – 8/11; 2 sites |
| 8. Hamilton Co. 5/7 – 9/2; 7 sites | 16. Warrick Co. 5/11 – 8/11; 1 site |

a2.2. Boxwood blight survey locations and dates

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|---------------------------------------|---|
| 1. Adams Co. 7/22; 1 site | 21. Jefferson Co. 5/14; 4 sites |
| 2. Allen Co. 6/3; 1 site | 22. Johnson Co. 9/21; 1 site |
| 3. Bartholomew Co. 5/4, 5/20; 3 sites | 23. Kosciusko Co. 5/09; 1 site |
| 4. Boone Co. 7/31; 1 site | 24. LaPorte 6/2, 7/15, 8/6; 3 sites |
| 5. Cass Co. 6/3; 1 site | 25. Madison Co. 6/23; 1 site |
| 6. Dearborn 8/3; 1 site | 26. Marion Co. 7/6, 8/29; 3 sites |
| 7. Decatur Co. 8/18, 8/27; 2 sites | 27. Marshall Co. 8/4; 1 site |
| 8. DeKalb Co. 7/14; 1 site | 28. Monroe Co. 5/8, 5/11, 5/21; 5 sites |
| 9. Dubois Co. 5/12, 5/27; 3 sites | 29. Perry Co. 5/1; 2 sites |
| 10. Elkhart Co. 6/1, 6/8 2 sites | 30. Porter Co. 5/26; 1 site |
| 11. Floyd Co. 8/14; 1 site | 31. Randolph Co. 6/9; 1 site |
| 12. Franklin Co. 8/26; 1 site | 32. Ripley Co. 8/4, - 9/22; 4 sites |
| 13. Gibson Co. 6/12; 1 site | 33. St. Joseph Co 5/13 - 6/4; 4 sites |
| 14. Hamilton Co. 7/28, 8/4; 2 sites | 34. Scott Co. 5/4; 3 sites |
| 15. Harrison Co. 4/29; 1 site | 35. Vanderburgh Co. 5/11 - 6/3; 3 sites |
| 16. Hendricks Co. 7/1; 1 site | 36. Vigo Co. 5/7, 5/21; 2 sites |
| 17. Henry Co. 6/11; 1 site | 37. Warren Co. 5/13; 1 site |
| 18. Howard Co. 5/27,6/15; 3 sites | 38. Warrick Co. 5/11; 1 site |
| 19. Huntington Co. 7/6; 1 site | 39. Wayne Co. 6/5; 2 sites |
| 20. Jackson Co. 5/51; 1 site | |

a2.3. Sudden oak death, *Phytophthora ramorum* survey locations and dates.

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|-------------------------------------|-------------------------------------|
| 1. Allen Co. 6/3; 1 site | 11. Lake Co. 7/14; 1 site |
| 2. Clark 6/4; 1 site | 12. Madison Co. 7/8; 1 site |
| 3. Clay Co. 5/28; 1 site | 13. Marion Co. 5/21 - 7/20; 3 sites |
| 4. Delaware Co. 4/27; 1 site | 14. Monroe Co. 5/2, 5/27; 2 sites |
| 5. Dubois Co. 5/27; 1 site | 15. Porter Co. 7/1; 1 site |
| 6. Elkhart Co. 6/16; 1 site | 16. St. Joseph Co. 6/16; 2 sites |
| 7. Floyd Co. 6/4; 1 site | 17. Scott Co. 7/26; 1 site |
| 8. Hamilton Co. 5/20, 5/21; 2 sites | 18. Vanderburgh Co. 6/4; 1 site |
| 9. Hendricks Co. 6/9, 6/22; 2 sites | 19. Wayne Co. 7/26; 1 site |

10. Huntington Co. 7/6; 1 site
a3. Benefits and Results of Survey:
No target species were recovered.

a4. Database submissions:
Old world bollworm, *Helicoverpa armigera*,
Date Range: 05-18-2015 thru 8-14-2015
Counties 16 Sites 47 Pos 0 Neg 279

Boxwood blight, *Calonectria pseudonaviculata*,
Date Range: 04-29-2015 thru 9-22-2015
Counties 39 Sites 72 Pos 0 Neg 205 (=189,336 stems)

Sudden oak death, *Phytophthora ramorum*
Date Range: 05-18-2015 thru 8-14-2015
Counties 19 Sites 22 Pos 0 Neg 395

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

Number of records were lower than anticipated due to fewer boxwood cultivars (*Buxus spp.*) at survey sites than was expected. Although the number of *Buxus* cultivars was lower than expected, the number of plants inspected was near normal (189,336 plants).

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: _____

Date: _____

Gary W. Simon (ADODR)