

# AAIE BULLETIN

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## **Grape PCA Roundtable**

Friday

November 14,  
Tulare Ag  
Building

Registration Starts at:  
9:30 AM

Meeting is from: 10  
AM to 2:30 PM

Lunch 12-12:30

See pg 10 for complete details



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## 2009 ECOLOGICAL PEST MANAGEMENT CONFERENCE AND 43RD ANNUAL MEETING

MODESTO CA

FEBRUARY 1-3, 2009

By Cliff Ohmart, Conference Chair

The agenda for the 2009 AAIE Annual Conference is really shaping up. As all of you well realize, California agriculture is changing rapidly. New air and water quality regulations are affecting how growers farm, growers are spending more time and effort analyzing their farming operations to ensure optimum efficiencies, the competitive global marketplace is demanding higher food safety requirements and causing some growers to develop value-added programs to make their produce more attractive, and air and water quality regulations are impacting farming practices. The presentations and speakers for the conference have been chosen with this in mind. These changes are providing challenges to growers and PCAs but also providing new business opportunities for PCAs.

These opportunities are the underlying theme for the conference. The plenary session will be a big - picture view of the changes occurring in farming, how growers farm, and some of the new regulations affecting farming practices. The breakout sessions will dive more deeply into the details of these changes, highlighting new business opportunities for PCAs. Plus many breakouts will update attendees on the usual very important topics such as orchard and vineyard IPM, urban IPM, invasive pest species, and structural pest management. The end of the conference tour will focus on almond IPM.



PICTURE ABOVE USDA KEY NOTE ADDRESS

The 2009 annual meeting and conference will be held at the Double Tree Hotel in Modesto CA. The site provides excellent accommodations and conference site. Early bird rate for AAIE is \$114 a night. Please contact them directly to secure your reservation NOW! Rooms at this price are limited. 209-526-6000.

Sponsorship opportunities are available now. Contact Bill Rothfuss director@aaie.net for more info.

## AAIE Bulletin Fall 2008

The Bulletin is published in the Spring, Fall and Winter by the Association of Applied IPM Ecologists, a non-profit alliance of professional entomologists, researchers, pest control advisors and others dedicated to controlling agricultural, ornamental and landscape pests through integrated pest management and biological control practices.

**Editorial Policy** - Articles submitted for publication represent the views of the author and are directed at AAIE members as a forum. Readers may rebut articles with their own submissions.

All Bulletin inquiries should be directed to the Executive Director.

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## PRESIDENT'S MESSAGE:

### AAIE Mini-Conferences

By Devin Carroll

For the past several years, your AAIE Board has been emphasizing staging of more local mini-conferences and roundtables. In recent years, the AAIE has sponsored annual citrus roundtables and various mini-conferences on subjects such as tree nut IPM, vine mealybugs, and low-sulfur grape mildew control.

Already this year in March, Sylvie Robillard organized a successful mini-conference on weeds in Visalia. About 40 people attended.

Coming up on November 14 in Tulare, we have scheduled our first South Valley Grape PCA Roundtable. Mark your calendars and watch for further announcements on the listserver and the website. This meeting is patterned after the successful Citrus Roundtable series. Instead of a program of planned speakers, PCAs and invited faculty members talk about what we've learned and questions we would like answered. Paul Giboney, Max Jehle, Gisela Wittenborn, and Devin Carroll are the organizing committee.

Cliff Ohmart is organizing a North Valley Grape Roundtable, also sometime in early February. It will be somewhere near Lodi.

The Citrus Roundtable has by necessity been postponed until early next year, perhaps in late February.

Also in the planning or at least dreaming stages are an Organic/Transition Pest Management workshop, a Tree Nut/Stonefruit workshop, a session on IPM under water stress, and possibly a row crops workshop.

We encourage any AAIE member with an idea to organize a workshop or roundtable. We would especially like to see some sessions in areas outside of the San Joaquin Valley, where almost all of the events have occurred so far. The wine valleys, coastal counties, Sacramento Valley, and south state are all ripe for participation. Urban IPM events would also be good.

If you would like to organize an AAIE local event, you can count on help from experienced organizers and Board members, and from our Executive Director, Bill Rothfuss. We will arrange for CE Units, give advice, help you locate speakers, help advertise, and collect money if needed.

