

## Focusing on Tomorrow Today



- ✓ *Why does biological control matter? – Learn about the economic impact of biological control for the grower.*
- ✓ *Are pesticides and biological control compatible? – Learn about the effects newer insecticides have on key natural enemies.*
- ✓ *How do I know what's out there? – Learn about new monitoring tools to determine natural enemy presence and importance.*
- ✓ *Can we predict when natural enemies are present in orchards? – Learn about new models that will help you conserve natural enemies.*
- ✓ *Which natural enemies are valuable in reducing pest populations? – Learn how to identify important natural enemies in your orchard.*

These and more questions are the focus of a Specialty Crops Research Initiative grant-funded project to enhance biological control in western apple, pear and walnut orchards.

We invite you to our interactive short course to learn more about natural enemies and novel tools to maximize biological control in your operation.

The information presented in this short course is helpful and relevant to most perennial cropping systems.

## 2-day interactive course

### Course highlights:

- Discuss general principles of biological control in perennial crops with examples from apple, pear and walnut orchards.
- Engage in understanding and solving issues related to secondary pest outbreaks and the impact of invasive pests on IPM practices.
- Practice developing IPM programs and strategies that support biological control.
- Learn how to identify key natural enemies and pests they control.
- Discover new tools for monitoring natural enemies.
- Explore web resources and how they can help you to integrate biological control into your management strategy.
- Learn from new research the effects of pesticides on natural enemies.
- Understand the economic consequences of natural enemy removal in orchards.

### Presented by:

Washington State University  
USDA-ARS Wapato  
Oregon State University  
University of California, Berkeley  
UC Cooperative Extension and UC IPM

<http://enhancedbiocontrol.org>

USDA-NIFA SCRI grant #2008-04854



## Interactive Short Course

### Enhancing Pest Management in Orchards by Incorporating Biological Control



February 22-23, 2012  
Stockton, CA

Robert J. Cabral  
Agricultural Center



### *Day 1 Sessions*

- Welcome and overview of course
- Introduction to using biological control in IPM programs: lessons learned and forgotten
- Natural enemies (NE) interactions with newer pesticides in both conventional and organic orchards

### *BREAK*

- What are the key NE in orchards?
- Learn to identify NE by crop - Hands-on practice

### *LUNCH - in house with open discussion*

- New techniques to find NE
- NE life cycles and relations to pest populations
- Small group exercise using online resources to make decisions on biological control

### *BREAK*

- Pesticide effects on NE
- What pesticides impact the environment?
- Why did secondary pests get out of control? - A case study exercise

*SOCIAL HOUR - with posters to review Day 1 and open discussion in casual setting with reception*

The interactive short course will be held at the Robert J. Cabral Agricultural Center in Stockton, CA on February 22-23, 2012.

The course is designed to give participants a broad understanding of natural enemies through a mixture of presentations, small group hands-on activities and open discussion.

Meet the experts presenting material from their cutting edge research at this event!

**Registration fee:** \$120.00 for each attendee for 2-days instruction.

**Registration Deadline: February 8, 2012**

**To register visit:**

<http://ucanr.org/biocontrolreg>

**For more information visit:**

<http://enhancedbiocontrol.org>

**Registration includes:**

- Instructional material
- Morning & afternoon snacks/beverages
- Lunch
- Social Hour receptions
- Several opportunities to meet with experts 1-on-1
- Continuing education credits

### *Day 2 Sessions*

- Brief review of Day 1
- Pesticides recap: disruptive effects and NE recovery time
- Can codling moth virus, Bt and nematodes be used: strengths and weaknesses
- How to use insectary NE

### *BREAK*

- Importance of insect resources: nectar sources, alternate hosts, refugia and ground covers for NE
- Designing a friendly IPM program incorporating biological control - A case study exercise

### *LUNCH - in house with open discussions*

- Biological control (BC) resources on the web
- Economics of BC: how the models work

### *BREAK*

- What happens if you have to use disruptive insecticides and impact BC? - A case study exercise
- Course review
- Course evaluation

*SOCIAL HOUR - with posters to review Day 2 and open discussion in casual setting with reception*

