

## SOAR Winner Lori Berger

On September 14, 2011, IR-4's Executive Director, Jerry Baron, surprised the Executive Director of the California Specialty Crops Council (CSCC) Lori Berger by presenting her with the IR-4 **SOAR** award.



CSCC Executive Director, Lori Berger, (second from right) receives the IR-4 SOAR Award from IR-4 Executive Director, Jerry Baron as Western Region IR-4 Center Regional Field Coordinator, Rebecca Sisco (far right) and MGK Regulatory Department Manager, Jan Sharp join Jerry in congratulating Lori.

This award recognizes individuals who excel in serving growers of Specialty and Minor Use Crops. Awardees demonstrate: clear **Service** toward enhancing the mission of IR-4 through participation on committees advisory panels or similar activities; excellent **Outreach** to growers, educating them about IR-4; **Altruism** by donating time and effort towards IR-4's mission; and outstanding **Research**,

which contributes toward expanded product labels and increased understanding of product use. A candidate must demonstrate excellence in three of the four categories.


Lori demonstrates excellence in all four categories and her supporters gave clear examples. One nominator spoke of her **Service** to IR-4 by "participating on several committees that address diverse agriculturally-related issues and concerns across multiple groups, including the Minor Crop Farmers Alliance, Crop Protection Coalition, NAFTA Technical Working Group, EPA Farm Ranch and Rural Communities Committee and the IR-4 Commodity Liaison Committee."

Lori's **Outreach** efforts include an annual tour of California Crops that she organizes to educate state and federal regulators, and an annual Workshop that Lori has developed that focuses on issues related to harmonization of Maximum Residue Limits and their impact on the export of US agricultural commodities.

Many who nominated Lori spoke of her acts of **Altruism** as being a Big Sister, helping

young women in her community, as well as giving her time and energy serving on a number of non-profit boards working on children's health issues.

Finally, in support of her **Research** efforts, one nominator touted Lori's success at obtaining over \$1 million in grant funds to support cross-community outreach in the area of integrated pest management. Also, Lori actively hosts webinars on invasives and other timely updates covering research relevant to specialty crop production.

Congratulations Lori, on receiving the IR-4 SOAR award! 



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# Drip Irrigation Field Studies

— by Western Region Assistant Field Coordinator, Stephen Flanagan and IR-4 Assistant Coordinator, Kathryn Homa

Recent IR-4 field studies have been conducted throughout the US with a twist on standard application equipment. Most IR-4 residue trials utilize backpack or tractor mounted spray booms which use a mixture of water, adjuvant and test substance to deliver the test substance to the research plot. This season saw the first of several studies which included additional treatments using pressurized injection systems that apply test substance through drip irrigation.

The practice of injecting agricultural chemicals through pressurized irrigation systems is increasingly common in the US. The practice has many advantages for growers, including reduced application costs and lower worker exposure to pesticides. In addition, the targeting of soil borne insects and pathogens is ideally suited for application through irrigation systems.

When IR-4 study directors design pesticide use patterns in study protocols, they need to closely mimic the future use of those compounds in grower fields. For these recent IR-4 projects, additional treatment options have used soil-directed sprays or drench applications along with drip system injections.

So, how does a field researcher set up a system to mimic a commercial drip injection? To start with, the researcher sets up test plots with a drip system for crop irrigation. This same system is then “tapped into” to inject the test substance. This year’s protocols called for the test substance to be applied in 1/2 acre-inch of irrigation with the injection occurring in the first 1/4 to 1/3 of the irrigation event.

The most common method for drip injection in growers’ fields is with a simple venturi device commercially known as a Mazzei® injector. The small plastic device (Fig. 1, source: [www.mazzei.net](http://www.mazzei.net)) creates a

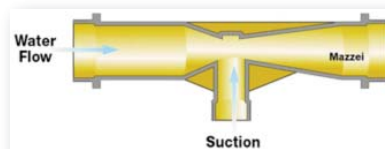


Figure 1: Mazzei injector diagram

restriction in the water flow which in turn creates a suction which takes up a pre-calibrated concentration of test substance and water.

The calibration process is completed by comparing the injector suction rate with the time required to apply the first 1/4 to 1/3 of the 1/2 inch irrigation amount. For example, if

the drip system takes four hours to apply a half acre inch of water, the injector needs to apply the test substance and water in roughly 60 to 80 minutes.

Correspondingly, if the injector sucks up 4 liters of solution per hour, the required test substance would need to be diluted in 4 to 4.8 liters of water. The researcher then dilutes the appropriate amount of test substance for the plot size into the water, fires up the injector system and applies the test substance. Once the injector has sucked up all the test substance solution, the researcher adds rinse water to the mix bucket and continues running the irrigation system to flush all test substance through the system and onto the test plot.

Figure # 2 illustrates the plumbing of a Mazzei ®

*continued on next page*



Figure 2: Mazzei injector and line setup.

# IR-4 Successes Jul-11 to Sep-11

The trade names listed below are provided as a means to identify the chemical for which a tolerance has been established. A trade name listed here may not be the name of the product on which the new food use(s) will be registered. Only labeled products may be used on a food crop. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical.

