

Revise/reprint "Biological Control of Insects and Mites"

Final Report for LNC05-262

Project Type: Research and Education

Funds awarded in 2005: \$87,558.00

Projected End Date: 12/31/2009

Region: North Central

State: Wisconsin

Project Coordinator:

[Michelle Miller](#)

University of WI - CIAS

Project Information

Summary:

Organizing participation around an educational tool

This project was essentially an effort to engage farmers in biocontrol strategies by mobilizing biocontrol researchers to produce an educational tool on the subject for use in workshops. We had mixed results with this classical extension approach.

Introduction:

Opportunity for improvement

Organizing faculty to produce the new text was relatively straight-forward and produced a "state-of-the-art" book on biological control, specific to the Midwest. The full-color, 110pp book (A3842) is available to order for \$15 or can be downloaded as a free PDF file at <http://learningstore.uwex.edu>

The book has been well-received and is clearly valued by farmers participating in the workshops (as observed at some of the workshops).

The addition of the workshops was a good next step, and the sessions drew considerable farmer interest. There were some general workshops that used the book, but for the most part, the text was used as part of workshops covering specific crop production horticulture approaches. Workshops targeted specific crops, such as cucurbit, apple, and alfalfa production, or were tailored for general production approaches such as organic or high tunnel.

Often, these workshops also used more specific bulletins (such as a bulletin on biological control in cucurbits) to direct growers to the specific information they needed. This indicates that the material in the book was more general in nature and therefore unable to completely serve a targeted audience.

Project Objectives:

This project targets North Central Region growers who have a farming goal of pesticide reduction, including organic growers. The primary short term outcome is the production of "Biological Control of Insects & Mites". The intermediate outcome

is to organize and offer workshops in multiple states, designed to use the book to increase farmer and other agricultural professionals' knowledge on biological control. In addition to using the book for bio-control workshops, the publication will be targeted for distribution throughout the North Central Region states to provide farmers and others with an introduction to beneficial natural enemies and how they may be used in pest management. An electronic PDF file of the book will be available on-line for people to view and download at the UW Extension web site. Links to an electronic publication will be added to Wisconsin IPM websites that are managed by project participants. In addition to workshops in Wisconsin, Nebraska, Illinois, Iowa, Ohio, Indiana, and Michigan the publication would be used at the Upper Midwest Organic Farmers Conference, and other grower workshops where fruit and fresh vegetable growers assemble to learn about pest management strategies. Long-term outcomes would be increased use of biological control methods by organic growers and increased interest in advanced IPM strategies from conventional farmers.

Cooperators

- [Dan Mahr](#)

dmahr@entomology.wisc.edu

Principal Investigator

University of WI-Entomology

Department of Entomology

1630 Linden Drive

Madison, WI 53706

(608) 262-3228 (office)

- [Nino Ridgway](#)

farmernino@wi.rr.com

Editor

Barthel Fruit Farm

12246 Farmdale Road

Mequon, WI 55947

(262) 242-2737 (office)

- [Paul Whitaker](#)

pwhitaker@wisc.edu

writer

University of WI - Marathon Co.

518 S. 7th Ave.

Wausau, WI 53097

Research

Materials and methods:

Revising, editing, evaluating, reprinting, presenting, evaluating

The project scope was straight-forward:

- * revise the original text so that the information is current,
- * edit the new text for accuracy,
- * send the report out to both academics and farmers for review to make sure that the material is accessible, relevant and accurate (this was considered part of the project evaluation),
- * reprint the text so that it is affordable and widely available,
- * present the text so that farmers may make use of the information, and finally
- * evaluate the text and presentations to make sure that information is shared in a way that has impact. This was done with two tools - one that assessed grower interest and current use of biocontrols and another that assessed the workshop given.

Research results and discussion:

How do farmers use information?

The project team started with the assumption that the original 1993 text simply needed revision to be useful to farmers today. This was a fatal flaw in the project.

The unmet need of providing biocontrol information specific to different types of farmers came up late in the book's review process. Even though farmers were fully engaged as reviewers, they did not respond that the text was too general to be of direct use, although two of the farmer reviewers provided very brief comments and one dropped out at the last minute of the review process, due to time constraints. It was not clear from their comments that they understood that farmers were the target audience for the book.

Two Extension reviewers suggested that the book was not likely to engage farmers, but their comments came in just under the wire. We made an attempt to incorporate some additional material that could respond to grower needs. In the process we learned that there was very little research that could support this type of text and relied heavily on the reviewer to draft a side bar with this sort of information.

