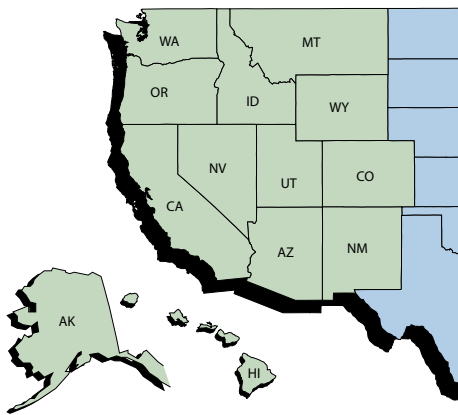


## Center Scope

The Western IPM Center enhances communication between federal and state IPM programs in the western United States: Alaska, Arizona, California, Colorado, Hawaii and the Pacific territories, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. It serves as an IPM information network, designed to quickly respond to information needs of the public and private sectors.



## What's Inside

Director's Comments .....	2
2008 Funded Projects .....	2
Promoting IPM in the West and Beyond: School IPM Work Group .....	3
PMS Update.....	3
Profile: Carrie Foss .....	4
"BSI: The Case of the Disappearing Bees" .....	5
Mark Your Calendar .....	6

## Legume *ipm*PIPE Available Online

By Marie Langham and Howard Schwartz

We are pleased to announce that the 2008 Legume *ipm*PIPE (PIPE = Pest Information Platform for Extension and Education) will be available online (after June 9). During 2008, a team of university, USDA, and industry specialists will be monitoring and reporting on priority disease and insect pests in critical legume crops grown across North America. The PIPE enhances the role of IPM specialists by providing near real-time access to legume pest observations, model output, and pest management information, as well as communication tools to support pest management decision making by growers during the growing season.

The Legume *ipm*PIPE consists of a network of 160 sentinel plots in 30 states, provinces, and districts of the United States, Canada, and Mexico and is a spinoff from the successful Soybean *ipm*PIPE, which has monitored the progress of and provided timely management strategies for soybean rust and soybean aphid on soybean in recent years. The threat to other legume crops such as common bean has been increasing annually as more soybeans become infected earlier each year in the United States and now even in Canada and Mexico, and legume monitoring will be even more critical during 2008. Funding is provided through the USDA Risk Management Agency and other sources, including legume check-off programs, agricultural experiment stations, and extension projects.

The 2008 Legume *ipm*PIPE Web site will include a series of menus, maps, reports, illustrations, and management links for topics that may include:



Common bean field inspection.

### Legume Crops

- Common Beans (dry bean, snap bean, and processing bean)
- Cool Season Legumes (chickpea, field pea, and lentil)
- Warm Season Legumes (lima bean and cowpea or black-eyed pea)

### Diseases and Insect Pests

- Soybean Rust, Common Rust
  - White Mold
  - Ascochyta Leaf Spot
  - Bacterial Diseases such as Common Bacterial Blight, Halo Blight, Bacterial Brown Spot, and Bacterial Wilt
  - Viruses such as *Alfalfa mosaic*, *Bean common* and *yellow mosaics*, *Beet curly top*, and *Cucumber mosaic*
  - Insect pests (and virus vectors) such as Soybean Aphid, other aphids, and beetles
- Image Gallery – e.g., Common Beans (in cooperation with the Bugwood Network)
- Representative images of priority diseases and pests will also be available.

### Other Resources

- State specialists will provide commentary on disease and pest reports.
- Links will be available to resources such as legume growth stages and management recommendations for priority diseases and pests.

The Web address (after June 9) for the Legume *ipm*PIPE is <http://legume.ipmPIPE.org>. Regional Coordinators for the project are Marie Langham, Eastern Region, [marie\\_langham@sdstate.edu](mailto:marie_langham@sdstate.edu), (605) 688-5539 and Howard Schwartz, Western Region, [howard\\_schwartz@colostate.edu](mailto:howard_schwartz@colostate.edu), (970) 491-6987.



Bean Brown Spot.

# Director's Comments

The past few months have been extraordinarily busy for staff at the Western IPM Center. Linda Herbst and I have been traveling to numerous meetings throughout the West and nationally, rarely seeing each other in the office. Diane Clarke has been working with the other Centers' writers on a success stories brochure in addition to her work on various Western IPM Center documents, including this newsletter and a number of new informational brochures that will be rolled out in the next year.