# New Low Risk Pest Management Products

## New Low Risk Pest Management Products

By Pam Marrone, CEO/Founder, Marrone Organic Innovations, Inc.

According to New Chemical Compound Review (Figure 1), the number of new pesticide product leads from agrichemical company R&D laboratories is declining each year. Because it takes ten years to bring a new chemical pesticide to market, these statistics will mean a relative paucity of novel active ingredients in the next ten years and beyond. As a result, the new product launches we will see will be mixtures of existing active ingredients and it will become more and more common for the large agchem companies to collaborate and share their active ingredients to broaden their product portfolios. For example, Syngenta and DuPont recently announced an agreement to share their newest insecticide and herbicide compounds.

Another interesting trend is that the number of "reduced risk" chemical pesticides that are being registered is also declining. In EPA's fiscal year 2008, only one compound is classified "reduced risk": Dow's insecticide spirotetramat. This is a compound modified from the widely used spinosad, which is produced in fermentation by the microorganism *Saccharopolyspora spinosa*.

So where are growers and PCAs to look for new reduced risk pesticide products? The innovations in biological (or biorational) pesticides are continuing at a rapid pace, as these products are integrated into conventional programs. Biopesticides are reduced risk products based on biological or naturally derived chemistry (microbials and biochemicals). While biopesticides often get pigeonholed into products only for organic production, the facts are that more than 75% of biopesticides are used in conventional programs.

Why is this? Today's biopesticides offer a combination of benefits increasingly being recognized and valued in the market. Following are some of the primary reasons they are being used more and more in conventional programs:

- When used in IPM systems, the efficacy of biopesticides can be equal or better than chemical-only programs, especially for high value specialty crops such as fruits, vegetables, nuts and flowers.
- Biopesticides provide greater margins of safety for applicators, farm workers and rural neighbors and have shorter field restricted-entry intervals (REI), which makes it easier for farmers to complete essential agronomic practices on a timely basis and schedule harvest operations.
- Biopesticides generally affect only the target pest and closely related species, allowing beneficial insects and mites to flourish.
- Many of today's biopesticides are biodegradable, resulting in minimal or no risk to surface and groundwater. Biopesticides also generally have low VOC (volatile organic chemicals) content and can be used to reduce air emissions caused by high-VOC chemicals.

- Biopesticides typically have a lower chance for the development of resistance to pests than single-site chemicals because of their complex mode of action. Biopesticides are excellent resistance management tools when used alone or in combinations with chemicals as tank mixes and rotations.

Biopesticides typically have short or no pre-harvest intervals, allowing the grower to harvest the crop immediately after spraying the biopesticide. This is particularly important for export crops, which are subject to international maximum residue levels (MRLs) and extra requirements by retailers in Europe.

What are some of the new products coming to market in the near term?

With the phase out of methyl bromide and the restrictions on the remaining fumigants, two new bionematicides will be of interest.

Pasteuria Bioscience has a nematicide waiting approval at the EPA, with expected launch in selected markets in 2009. The product is based on *Pasteuria penetrans*, a parasitic soil microbe that infects and kills nematodes without harming other organisms. These bacteria attack only specific, targeted nematodes, and are highly durable, requiring no special handling or storage conditions. The active component of *Pasteuria* is its endospore, the most robust life-form known, resistant to heat, drying, shearing and freezing.

Another nematicide coming onto the market soon is from the German company Prophyta. Registered by the EPA, the product contains  $1 \times 10^{10}$  viable spores of the fungus *Paecilomyces lilacinus*, strain PL 251. It is used as pre-plant, transplant and post-plant treatment against a broad spectrum of nematodes such as root knot, burrowing, cyst, lesion, citrus and reniform nematodes.

The fungus PL 251 is strongly parasitic to all stages of development of common plant infecting nematodes, especially the eggs. Spores of the fungus also adhere to the cuticle of vermiform stages of the nematodes as they migrate through the soil. The spores germinate and the growing fungus penetrates the cuticle and engulfs the nematode. The hyphae of the fungus can also enter the nematode through body opening. The developing fungus kills the nematode by feeding on its body contents. Also, the fungus infects the eggs of root knot nematodes and progressively destroys them over a period of several days. Field trials show nematode control as good as chemical nematicides. The product can be applied through drip irrigation.

