Project Number:	KY0LUCAS
CRIS Number:	0210818
Title	Development of the Regional Multi-State Insect Trapping Network for Use in Issuing Scouting Alerts and Predicting Potential Field Crop Insects
Investigators:	Lucas, P.; Johnson, D. W.; Patrick, C. R.
Termination Date:	07/31/2008
Reporting period:	08/01/2007 TO 07/31/2008
Outputs: **(Final Report)**	(2503 characters) The Kentucky IPM program has been monitoring the moth flights of major field crop pests, developing sets of data and trapping techniques that will allow Entomologists to make inferences about when and if insect populations will develop into economically important populations. This information can save time and money by alerting producers and consultants to critical periods they will need to be in fields looking for the insect and if they are relatively more or less abundant. Finding the pest early allows more time for spray decisions, and if an application is needed it can be done in a timely fashion to allow for an economic benefit. Two statewide news articles mailed to all weekly and daily newspapers announced the formation of the Insect Trapping Network. To increase knowledge, use and awareness of the data provided by the network, two trainings were held for County Extension Agents as well as two presentations for the members of the Kentucky Agriculture Chemical Dealers Association. In Tennessee, additional presentations were made at county-based meetings. To facilitate usage, the IPM insect data Web pages (http://www.uky.edu/Ag/IPM/ipm.htm) we re re-designed to present the insect trap counts in a graphic format to increase ease of use. Insect traps at four sites, two in Kentucky and two in Tennessee, were checked weekly, and the data collected was made available each Friday from March 1 through September 30 on the Kentucky IPM web site as well as being published weekly in Kentucky Pest News. Twenty-five articles relating to the use of the insect trap data were published in Kentucky Pest News. The articles included two alerts/warnings for potential damage from armyworms based on the numbers from the insect trap counts as well as alerts for corn earworms and fall armyworms. Alerts/warnings were also sent via e-mail to County Extension Agents and Extension Specialists. Extension Entomologists were available by phone and e-mail to any agent, specialist, producer or consultant who had questions concerning the use of the trap data or the alerts issued. Displays describing the project and the alerts were set up at the University of Kentucky Field Days for western and central Kentucky. To collect information on this project, pre- and post-season surveys were conducted involving active certified crop advisors. Both traditional paper and electronic web based surveys were developed and used to collect information on how the information from alerts/warnings was used.
Outcomes/Impacts:	(2104 characters) A pre-season survey of active Certified Crop Advisors found that 74% had looked at or used the information provided by the IPM Trapping Network. Sixty-eight percent have used the information to decide they needed to check fields for a pest, and 44% have used the information to help make a decision to spray a crop. At the end of the growing season, certified crop advisors were again asked to complete a survey. Thirty-one percent said the information provided alerted them to a problem they would otherwise have missed. Fifty-six percent said using the information saved them an average of 2.5 hours with the average value of their time being $21 an hour. When ask to rate on a scale of 1 to 5 their knowledge of how insect traps work, post season survey values increased to 3.6 from 3.2. When ask to rate their understanding of how to use the data provided by the insect trapping network, post-season values increased to 3.4 compared to a pre season value of 3.1. The ability to use this knowledge was demonstrated by 24 percent of those responding indicating they used the trap data to help them make a decision not to spray a crop resulting in 20,875 acres of field crops not being sprayed with an insecticide. In the spring of 2008, the Kentucky IPM Trapping Network, using record trap counts for armyworm moths at locations in Princeton and Lexington, was able to issue an alert that the probability was high that armyworm populations could reach economically important populations. This information not only benefited Kentucky but also was used by Extension Specialists at the University of Illinois, Purdue, The Ohio

	State University and a Canadian Entomologist to issue warnings for producers in their areas to be alert and checking their crops. Fifteen counties in Kentucky responded to an electronic survey seeking information about damages caused by armyworms. In the fifteen responding counties, 3,700 acres were checked as a result of the issued warnings. The warning saved approximately 64,250 bushels of corn, 150 tons of pasture and 5,875 bushels of wheat, or approximately $342,973.00.
Publications:	(3) Johnson, D. 2007. Kentucky Pest News. Weekly. Provides information on current pest problems for homeowners, agricultural producers and the public. Johnson, D. 2008. Kentucky Pest News. Weekly. Provides information on current pest problems for homeowners, agricultural producers and the public. Johnson, D. 2008. Wheat Science News. Quarterly. Provides information on current pest and production problems as well as new information relating to the production of wheat to the public.

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Participants:	(931 characters) P. Lucas and D. Johnson provided overall coordination of the project. Lucas operated the trap line located in Princeton, managed collection and archiving of data from all sites, maintained web pages, developed project logic model, and developed and conducted surveys. Johnson provided entomological expertise for Kentucky. This included involvement in educational efforts, use of data to make predictions and issue alerts/warnings for Kentucky. Johnson also disseminated predictions and recommendations to end users. R. Patrick responsibilities included operation of trap lines in Tennessee, entomological expertise and educational efforts for Tennessee. The University of Tennessee was a sub-contractor for this project. Two training sessions held for County Extension Agents offered four professional development hours. Four meeting presentations offered continuing education hours in Pest Management for Certified Crop Advisors.
Target Audiences:	(439 characters) Target audience served by the project included producers, agricultural businesses, crop advisors and Extension employees in Kentucky, Tennessee, Indiana, Ohio and Illinois. Formal classroom instruction on how to use insect traps and insect trap data included two trainings for County Extension Agents, two presentations for the members of the Kentucky Agriculture Chemical Dealers Association and two presentations at IPM Training Schools.
Project Modifications:	• Nothing significant to report during this reporting period.