We had a visit from Elizabeth Ley, the new Communications Specialist at CSREES, in March. She had the opportunity to visit our office and the Western IR-4 State Liaison meeting, and to meet with UC Davis communications specialists. We greatly appreciated the visit and the opportunity to show Liz the scope of our work.

We recently submitted our Continuation grant to Grants.gov for the second year's funding of the current grant. We are receiving a slight decrease in funding (\$6,876) from last year's award. I suppose it could have been much worse, but we are still continuing the downward trend from our first grant. We also submitted for continued management of the Western Region IPM Grants Program (a Center requirement). In this award, we are proposing to fund a small grant to assess the outcomes of previously-funded Regional IPM grants in the West. This project should help with the always-elusive "So what?" question.

During the February 2008 Centers' Directors meeting in Sparks, Nevada, the Centers' staff met with the National Water Quality leaders at their annual meeting. We held a joint symposium on IPM and Water Quality, which is potentially opening new collaborative efforts between the two programs. Followup conference calls are scheduled this summer

with the three Water Quality coordinators in the West and the Western IPM Center.

Several new projects of interest include:

Funding the "IPM for Spanish-Speaking Landscape Workers Work Group." This group met recently in Scottsdale, Arizona.

The Western IPM Center is taking the lead on a national program for a multi-disciplinary resistance management group. A conference call with select experts will take place in June to start the ball rolling.

The Western Sustainable Agriculture Research and Education program is continuing to sponsor sub-regional conferences. Rick Melnicoe, Western SARE Administrative Council member, is attending these conferences and finding them immensely valuable for Western IPM Center priorities as well as Western SARE.

We have been in discussions with Deb Sheely, USDA-CSREES, regarding funding opportunities for extension specialists under the National Research Initiative's Integrated Activities program. Deb has been most helpful in clarifying how extension can be more involved and competitive. We will be relaying details of these conversations to extension and faculty soon.

The Legume *ipm*PIPE field monitoring program is developing for the 2008 season. The Western IPM Center is handling the subcontracts for the monitoring and diagnostics. This has been a challenge but is smoothing out.

We hope your summer extension and research activities go well.

*Rick Melnicoe*

## WIPMC 2008 Funded Projects

### Addressing Western IPM Issues

- **Process-Based Modeling of Ecological Thresholds: Managing *Bromus tectorum*-Invaded Communities**  
*Principal Investigator: Cynthia Brown, Colorado State University*  
**Award Amount:** \$79,948 (2 years)
- **Epidemiology and Integrated Management of the Cucurbit Yellow Stunting Disorder Virus in Sonoran Desert Cucurbits**  
*PI: Judith Brown, University of Arizona*  
**Award Amount:** \$79,988 (2 years)
- **Expansion of the Online High Plains IPM Guide to Include Agricultural, Rangeland, and Wildland Weed Recommendations**  
*PI: Fabian Menalled, Montana State University*  
**Award Amount:** \$79,574 (2 years)
- **Improving Potato Tuberworm Management with Cultural Practices**  
*PI: Sylvia Rondon, Oregon State University*  
**Award Amount:** \$39,750 (1 year)

### Work Groups

- **2008–2009 Work Group on Agricultural IPM Issues**  
*PI: Catherine Daniels, Washington State University*  
**Award Amount:** \$12,800 (2 years)
- **Western Region Conservation Biological Control (CBC) Work Group**  
*PI: Gwendolyn Ellen, Oregon State University*  
**Award Amount:** \$18,759 (2 years)

- **Crop Pest Losses and Impact Assessment Work Group**  
*PI: Al Fournier, University of Arizona*  
**Award Amount:** \$20,000 (2 years)
- **Western Region School IPM Implementation and Assessment Work Group**  
*PI: Dawn Gouge*  
**Award Amount:** \$20,000 (2 years)
- **Western Region IPM for Spanish-Speaking Landscape Workers Work Group**  
*PI: Rebecca Hines*  
**Award Amount:** \$10,000 (1 year)
- **Western IPM Center Work Group on Weather Systems**  
*PI: Walter Mahafee, USDA-ARS, Oregon State University*  
**Award Amount:** \$10,000 (1 year)
- **Integrated Pest Management of Ants of Urban Importance in the Western Region Work Group**  
*PI: Michael Rust, University of California, Riverside*  
**Award Amount:** \$10,000 (1 year)