Marrone Organic Innovations (MOI) will be launching a fungicide based on extract of knotweed plant (*Reynoutria*=*Polygonum*). It works via systemic acquired resistance (SAR), or turning on the plant's defense system against bacterial and fungal plant pathogens. This fungicide, which was EPA registered with the help of IR-4, works particularly well against powdery mildews, rusts and bacterial diseases. Over 100 field trials on a range of crops and ornamentals have been conducted with this product which MOI purchased from KHH Biosciences in North Carolina. A broadened label and organic

(Continued on page 5)

IN MEMORIAM  
 “A MAN INSTRUMENTAL IN  
 AAIE HISTORY”

Maclay Burt  
 First AAIE Executive Secretary

By Devin Carroll

We sadly report that Maclay Burt, the first Executive Secretary of AAIE, passed away on August 6, 2008.

In 1979, twelve years after the founding of AAIE, the board headed by Richard Nelson hired Maclay to help manage the growing organization. According to Kate Burroughs, Maclay was a good fit. “He always amazed me with the fervor of his belief in biological control and the reduction of the use of toxic pesticides. I guess at the time I thought only young people could have that kind of fervor so it was surprising to see this guy who looked so conservative, in a suit and tie, with the same ideas and passion for them as I had.”

While working part-time for the AAIE, Maclay continued his career in the food processing industry. The son of an olive farmer and processor, Maclay was still a college student at U. C. Berkeley when he started working for Del Monte. At Berkeley he also met his wife, Claire Hollingsworth. They had three children and beginning in 1975 lived in North Tustin in Orange County.

Kate reports that Maclay helped facilitate at sometimes contentious AAIE meetings. “Maclay had a great ability to deal with the animosity and dissension that can threaten groups at times. He was a true me-

diator and able to cut people off gently and calm the situation down to where we could continue the discussion in a civil manner.”

Maclay served the AAIE until 1984, when he was briefly succeeded by Dale Little, and then by John Plain. Maclay retired from his job at ConAgra foods in 1991. He then worked as a consultant doing executive searches and facilitating strategic plans. He helped the AAIE Board draw up a strategic plan in around 1999.

In 2000 the Association of Natural Bio-Control Producers (ANBP) hired Maclay as their Executive Director. The ANBP was founded by a group of AAIE members several years earlier. According to Lynn LeBeck, who succeeded Maclay at ANBP in January of this year, “He steered ANBP through regulatory challenges, strategic planning, and organizational management with good cheer and friendship, and imparted his zest for life to all that knew him.”

Maclay volunteered with the Mental Health Association of Orange County and Blind Children's Learning Center.

Information for this story came from Maclay's obituary in the Los Angeles Times.

# New Low Risk Pest Management Products Continued

formulation are due in 2009.

According to AgraQuest, QRD 400 insecticide (*Chenopodium ambrosioides* extract) is for use on ornamentals, but other products for specialty and arable crops are being developed. QRD 400 was approved for use on field and container-grown ornamentals in nurseries, greenhouses and shadehouses in April. QRD 400 is effective against a range of sucking pests such as aphids, whiteflies, thrips and mites. The company acquired the product through its purchase of the Canadian biopesticide firm, Codena, in 2006. The product contains a number of terpenoid compounds that kill insects.

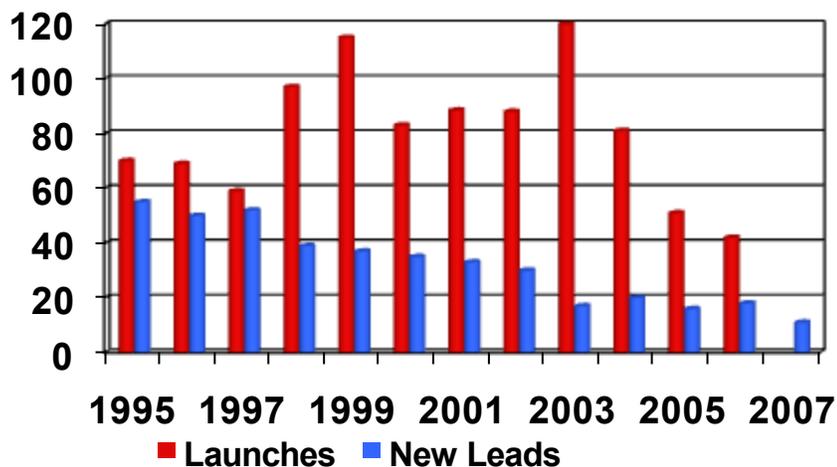


Figure 1. Number of new pesticide product launches and new commercial leads.

