# Increased Sponsorship of IPM adoption in USDA Conservation Programs: Making It Work on the Ground

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The US Farm Bill recognizes the environmental value of IPM by authorizing financial assistance to growers through two USDA Natural Resources Conservation Service (NRCS) programs: Environmental Quality Incentives Program (EQIP) and Conservation Security Program (CSP). From 2003-2005, Michigan State University, agricultural consultants, and commodity groups worked with their NRCS program and county colleagues to recommend financial incentive rates for IPM implementation and other program criteria and to help growers participate in the programs to implement IPM tactics with combined conservation and plant protection value. Members of this team (John Bakker [Michigan Asparagus Advisory Board], Jim Laubach [Hort Systems], Norm Myers, Nikki Rothwell [MSU Extension], Mike Brewer, Larry Elworth) shared their experiences. The project resulted in increased grower participation in EQIP and CSP and increased program funds devoted to grower adoption of IPM ranging from scouting to reduced-risk and non-pesticide management methods (see key activities and indicators of change below). Mark Whalon and Ben Smallwood (NRCS) shared their experiences in working on IPM issues within the NRCS.

Key activities:

- Beginning the 2004 program year, IPM tactics sponsored in the NRCS pest management standard can be used to address ground water, surface water, air quality, and soil health concerns (previously, only the first two concerns were recognized). The addition of pest management to address more concerns will further strengthen growers' applications to obtain EQIP financial incentives to use IPM.
- There are many IPM tactics that can be used and at times multiple tactics need to be used to address conservation concerns. Also, costs vary by commodity sector. Beginning program year 2005, financial incentives available in EQIP to sponsor grower adoption of IPM increased substantially: $60/acre for fruit/nursery/Xmas tree/sod, $30/acre for vegetables, $4/acre for field crops (previously, $20, $10, and $3/acre). Beginning program year 2006, another IPM financial incentive to remove neglected apple orchards was implemented: $250/acre for apple orchard removal.
- For CSP, pest management is one of the practice enhancements, which contains 9 separate parts: manage field border and strips for beneficial organisms ($35 to 55/acre), conservation crop rotation to break pest cycles ($8/acre), use reduced-risk pesticides on fruit, vegetables, and other specialty crops ($20/acre), use precision pesticide application technologies ($3/acre), enhance pest management record keeping ($3/acre), manage pests by non-chemical or pest avoidance means ($5/acre).
- Michigan State University (MSU) IPM Program staff, MSU Extension agents, and MSU faculty developed 'how to' guides summarizing the steps in applying to the programs, and developed IPM tactic lists for grower use in developing plans to adopt pest management

strategies on their farm, a necessary part of the EQIP process (visit http://www.ipm.msu.edu/farmbill/eqip.htm).

- A cosponsored (MSU, NRCS, and Michigan Department of Agriculture (MDA) Groundwater Stewardship program) 3-day course was developed to increase staff understanding of use of IPM as an environmental protection tool.
- Many existing education programs sponsored by MSUE and our commodity sector partners provided opportunities to talk about this program. MSU, NRCS, and MDA Groundwater Stewardship staff participated in these events.

Key indicators of change:

- Project surveys indicated that grower awareness of these financial incentives to support the use of IPM increased from 25 to 75 percent of respondents during the course of our project. Awareness about EQIP increased from 44 to 62 percent of survey participants. In addition, the number of growers who indicated that they knew how to participate in EQIP increased from 18 to 45 percent.
- On the ground in 2004, 46 EQIP applications were submitted in our pilot counties through the private consultant/MSU/NRCS teams and all were approved: more than double the number of contracts approved in 2002. Over $1.7 million was contracted to growers. About 10% of funds released will support IPM implementation (for reference statewide funds allocated were $14 million for the entire program, see table).
- In 2005, 73 EQIP applications were approved in our pilot counties. About $3.0 million has been contracted with 15% of funds supporting IPM implementation (statewide about $450,000 will support IPM implementation; for reference statewide funds allocated were $15.8 million for the entire program, see table). Two counties neighboring our pilot counties requested information and had approved 35 applications, many with an IPM component.

**Table**. Funding patterns in EQIP. There has been an over 5-fold increase in funds devoted to IPM implementation statewide from when the project started in 2003. Grower requests for IPM support now represents about 15% of funds in a contract in our 5 pilot counties compared to about 1% statewide in 2002.

| | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|
| Total statewide funds | $ 6.8 M | $ 9.7 M | $ 14 M | $ 15.8 M |
| Funds to pest management | $ 75,000 | $ 118,000 | $ 326,000 | $ 456,000 |
| % to pest management | 1.11 % | 1.22 % | 2.3 % (10%*) | 2.9 % (15%*) |

* Indicates the % of funds in grower contracts devoted to pest management in our pilot counties.

- With financial assistance to address the risks in adopting new techniques, we saw growers commit to adopt a variety of IPM tactics:
  - Adding electronic canopy sensing technology to sprayers and use of shielded sprayers to reduce drift potential.
  - Conversion from chemical weed control to flamer/steamer weed control.
  - Conversion or elimination of pesticides with high to moderate potential for ground or surface water contamination to pesticides with low risk potential.
  - Removal of wild host plants of pests that are adjacent to commercial plantings.
  - Utilization of disease inoculum reduction strategies.
  - Providing nesting structures for insectivorous birds, bats and other predators.
  - Pesticide resistance management, including incorporation of neonicotinoids and pyrethroids into programs for control of insect pests.

    - Use of organic mulches to suppress weeds and reduce herbicide use

- For CSP, Oceana County was selected as one of the counties to participate in the program in 2005. About 112 applications were approved, which was approximately one-third of all contracts in 14 Michigan counties selected for participation in the 2005 program.

For more information visit these websites:
www.ipm.msu.edu/farmbill.htm
www.agcenter.org/progfarmbill.html.

References (reprints can be obtained by contacting Mike Brewer):

Hoard, R. J, and M. J. Brewer. 2006. Adoption of pest, nutrient, and conservation vegetation management using financial incentives provided by a U.S. Department of Agriculture conservation program. HortTechnology 16: 306-311.

Brewer, M. J., R. J. Hoard, J. N. Landis, and L. E. Elworth. 2004. The case and opportunity for public-supported financial incentives to implement integrated pest management (Forum article). J. Econ. Entomol. 97: 1782-1789.