### Special Projects

- **Brassica Green Manures for Potato Production Workshop**  
*PI: Andy McGuire, Washington State University Extension*  
**Award Amount:** \$5,000
- **Multiple-Day Flights by *Bemisia tabaci* Alter Dispersal Perceptions**  
*PI: David Byrne, University of Arizona*  
**Award Amount:** \$4,964

- **A Series of IPM Workshops for Turfgrass Managers in Hawaii**  
*PI: James Brosnan, University of Hawaii*  
**Award Amount:** \$5,000
- **Development of Acoustic Methods for Detecting Coconut Rhinoceros Beetles on Guam**  
*PI: Aubrey Moore, University of Guam*  
**Award Amount:** \$4,990
- **Pest and Native Thysanoptera of California and the Western USA: An Identification Workshop**  
*PI: Mark Hoddle, University of California, Riverside*  
**Award Amount:** \$2,160

### Information Networks

- **2008–09 Washington State Information Network**  
*PI: Catherine Daniels, Washington State University*
- **Arid Southwest IPM Network**  
*PI: Al Fournier, University of Arizona*
- **Idaho Pest Management Center Information Network**  
*PI: Ronda Hirnyck, University of Idaho*
- **Alaska Pest Management Program Information Network**  
*PI: Thomas Jahns, University of Alaska Fairbanks, Cooperative Extension Service*
- **Oregon IPM Network, 2008–2009**  
*PI: Paul Jepson, Oregon State University*
- **Hawaii Pest Management and Regulatory Information and Notification Network**  
*PI: Mike Kawate, University of Hawaii*
- **Mountain West IPM Information Network**  
*PI: Sandra McDonald, Colorado State University*

# Promoting School IPM in the West and Beyond: School IPM Work Group

By Dawn Gouge

The Western Region School IPM Work Group was formed in 2006 to facilitate communication and sharing of resources for implementation and measurement of IPM in schools throughout our region. Our membership has grown from 15 contacts from seven western states in 2006, to over 30 participants from 11 states throughout the Western Region (AZ, CA, CO, HI, MT, NM, NV, OR, UT, WA, and WY).

We've started a trend! After our work group formed, the Southern Region formed a school IPM work group of their own. As of 2008, all four Regional IPM Centers are supporting school IPM work groups. The Western Region representatives regularly interact with the other work groups.

From a national perspective we are poised to advance in implementing and assessing IPM in schools as never before. Considering the soon to be completed School IPM Pest Management Strategic Plan, the formation of an Entomological Society of America (ESA) School IPM Network, and the four Regional IPM Centers' School IPM Work Groups, the United States has the most accurately defined school IPM blueprint, the most advanced form of communication platform, and the largest number of school IPM advocates engaged.

But school IPM fans, please don't plan retirement just yet—last week I found bed bugs in a kid's backpack. I think our adventure is just getting started.

Dawn Gouge is Professor, Assistant Entomology Specialist, and Urban Entomologist at the University of Arizona. Contact Dawn at [dhgouge@ag.arizona.edu](mailto:dhgouge@ag.arizona.edu).

## State Brief

# ARIZONA

### Western School IPM "Inventory" Online

The Western School IPM Implementation and Assessment Work Group now has a Web site, hosted by the Arizona Pest Management Center: <http://cals.arizona.edu/apmc/westernschoolIPM.html>. The Web site provides an overview of the work group goals, proposals and reports, participant contact information, and more. Also included is an inventory of Western Region school IPM programs, resources, rules, and laws, which is regularly updated by work group participants. For more information contact Dawn Gouge at [dhgouge@ag.arizona.edu](mailto:dhgouge@ag.arizona.edu).

### Desert Turfgrass PMSP

The Desert Turfgrass Pest Management Strategic Plan (PMSP) work group meeting has been scheduled for July 16 in Phoenix. The PMSP will focus on turf production and maintenance for golf courses, sports facilities, sod farms, and other professionally managed turf in the Desert Southwest that includes Arizona, Nevada, and Southern California. For more information contact Kai Umeda at [kumeda@Ag.arizona.edu](mailto:kumeda@Ag.arizona.edu).