Source: *Ag Chem New Compound Review (Vol 25) 2007*.



## Sustainable Ag Expo Heads to Monterey...an AAIE Partner

### Carbon Footprint, Life Cycle Analysis, and Renewable Energy featured at 2008 Sustainable Ag Expo

Carbon credits, product life cycle analysis, and renewable energy are hot topics, but what do they mean for agriculture and the food system? On the afternoon of November 13<sup>th</sup>, the Sustainable Ag Expo will feature a seminar focused on defining the “carbon” vocabulary and explaining where opportunities lie for agriculture to make a difference in energy efficiency and greenhouse gas reduction.

Lynn Hamilton, Professor of Agribusiness at Cal Poly State University, San Luis Obispo, will identify renewable energy potential within California agriculture. Cynthia Cory, Environmental Affairs for the California Farm Bureau Federation, will focus on the carbon credit opportunities for agriculture. Gail Feenstra, Food Systems Analyst for the Sustainable Agriculture and Education Program at UC Davis, will demonstrate carbon footprint measurements using life cycle analysis.

As greenhouse gases and global warming remain hot button topics, it is important for growers to understand the technologies and programs working to solve these issues.

“The food system consumes a significant amount of energy in the United States and produces considerable greenhouse gases that create a sizeable food carbon footprint. UC Davis uses a lifecycle assessment framework to identify ‘hot spots’ in the food system from ‘farm to fork,’” says Gail Feenstra.

The Fourth Annual Sustainable Ag Expo, held November 13-14, 2008 at the Monterey County Fairgrounds in Monterey, California, is for farmers of all crops and commodities to learn about sustainable farming methods – environmentally sound, socially equitable, and economically feasible. Featuring trade exhibits and educational programs, the Expo provides growers and ranchers the information and tools to maintain economic viability while also protecting the environment and promoting healthy communities. Expo seminars will also include crop specific research, labor management, nutrient management, marketing opportunities, certifications programs, and more.

This unique event provides both an educational backdrop and an informative setting for all attendees. The Expo is currently accepting registration for attendees and equipment exhibitors. For more information visit [www.sustainableagexpo.org](http://www.sustainableagexpo.org) or call Kira Costa at 805-369-2288.

**AAIE will have an exhibit booth stop by and say HII**



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# THEY'RE BA-A-A-CK!!

By Bill Currie

Those bloodsuckers that feed on us while we sleep have returned. With the use of DDT and other broad spectrum pesticides during the 1940's, 50's and 60's, Bedbugs (*Cimex lectularius* L.) and other blood-feeding hemiptera (bat bugs, swallow bugs, etc.) had been essentially eliminated from the United States. As the economies of Europe and Asia have grown, more people from other nations are traveling to the US, and are bringing bedbugs with them. Storing suitcases under the bed allows bedbugs to hitchhike along with travelers.

Many major cities often visited by foreign travelers (New York City, Atlanta, Los Angeles, San Francisco, Las Vegas) and some National Parks have detected bed bugs in their hotels. As members of AAIE travel, the possibility of encountering bedbugs in hotels, motels and resorts is increasing. Here are some things to consider.



**Bedbug**



**Bedbug Eggs and Droppings**

Bedbugs are oval, reddish-brown insects that are flattened from top to bottom. Adult bedbugs are about  $\frac{1}{4}$  inch long (the nymphs are smaller). The mouth parts are at the end of a long tube held under the body and are extended forward to feed. The mouth parts penetrate the victim's skin where they inject an anesthetic so the bedbug is not felt. An anticoagulant is then injected to keep the blood flowing as it is sucked out. Bedbugs feed at night and hide in cracks, seams and crevices in beds, furniture, walls and behind picture frames during the day.

Mated female bedbugs can produce up to 345 eggs which are deposited in their hiding places. Bedbugs grow by molting five times before becoming adults. Bedbug nymphs must have a blood meal before molting to the next larger size. Bedbug nymphs feed for about three (3) minutes and adults may feed for 10 – 15 minutes.

