



IOBC-NRS NEWSLETTER

INSIDE THIS ISSUE:

<i>From the President</i>	2
<i>Distance Education and Biocontrol</i>	3
<i>Biological Control Meetings</i>	4
<i>Announcements</i>	4
<i>Research Briefs</i>	5
<i>Newsletter wrap-up</i>	5

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Releasing Biocontrol Agents: Risk Assessment and Overdue Reform

Although the need for universally instituting formal risk assessment (RA) in the screening and approval process for non-native biological control (BC) agent releases has been widely acknowledged for the past several years, little seems to have been accomplished in terms of codifying this practice within a regulatory framework. Given the low success rate of classical BC and the documented environmental risks associated with previous releases, adopting standardized assessments of BC risks and benefits should not be further delayed.

Risk analysis (i.e., risk assessment, management, and communication) can be used to make better decisions about agent releases, and, at the same time, can improve public trust in BC, ensuring its viability as a tactic within IPM. The ultimate value of risk analysis is derived from the development of a rational framework whereby RA is integrated with social, economic, and political considerations to manage and communicate risk in policy decisions. This is clearly lacking today with respect to the evaluation process for releases of BC agents in the Nearctic region.

RA is a formal basis for the objective evaluation of risk in which assumptions and uncertainties are clearly considered and presented. RA flows in a logical fashion through the following steps: (1) problem formulation, (2) analysis [effect and exposure assessment], and (3) risk characterization [the joint probability of effect and exposure].

Not only do we advocate the presentation of risks in classical BC regulatory documents, but we also suggest that they include estimates of agent efficacy and comparative assessments of alternative management tactics. The lottery approach to BC is not acceptable; efficacy must first be evaluated in the host's native range using robust techniques, such as life tables. And if alternative tactics provide sustainable economic and environmental management of the exotic pest, is it appropriate to deliberately release another exotic, reproducing environmental stressor, adding biological pollution to an environment? A systematic RA can help answer these questions.

-continued page 3



***Harmonia axyridis*: when BC introductions become public disturbances.**

IOBC-NRS TEAMS UP WITH MEXICAN BIOCONTROL SOCIETY IN MERIDA, MEXICO

The IOBC-Nearctic and Neotropical Regional Sections and the Mexican Society for Biological Control would like to invite you to participate in an upcoming event. The collaborative symposium, entitled "Biological Control Without Borders" will happen on November 13-15, in Merida (Yucatan), Mexico. The venue is the Hyatt Regency Merida. The meeting will be held in conjunction with the Mexican Society's 30th Annual Congress of Biological Control, and immediately following the Mexican Society's National Short Course on Biological Control (Nov 11-13). In addition, the NCERA-125 regional Biological Control committee will meet (Nov 12-13) in conjunction with the Merida meeting.

The meeting will begin the evening of the 13th with an opening ceremony, special presentations, and a social. The meeting itself will run for two full days, concluded by a banquet the evening of the 15th. Three symposia sponsored by the IOBC-NRS are Ecological interactions of GM Crops and Biological Control; Biocontrol in Greenhouses; and Biological Control of Weeds. A number of other symposia will be organized by the Mexican Society. Additionally, Vanda Bueno (President of the -

-continued page 2

DISTANCE EDUCATION AND BIOLOGICAL CONTROL OF THE SOYBEAN APHID.

The soybean aphid has become the focus of soybean insect management programs throughout the north central United States. Although most soybean producers are aware of scouting techniques, economic thresholds, and insecticides for control of soybean aphids, the impact of natural enemies and the potential for classical biological control efforts are not widely understood. Consequently, research and extension entomologists developed a short course, to be delivered via distance education techniques, with the following objectives:

- Improve the level of knowledge about the role of natural enemies and their interactions with soybean aphids.
- Underscore the need to assess the impact of natural enemies before using an insecticide to control soybean aphids.
- Assess interest in the development of IPM guidelines that incorporate quantitative information about natural enemies and their impact.
- Determine the level of interest in cooperating with the soybean aphid biological control research project.

The short course—

Management of Soybean Aphids in 2007: How Will Biological Control Contribute?—was delivered via a teleconference in March, 2007. Approximately 350 people located at 142 sites in 14 states and two Canadian provinces attended the short course.

People who attended the short course were asked to complete an evaluation questionnaire to determine whether we met our objectives. Of the 198 questionnaires returned 92% of the individuals indicated that their knowledge about the role of natural enemies and their interactions with soybean aphids improved as a result of attending the short course. Approximately 90% of the respondents agreed that because they participated in the short course, they recognized the need to assess the impact of natural enemies before using an insecticide to control soybean aphids. Eighty-two percent of the respondents indicated that they would like to see biological control information incorporated into IPM guidelines for soybean aphids.

Many individuals who attended the short course also submitted questions that could not be answered during the time allotted. The questions are be-

ing answered by the research and extension entomologists who delivered the program, and both the questions and answers will be posted to one or more Web sites so that everyone will gain additional value from the short course. The feedback about the short course delivered with distance education techniques was overwhelmingly positive, and the positive impact of the program on the participants' level of knowledge was obvious.

This short course was a benchmark event, with feedback suggesting that many people can be reached effectively by expert researchers and educators to improve understanding about relatively complex ecological systems. Such cost-effective and efficient programming will become more commonplace as technology improves, so every effort should be made to continue development of educational programs for delivery via distance education techniques. Thanks are due the North Central Soybean Research Program for their foresight in funding such an educational event.

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The short-course can be watched in its entirety at

*[www.ncipmc.org/
teleconference/
soybean2007/videos/](http://www.ncipmc.org/teleconference/soybean2007/videos/)*



Orius insidiosus attacking a soybean aphid. (Photo by John Obermeyer)

RISK ANALYSIS OF CLASSICAL BC, CONT.

Environmental Assessments (EAs) currently produced by petitioners are not acceptable; any document evaluating the release of a potential agent should be required to have within it a formal RA. How do we incorporate RA's into pre-release evaluations? It is unfair to expect individuals or groups petitioning for BC agent releases to conduct their own RA as part of a document. Their vested interest in the outcome also potentially jeopardizes the requisite objectivity expected in the process.

We stress that this document would not simply be a detailed description of non-target host screening results. Although we recognize improvements in host screening, a comprehensive RA would extend well beyond more thorough host screening.

In the U.S., if APHIS must approve all initial releases of non-native agents, then an Agency representative should be responsible for ensuring that an appropriately rigorous RA is included in each agent release petition, and that these docu-

ments are made available for public comment before a final decision is made.

A properly conducted RA will guide the public, decision makers, and other stakeholders through the necessarily complicated process of agent releases. Regardless of how RAs are incorporated into documents for releasing agents, the simple fact is that they must be part of these documents.

Bob Peterson
& Sharlene Sing
Montana State University
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