### New IPM Projects

The Arizona Pest Management Center funded seven new projects (totaling about \$50,000) through an intramural grants program for University of Arizona faculty. Funded projects included studies on whitefly movement, monitoring, and management, mapping for invasive weeds, and cucurbit yellow stunting disorder virus (CYSDV). A complete list of projects and PIs is available at <http://cals.arizona.edu/apmc/projects.html>.

### Vegetable Insect Losses Update

The Crop Pest Losses and Impact Assessment Work Group was established with Western IPM Center funding in 2003 to facilitate the collection of accurate, "real world" data on crop insect losses through a face-to-face survey process. We have recently updated our Vegetable Insect Losses Web page at <http://ag.arizona.edu/crops/vegetables/insects/vegiloss.html>. The Web site includes publications and presentations related to head lettuce and melon insect losses from 2001 to the present. Cotton Insect Losses data are available at <http://ag.arizona.edu/crops/cotton/insects/cil/cil.html>. Our focus to date has been mainly on insect losses, but the process is being expanded this year to collect data on plant diseases (and possibly weeds) and their impact on crop yields, economics, and pesticide use.

More Arizona updates and past activities are available at the Arizona Pest Management Center Web site at <http://cals.arizona.edu/apmc/activities.html>.

## PMSP Update

### New in 2008:

- **Hops (Washington, Oregon, and Idaho):** Workshop held January, 2008
- **Desert Turf (Arizona, Nevada, and Southeastern California):** Workshop planned July, 2008
- **Christmas Trees (Oregon and Washington):** Workshop planned fall, 2008

### Revised in 2008:

- **Citrus (California):** Workshop held March, 2008
- **Winegrape (California):** Workshop held May, 2008
- **Caneberry (Oregon and Washington):** Workshop planned fall, 2008

### Ongoing:

- **Papaya (Hawaii):** In final editing stage
- **IPM in Schools (United States):** Out for final review March, 2008.
- **Grass Seed (Idaho, Oregon, and Washington):** Workshop held February, 2007
- **Sweet Cherry (Colorado, Idaho, Oregon, and Washington):** Followup workshop planned fall, 2008
- **Coffee (Hawaii):** Workshop held April, 2007
- **Turf (Hawaii):** Followup workshop planned July, 2008
- **Low Desert Cotton (Arizona and Southeastern California):** Workshop held April, 2007
- **Organic Potato (California, Oregon, Washington, Idaho, and Colorado):** Followup workshop held January, 2008

### Completed:

- **Hazelnut (Oregon):** Completed May, 2007
- **Forages (Alaska, Washington, Oregon, Idaho, California, Nevada):** Completed February, 2008
- **Revised Potato (Oregon, Washington, Idaho, Colorado, Alaska):** Completed July, 2007
- **Garlic (California):** Completed April, 2007

See completed PMSPs on the National IPM Center's Web site at <http://pestdata.ncsu.edu/pmsp/>.

# PROFILE

## Carrie Foss

Urban IPM Coordinator, Washington State University

Carrie Foss, Urban IPM Coordinator at Washington State University's Urban IPM and Pesticide Safety Education Program, is a past member of the Western IPM Center's Advisory Committee and continues to play an active role in Center activities. She is currently representing the Western Region as an advisory committee member on a national project to develop an IPM training curriculum for public housing authorities and residents. Spearheaded by the Northeastern IPM Center, the project is a collaboration among CSREES, the U.S. Department of Housing and Urban Development, EPA, land grant universities, and private consultants. Carrie is also a member of the Western Region IPM in Schools Work Group, and was funded as a P.I. on a regional work group to develop the training curriculum for the Structural Pest IPM Facility at Washington State University (WSU). She is also co-P.I. of the Western Region IPM for Spanish-Speaking Landscape Workers Work Group.