The more ambitious suggestion that the overall book design be reworked to make it more useful as a field tool could not be incorporated at that late date. Reworking how information was presented was the key idea that needed to be incorporated at the project proposal stage. Book production staff was engaged in shaping the original proposal, but also started with the assumption that book needed content revision, not a rework.

Research conclusions:

A regional tool

The book was a popular item at workshops around the Region. Workshops were held for growers in MN, IA, NE, WI, MI, OH, IN, and IL. Extension educators and biological control researchers in those states each received 2,000 copies of the book to distribute, free of charge to growers, as part of this grant.

70 farmers participated at the Upper Midwest Organic Farming Conference workshop on biological control. Farmers from across the US attend this conference. A farmer panel discussed the text based on their experiences with biological control. The evaluation tool was used with this audience and there was a 64% response rate. It indicated a real interest in applied biological control. More than 80% of the audience responded it had not released beneficial insects on their farms, but 46% indicated that they may do so the next growing season. Nearly half the respondents indicated they had used microbial insecticides (Bt, Beauveria, CydX codling moth virus) or beneficial nematodes in the past, and 62% indicated they intended to do so in the next growing season.

74% felt confident that they understood the impact of insecticides (of any type) on beneficial insects, and 88% considered the effects of insecticides on beneficials to be important. 81% maintained at 2% or more of their farm in habitat for beneficials and all but two intended to establish or maintain habitat in 2008. 78% reported that they scout for beneficials or sign of their activity, and most felt somewhat confident that they could identify beneficial insects.

Farmer Adoption

Scarce resources for assessment

Due to lack of funds and coordination, we were not able to gather sufficient feedback from workshop participants about the usefulness of the information in their businesses. We were also not able to engage farmers in a follow-up survey to determine if they changed any practices.

While the project manager made every effort to engage project cooperators in an assessment process, there was little traction. There was no direct responsibility or resources committed for any project team member to attend each workshop and ensure that the assessments were completed. The project team developed an evaluation tool on current use of biocontrol as well as a generic workshop evaluation and requested that it be used at any workshop where the book was used, but it was employed at only one workshop. The generic workshop assessment didn't meet the needs of workshop organizers since the workshops were not standardized. There was no direct incentive to the workshop organizers to engage in assessment, and as is often the case, much resistance to do so.

Because workshops were not properly assessed, we can only assume that the text falls short of engaging farmers to adopt biological control approaches, even where logical and feasible.

Participation Summary

Educational & Outreach Activities

PARTICIPATION SUMMARY:

Education/outreach description:

Email announcements have impact

News of the publication's release in February 2008 traveled quickly. Within two weeks of the release notice, Biocontrol was the 13th most-viewed publication on the University of WI- Extension Learning Store web site, with 90 downloads of the

free PDF in that first month of availability.

UWEX had a 2-day spike in interest following the email announcement, with 70 people visiting the link in the email and 45 continuing on to view the publication.

Visitors came from California, Colorado, Illinois, Indiana, Iowa, Kansas, Maryland, Michigan, Minnesota, Missouri, Nebraska, New York, North Dakota, and Wisconsin.

(Current stats from the first six months of 2009 won't be available for a few weeks.)

In addition to the formal release by the publisher, UW-CIAS posted information about the publication on its web site, as did other cooperating institutions and organizations. For instance, the publication received rave reviews from the IPMnet News #165 in September 2008.

Project Outcomes

Recommendations:

Areas needing additional study

Assessing the classical extension approach

There is clearly farmer interest in applied biological control, but few resources to help farmers use the strategies in their businesses. Applied research tied to specific cropping systems or to guide the practice of installing habitat for beneficials may be the most useful for growers. Farmers need information that applies directly to their seasonal and crop-specific pest management demands, as well as information for specific horticultural approaches (organic, hoop house).

This project had the potential to confirm or question the usefulness of a classical extension approach to research dissemination, but fell short of that potential, largely for lack of resources to adequately assess the project's impact. There is much need for this type of assessment to insure that resources spent on this type of work result in measurable public goods. For this project specifically, there is no doubt that a quality research report was produced, but the question remains if the report is useful for the intended farmer audience.

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE.



Sustainable Agriculture
Research & Education [US Department of Agriculture](#)



This site is maintained by SARE Outreach for the SARE program and is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award No. 2019-38640-29881. SARE Outreach operates under cooperative agreements with the University of Maryland to develop and disseminate information about sustainable agriculture. [USDA is an equal opportunity provider and employer.](#)

