Hatch Multistate Research and Extension 2005 IMPACT REPORT

Documenting the Impact of Multi-state Research and Extension

CSREES EDUCATION RESEARCH EXTENSION USDA
www.csrees.usda.gov

SAAESD
Southern Association of Agricultural Experiment Station Directors

S-1010
Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems

Issue

Soybean pest management is challenged by simultaneous occurrence of various insect pests and other abiotic stresses such as drought. New and better strategies are needed to address combined stressors, because that is what most soybean growers experience in their "real world" production systems. Additionally, new soybean production practices, transgenic genotypes, and new insect pests requires research to determine how best to manage insects along with other stressors. Potential impacts on soybean profitability make it essential that both current and future problems are addressed now.

Actions

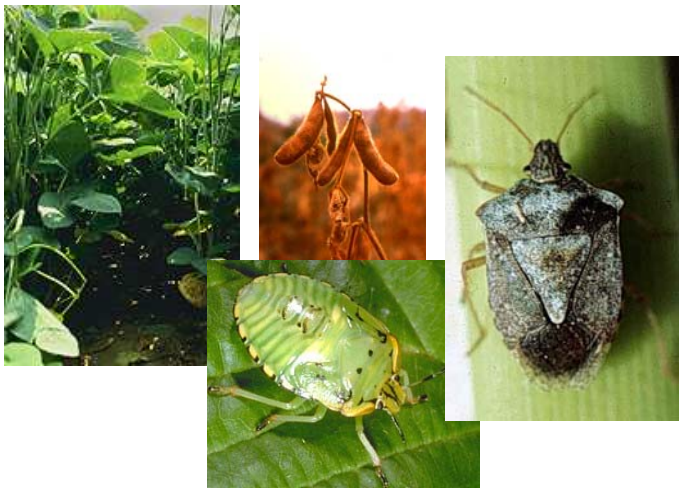
The project addresses new and evolving pest problems that demand attention by researchers in all soybean-growing regions. Scientists from Land Grant Universities and the USDA, ARS are addressing fundamental and applied research relating to pest sampling and injury assessment using precision agriculture technologies at the leading edge of IPM research. This work will enable extending new knowledge to incorporate into current management practices and scouting techniques. Distribution of this information via the Internet is also a component of this project.

In states such as Nebraska, the Dakotas, Kansas, Virginia, Quebec and Ontario, the new soybean aphid economic threshold of 250 aphids/plant and 80% of plants infested indicated treatment was warranted and saved soybean growers from losing up to $140 an acre to the soybean aphid.

In the North Central states, where the soybean aphid was widely distributed, use of the soybean aphid economic thresholds showed growers that in much of the region treatment was not warranted, saving the majority of soybean growers $10 to $16 an acre in treatment costs and protecting up to 47 million acres of cropland from receiving an unnecessary insecticide application.

Multi-state Project S-1010

Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems



Who is Responsible?

Researchers and Extension faculty at the following State Land Grant Universities and ARS laboratories are involved in this project: Arkansas, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Minnesota, Nebraska, North Dakota, Ohio, Tennessee, Texas, Virginia, Wisconsin, USDA-ARS, USDA-APHIS.

Contact Information

Contact Names and Email addresses for state/federal scientists participating in this project may be viewed at:
http://lgu.umd.edu/lgu_v2/pages/appendixE.cfm?trackID=2296

The Administrative Advisor for the project is:
Dr. David Boethel
LSU AgCenter, Louisiana State University
104 J. Norman Efferson Hall
Baton Rouge, LA 70894-5055
Email: dboethel@agcenter.lsu.edu
Phone Number: 225-578-4182

The USDA/CSREES Administrative Liaison is:
Dr. Rick Meyer
National Program Leader, Entomology
Mail Stop 2220
1400 Independence Avenue
Washington, DC 20250-2220
Email: hmeyer@csrees.usda.gov
Phone Number: 202-401-4891

Pest advisories and weekly updates of corn earworm moth activity in Virginia encouraged growers to scout and use economic thresholds rather than simply treating when the pest was observed, resulting in only 14.4% of the acres being treated, down from 60% and 17% being treated in 2002 and 2003, respectively.

In Virginia 78 fields in 33 of the major soybean growing counties were scouted weekly for soybean aphid. Low level populations were found in all fields but thresholds were exceeded only in 6 percent. Growers were able to protect those fields with insecticides (only 3,125 acres) and saved significant insecticide application costs and environmental costs by not having to treat the majority of fields.

In Iowa over 3 million acres were sprayed with insecticide at a cost of $12-16 per acre in 2003. Communication of the current recommendation occurred through multiple venues and as a result, scouting became a common practice during 2004. Information from a winter 2004 pesticide applicators training survey indicated that use of the thresholds resulted in nearly 80,000 acres of soybeans being treated for soybean aphids during 2004 in Iowa - a 97% reduction in insecticide use from 2003.

Multi-state research activities are funded by Hatch Act base funding to Land Grant University Agricultural Experiment Stations by the USDA, Cooperative State Research, Education and Extension Service. The S-1010 committee is administered through the Southern Association of Agricultural Experiment Station Directors.

3/21/2006