Carrie Foss

In her role at WSU's Urban IPM and Pesticide Safety Education Program, Carrie works as part of a management team with Carol Ramsay and Becky Hines for USDA-CSREES's Pesticide Safety Education Program. The Urban IPM Program offers pre-certification and recertification training courses throughout Washington State from October through April, and Carrie participates in training hundreds of pesticide professionals each year, most of whom work in turf and landscape settings in public agencies and residential areas. In addition to recertification training, the Program offers precertification courses in English and Spanish as well as online precertification modules and recertification courses. All of the Program's courses and other educational outreach emphasize personal safety, environmental protection, and effective IPM.

The recertification courses provide an important service to Washington State's licensed pest managers. Everyone who holds a Washington State Department of Agriculture (WSDA) pesticide license or Structural Pest Inspector license is on a five-year license cycle. They can keep their license active for the next five-year cycle by retesting or by attending WSDA-approved recertification courses and accumulating the appropriate number of recertification credits for their license type. All of WSU's recertification courses are WSDA-approved and vary in length, content, and number of recertification credits offered.

Over the last several years, Carrie has taken the Program's western Washington recertification training in some new and important directions. She initiated and developed the WSU IPM Certification Program, building IPM education into the recertification courses. This allows attendees to gain WSU IPM credits, which are increasingly recognized in promotion and hiring decisions for landscaping positions. Carrie has also sought to make the training more interactive and hands-on. Those seeking recertification can now choose between larger, lecture-style courses and smaller, hands-on courses, and can receive IPM credits at both. At the large, two-day recertification courses, in addition to learning about personal safety and environmental protection, attendees can now earn WSU IPM credits on the first day after learning about topics

such as IPM in Public Areas, Proactive IPM, and the ABCs of Biological Control. The two-day hands-on workshops are limited to 40–60 people and are devoted exclusively to IPM topics.

Carrie also coordinates training for WSU's Structural Pest IPM Program, which provides hands-on training and pre-license courses for structural pest professionals at the new Structural Pest IPM Facility (opened a year ago). The Program's goal is to reduce the number of inaccurate wood-destroying-organism inspections and to reduce potential health risks from unnecessary or improper pesticide applications.

In addition to conducting and coordinating training, Carrie chairs the Urban Pesticide Education Strategy Team (UPEST), an outreach to Washington State citizens to help them adopt IPM for indoor and landscape

pests. UPEST seeks to be a clearinghouse for the many IPM resources available in Washington. The UPEST Web site, <http://www.ecy.wa.gov/programs/swfa/upest/>, includes information about pesticides as well as information and downloadable brochures about IPM in schools and IPM for households.

Asked about advances in urban IPM in the last ten years, Carrie said, "I have seen a huge increase in the level of awareness and commitment to managing pests in urban areas by using IPM, reducing pesticide use, protecting water, and protecting human health." For example, when she works with school districts, she meets many pest managers "wanting to do the right thing." She added, "I'm excited about how it has continued to change and evolve."

The biggest challenge Carrie sees in urban pest control is "finding appropriate least-toxic effective chemicals that are researched and can show science-based results." She has talked to many people who observe that getting good science-based information on least-toxic alternatives for urban pest control is very difficult.

Carrie recently spent six days in Jordan, through WSU's International Programs, conducting pesticide safety education training and plant problem diagnosis training for 30 Iraqi county agents (a cohort that included five women). All of the course presentations were translated into Arabic. The county agents work with growers, so Carrie took a train-the-trainer approach in the course's classroom and field modules. Carrie was very excited about the experience, saying,

"The interest and enthusiasm of these well-educated people for the information we provided was just delightful. They were wonderful students."

With a Bachelor of Science degree in botany from the University of Washington and a Master of Science degree in plant pathology from the University of Hawaii, Carrie's background includes plant problem diagnosis, research on beneficial microorganisms, and management strategies for turf and ornamental diseases. Carrie has two grown children and in her spare time enjoys hiking, biking, reading, and cooking. Contact Carrie at [cfoss@wsu.edu](mailto:cfoss@wsu.edu). To learn more about WSU's Urban IPM and Pesticide Safety Education Program, visit <http://pep.wsu.edu/>.