Bedbugs are not known to spread disease to humans, but may cause an allergic or other reaction to the proteins in their saliva. A wheal or lump may develop at the bite location. The bite may cause irritating itching and/or burning sensations which may last a few days.

In travel accommodations, place your suitcase on the metal folding stand usually provided to reduce the risk of hiding places for bed bugs. A slight sickly-sweet odor is an indication of a bedbug infestation. Inspect your hotel room for fecal focal points (dark spots) near cracks, crevices and on mattresses and bed

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Have you ever thought about getting your company out and more recognized? Try an Exhibitors booth for 2009 Space is limited. Includes membership, booth and 2 attendees to the conference.

Do you know a company we should invite? Contact Bill Rothfuss at 559-907-4897 or [director@aaie.net](mailto:director@aaie.net)

Bed Bugs continued from pg 7

ding. Probe crevices with a knife blade, toothpick or other thin object to verify if bedbugs are present. If bedbugs are found, tell the manager and move to another accommodation. If indeed your luggage becomes infested, put the luggage in a black plastic bag and leave it out in the hot sun for a couple of days. Unfortunately, I don't yet have any data on freezing temperature effects in winter.

Management of bedbugs in your home will require thorough vacuuming of the seams, folds, buttons and cording of bedding, pillows, mattresses, and all upholstered furniture in the infested room(s). Launder bedding and dry in a dryer on high heat. Cracks, crevices and other voids can be treated with low-risk products such as Silica Gel, Dri-Die, Diatomaceous Earth or borate dusts. After the treatment, all cracks, crevices and openings in bed frames, headboards, door and window trim, baseboards and wall-attached decorations such as mirrors and picture frames should be caulked and thoroughly sealed.

In the event of extensive bedbug infestations (several rooms, entire buildings, etc.), confirm the extent of the infestation by a thorough inspection of all cracks and crevices, including bird nests in eaves or bats roosting in attics. Remove all clutter from the site, treat all cracks, crevices and voids with Dri-Die or Diatomaceous Earth. Heat the room(s) and adjacent areas of building to 140°F - 160°F, and hold that temperature for two (2) hours. After or during cool down, caulk all cracks and crevices to eliminate future harborage. A heat treatment can be obtained by contacting ThermaPure Heat at 1-800-873-2912.

# GRAPE ROUND TABLE

## NOVEMBER 14, 2008

### ***Grape PCA Roundtable***

Friday November 14, 2008

Tulare Ag Building

Registration Starts at: 9:30 AM

Meeting is from: 10 AM to 2:30 PM

Lunch 12-12:30

Come join your fellow grape PCAs and faculty researchers in a free-wheeling discussion of grape pest management issues in the San Joaquin Valley.

The participants will determine the topics of discussion, which may include:

- Increasing problems with skeletonizers.
- Mite problems and miticide performance.
- Tighter buyer expectations for scarring and other quality issues.
- Thrips scarring vs. wind.
- Mid-season thrips damage.
- Impact of Movento and other new registrations on IPM programs.
- Minimum Residue Level issues.
- Mealybug biological control.
- Organic spray materials.
- Black widows and other spiders.
- Omnivorous leafroller and raisin moth.
- Leafhoppers coming from weeds.
- Adjuvants.
- Electrostatic sprayers.

Fee: (includes lunch): AAIE members \$20, non-members \$35.

Pay at door. Please RSVP by Nov. 12 to:

Devin Carroll

559-439-6368

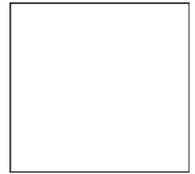
devinc@sbcglobal.net (email preferred)



**Walk-in registrants will be served lunch only if food is available.**

3 hours Continuing Education credits have been requested

P.O. Box 12181  
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*Founded in 1967, the Association of Applied IPM Ecologists provides a forum for the exchange of information about effective and environmentally responsible pest management practices.*

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Applicants for Associate membership must provide evidence of qualifications, see the website for more information.

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Fresno CA 93776

If you have any questions, please call Executive Director, Bill Rothfuss at 559-761-1064 or 559-907-4897

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- \$150 Professional
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- Free Student
- \$100 Sponsor Member (organizations)

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