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Extension Programs Increased Missouri Cotton Farmer Use of Survey-Based Pest Management

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Extension Programs Increased Missouri Cotton Farmer Use of Survey-Based Pest Management

Abstract

In 1982, only 5% of Missouri cotton farmers surveyed fields for pests and used this information when selecting pest management strategies, i.e., survey based pest management (SBPM). University of Missouri faculty initiated a program that year to instruct farmers about the benefits of SBPM. They provided instruction from 1982 to 1999. During 1999, 3% of Missouri cotton farmers were surveyed by phone for their use of SBPM. That year, farmers used SBPM to protect 82% of Missouri cotton acres. In addition to better yields, the use of SBPM ensured more efficient use of all pest management strategies.

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Introduction

Pests such as weeds, insects, and diseases reduced Missouri cotton production by millions of pounds of lint each year in the early 1980's (Boyd and Wrather 2002). Cotton farmers had several pest management practices to choose from, such as crop rotation, planting resistant cultivars, and pesticides, but most farmers made decisions about pest management without knowledge of the pest problems in their fields. This resulted in lower yields because of inadequate pest management and ineffective and often unnecessary use of various pest management strategies.

In 1982, only 5% of Missouri cotton farmers surveyed their fields for pests and used this information when selecting pest management strategies, i.e., survey based pest management (SBPM). That year, the Cotton Pest Management Team in Missouri initiated a program to teach Missouri cotton farmers and other members of the agriculture community about the benefits of scouting fields for pests and using these results to select pest management strategies.

Methods

From 1982 to 1999, the team members provided instruction to farmers and other members of the agriculture community on scouting cotton fields for pests and the usefulness of this information when selecting pest management strategies. Instruction was provided through individual consultations, group presentations, news reports, newsletters, videotapes, pamphlets, field day presentations, displays, class lectures, and the World Wide Web: <http://aes.missouri.edu/delta/>.

The University Cotton Pest Management Team received support for this program from the University of Missouri Delta Center Advisory Board, Cotton Incorporated, University Extension Councils in cotton-producing counties, Missouri Cotton Producers Association, and the National Cotton Foundation. Funding was provided by Cotton Incorporated, University Extension, and the Cotton Foundation.

In 1999, 3% of the 2,200 cotton farmers in Missouri were selected at random and surveyed by phone (Dillman, 1978) to determine their use of SBPM.

Results and Discussion

In 1999, Missouri cotton farmers used pest survey data when selecting cotton pest management strategies for 82% of cotton acres in the state. The reasons some Missouri farmers did not use the results of cotton field pest surveys when selecting pest management strategies was not determined.

Cotton yields in fields where pest management decisions were made using pest surveys were conservatively estimated to be 50 pounds (lint) per acre greater than in fields where pest management decisions were made without prior knowledge of the pest population present in the field (Boyd & Wrather, 2002). The cotton yield increase in Missouri due to use of pest surveys in 1999 [(82% of 377,000 acres) × 50 pounds of lint at \$.65/pound] was valued at \$10.0 million. This is the first report indicating the impact of an Extension program designed to instruct farmers about the benefits of using pest survey data when selecting pest management strategies.

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