---

***"I have seen a huge increase in the level of awareness and commitment to managing pests in urban areas by using IPM, reducing pesticide use, protecting water, and protecting human health."***

---

# Bee Specialist Eric Mussen Fingers Prime Suspects in “BSI: The Case of the Disappearing Bees”

By Kathy Keatley Garvey

Noted University of California, Davis honey bee specialist Eric Mussen fingered a line-up of prime suspects at his “BSI: The Case of the Disappearing Bees” public lecture last October, sponsored by the UC Davis Department of Entomology.

Mussen identified malnutrition, parasitic mites, infectious microbes, and insecticide contamination as among the possible culprits. It’s a complex issue, he said, but one thing is certain: “It seems unlikely that we will find a specific, new and different reason for why bees are dying.”

Colony collapse disorder (CCD), a phenomenon where bees mysteriously abandon their hives, is not a new occurrence, said Mussen, the Extension Apiculturist at UC Davis since 1976.

“Similar phenomena have been observed since 1869,” he said. “It persisted in 1963, 1964, and 1965 and was called Spring Dwindling, Fall Collapse, and Autumn Collapse. Then in 1975, it was called Disappearing Disease.”

Massive bee die-off also occurred during the winter of 2004–05, but only those who read bee journals knew about it, Mussen told the crowd in the UC Davis campus Activities and Recreation Center. The latest die-off caught the attention of the national media last fall when a Pennsylvania beekeeper asked researchers at Pennsylvania State University to look at samples of his dying bees in Pennsylvania and Florida.



Honey bees in the hive.



Eric Mussen

One-third of America’s honey bees vanished in 2007 due to the mysterious CCD, characterized by almost total hive abandonment. Nearly all adult worker bees unexpectedly fly away from the hive, abandoning the stored honey, pollen, larvae, and pupae. Usually they leave in less than a week, and only the queen and a few young workers remain, Mussen said.

“The real reason bees are important is that we rely on them for crop pollination,” he said. Commercial honey bees pollinate about 90 of the country’s crops, valued at \$15 billion.

Bees are especially crucial to California’s 600,000 acres of almonds, he said. To pollinate the almonds, growers need 1.2 million bee hives, “but California doesn’t have 1.2 million bee hives, so they have to be trucked here.” That, he said, can add to the bee stress.

Mussen linked malnutrition as a key factor in CCD. “The best-fed bees are the healthiest, while malnourished bees are less resistant.” Malnourished bees are more susceptible to disease, predators, and insecticides, he pointed out.

A favorite suspect among the beekeepers is neonicotinoids, chemicals designed to mimic the toxic effects of a neurotoxin from the tobacco family. The nicotine-like insecticide kills fleas on cats and dogs, and is used as a seed treatment and in side dressing and foliar spray applications.

“The insecticides enter various plant tissues and become distributed, systemically, throughout the plant,” he said. “Nicotine is so toxic to humans that if you put a drop of pure nicotine on your finger, you’re dead.” Neonicotinoids have been formulated to be nearly non-toxic to mammals, birds, and fish but remain extremely toxic to invertebrates.

Another suspect: Gaucho® (imidacloprid), used as a seed treatment on sunflowers. Beekeepers claimed that when bees visited sunflowers, they never returned to their hives; “they lost their memory.” Mussen said no scientific documentation exists to blame imidacloprid for the bee die-off. A study found only 5 parts per billion (ppb) maximum in the nectar of sunflowers and canola, he said. The Bayer fact sheet



Honey bee zeroing in on an almond blossom.

indicates that the insecticide is toxic to honey bees at 192 ppb.

Mussen said he hopes that the current fascination with honey bees will lead to more research and more research funding. “And we need a honey bee toxicologist on the staff of some of our governmental institutions.”

Mussen received his Ph.D. in entomology from the University of Minnesota in 1976 and then joined the UC Davis faculty, based at the Harry H. Laidlaw, Jr. Honey Bee Research Facility.

# OREGON

## IPM Options Evaluation Tool

The Integrated Plant Protection Center (IPPC) is now a partner in a Natural Resources Conservation Service (NRCS) Conservation Innovation Grants initiative, led by Tom Green of the IPM Institute, to develop an IPM Options Evaluation Tool. The tool is designed to reduce the negative impacts of IPM practices by providing state-of-the-art risk estimates of risks to wildlife, beneficial organisms, and humans, and access to information about mitigation practices. Collaborators include the IPM Institute, Oregon State University IPPC, BCS Ecologic, the Natural Resources Defense Council, and Ottawa's Carleton University. More details may be found at <http://www.ipminstitute.org/pmoeet/>.

## On-Farm Workshops for Pollinator and Natural Enemy Conservation

The IPPC has been presenting a series of on-farm workshops with the Xerces Society for Invertebrate Conservation on pollinator and natural enemy conservation. This USDA SARE-funded program is targeted at agricultural professionals and agencies, but some farmers are also present at each walk. Basic bee and natural enemy biology and habitat requirements are discussed, and farm walks illustrate these habitat needs. Workshops have taken place in The Dalles, Klamath Falls, the Willamette Valley, and Medford, Oregon. Followup workshops for participants will help to develop skills in farm planning for biodiversity enhancement.

# CALIF.

## Home-Use Pesticides Annual Shelf Survey

Diane Clarke, the University of California Office of Pesticide Information and Coordination's half-time Program Analyst, has begun the 2008 shelf survey of homeowner pesticide products. The purpose of this annual survey, conducted at a representative sample of retail stores and nurseries in the Sacramento area, is to confirm that products recommended in the UC IPM Pest Notes, which are chiefly targeted for homeowners, are readily available. These data will eventually be linked to the UC IPM Web site for easy access.

## Pesticide Use and Air and Water Quality

Several environmental issues continue to dominate both the agricultural and urban use of pesticides. Air quality has progressively gotten worse in many areas of California. The California Department of Pesticide Regulation has been ordered by the courts to reduce the ozone-forming volatile organic compounds (VOCs) emitted from pesticides. The court order mandated specific reductions in VOCs from fumigants. New regulations went into effect at the beginning of the year that require fumigant-specific application methods, buffer zones, and potential acreage treatment caps. Some areas of California, most likely Ventura County, may see all fumigations halted when air quality exceeds certain standards.

Water quality is another environmental concern in California. Runoff to surface waters from both agricultural and urban uses of pesticides is being monitored. Pyrethroids are a major concern from both urban and agricultural areas. Educational efforts to minimize runoff are focusing on homeowners and agriculturalists.

## UC IPM Program Director Update

Interviews for the UC IPM Program Director are scheduled for June.

## Mark Your Calendar

### 2008

#### June

- Pacific Northwest Work Group Meeting, June 12–13, Corvallis, OR

#### July

- Turf (Hawaii) PMSP followup workshop, July 11, Honolulu, HI
- Desert Turf (Arizona, Nevada, and Southeastern California) PMSP workshop, July 16, Phoenix, AZ
- Washington State Commission on Pesticide Registration Ag Tour, July 21–24
- California Specialty Crops Council Ag Tour, July 21–24

#### September

- IR-4 Food Use Workshop, September 16–17, Sacramento, CA. <http://ir4.rutgers.edu/fooduse/fuworkshop/index.html>

#### November

- Entomological Society of America 2008 Annual Meeting, November 16–19, Reno, NV. <http://www.entsoc.org/am/cm/index.htm>

### 2009

#### March

- Sixth International IPM Symposium, March 24–26, Portland, OR. <http://www.ipmcenters.org/ipmsymposium09/>

#### August

- National Pesticide Safety Education Program Meeting, week of August 9, Charleston, SC

For more information, see "Other News/Announcements" and "Funding Opportunities" on the WIPMC Web site.



The Western Front is published three times a year by the Western Integrated Pest Management Center (WIPMC) at 4249 Meyer Hall, University of California, One Shields Ave., Davis, CA, 95616. The newsletter is available online at [www.wripmc.org](http://www.wripmc.org). WIPMC is supported by a grant from USDA-CSREES.

**Director:**  
Rick Melnicoe, (530) 754-8378  
E-mail: [rsmelnicoe@ucdavis.edu](mailto:rsmelnicoe@ucdavis.edu)

**Editing and Design:**  
Diane Clarke, (530) 752-7011  
E-mail: [dmclarke@ucdavis.edu](mailto:dmclarke@ucdavis.edu)

**Acknowledgements:**  
Banner images: wheat field, Rick Melnicoe, WIPMC; Seattle skyscrapers, Denny Fleenor, Washington State University; and creek in foothills, Suzanne Paisley, ANR Communication Services.