## **Federal Register: July 27 2011**

**Chlorantraniliprole**

Trade Name: *Coragen*

Crop: Root and tuber vegetable group 1, Leaves of root and tuber vegetable group 2, Bulb onion subgroup 3-07A, Berry (large shrub/tree) subgroup 13-07C, Low growing berry subgroup 13-07G, Ti leaves and root

PR#: 10217

Federal Register:

**August 17 2011**

**Metconazole**

Trade Name: *Quash*

Crop: Bushberry subgroup 13-07B, Tuberos and corm vegetable subgroup 1C

PR#: 09501, 09861, 09890

Federal Register:

**August 29 2011**

**Tetraconazole**

Trade Name: *Mettle*

Crop: Small vine-climbing fruit (except fuzzy kiwifruit) subgroup 13-07F, Low growing berry subgroup 13-07G

PR#: 09663, 09662

Federal Register:

**August 31, 2011**

**MRLs established in Japan**

**Fludioxonil**

Trade Name: Not available

Crop: Citrus fruit, Peach, Nectarine, Apricot, Plum, Cherry, Kiwifruit, Apple, Pear, Quince, Loquat, Pomegranate

PR#: 07947, 06934, 06944, 06943, 06933, 07639, 07568, 07569, 08085

Federal Register:

**September 9 2011**

**Dicamba**

Trade Name: *Distinct*

Crop: *Teff*

PR#: 10195

**2,4-D**

Trade Name: *Latigo*

Crop: *Teff*

PR#: 10195

**Novaluron**

Trade Name: *Rimon*

Crop: *Sweet corn*

PR#: 09838

## Drip

*continued from previous page*

device into a two inch supply line with a check valve to prevent backflow of the test substance into the irrigation supply. Figure # 3 shows a similar layout which accomplishes the same function. The system in Figure # 3 also utilized a flow meter to compare the delivered water volume to the plot versus the measured output from the drip emitters.

The 2011 trials using these systems included peppers,

lettuce and cucurbits. The 2012 trials that will use these systems include cantaloupe, cucumber, bell and non-bell pepper and squash.

The same system could also apply to orchard crops using either drip or microjet systems. Field researchers' efforts to configure, test and calibrate these systems ensure that field residue data is generated under conditions very similar to grower systems. The

cooperative efforts between registrants, study directors and field researchers delivers high quality data to support registration of new tools for specialty crop growers. 🌱



Figure 3: Mazzei injector setup with inline flow meter.



## He's Back...

Welcome back, Joe!

On Father's Day, 2010, Joe DeFrancesco, Oregon State University researcher and IR-4 State Liaison Representative for Oregon, received a power washer as a gift.

Being anxious to try his new "toy" Joe decided to clean the deck awning. He took his extension ladder out of the garage and was careful to position it against the side of the house. What Joe didn't know, but soon discovered, was the ladder wasn't in a sturdy enough position to hold him, and it slipped.

As Joe stepped onto the roof, he was knocked down and knocked out. He sustained multiple injuries, breaking his pelvis, ribs, and elbow, suffered a concussion and his whole face was black and blue. These injuries knocked Joe out



It was so good to see OSU researcher Joe DeFrancesco (r) seated with colleague Ed Peachey, back at the Food Use Workshop after suffering injuries that prohibited his attendance in 2010.

of work for many months and everyone felt his absence at the 2010 Food Use Workshop.

In an act of support, the participants of the workshop filled many flip chart pages with best wishes for a strong recovery. Joe's wife, Cathy, said, "Joe is so fortunate to have co-workers and colleagues who were such a support, comfort and strength. He really is lucky to work in such an environment."

Joe agrees and attributes much of his recovery not only to his

physicians and re-hab professionals but also to his supportive IR-4 colleagues.

In September 2011, Joe was back at the Food Use Workshop feeling strong, healed, and back to normal. He said, "When we were introducing ourselves at the workshop, I wanted to say thank you to everyone, but didn't want to draw attention to myself." But through this article, Joe says just that. Thank you IR-4 and IR-4 stakeholders. "I really am grateful for such good friends. The concern and caring shown by my colleagues was very touching and meant a lot to me during my months of recovery."

Since there were five other men in the emergency room the same day as Joe as a result of power tool and ladder accidents, Cathy says, "the moral of the story: give hammocks, not power tools on Father's Day." 🌿

## IR-4 Recognizes Mel Tolliver

— by Robyn Kneen, Regulatory Affairs, Bayer CropScience

For nearly 50 years, IR-4 has been working with Bayer CropScience to provide specialty crops growers with minor use registrations. Mel Tolliver has been Bayer's IR-4 Liaison coordinating requests, samples, trials, regulatory submissions and many other activities. He served in this capacity for 20 years. Mel retired from Bayer on November 4, but before he

retired, he attended one last IR-4 Food Use Workshop (FUW). During the FUW, IR-4 management recognized Mel's contributions and dedicated service by presenting him with an IR-4 Special Recognition Award.

"Mel has quietly and efficiently provided excellent support to IR-4; his partnership efforts have yielded great results

including many, many registrations for Bayer's products on specialty crops," said Jerry Baron, IR-4 Executive Director. "It's great to see that Mel is appreciated by others in the industry, because he has been appreciated by all of us here at Bayer for a long time," said Randy Myers, Marketing Manager, "We will really miss him." A sentiment echoed by all Mel's friends and colleagues at Bayer. 🌿

# New SLR for Puerto Rico

## Wilfredo Robles



—by IR-4 Southern Region Field Coordinator, Michelle Samuel-Foo

Puerto Rico native, Wilfredo Robles is an assistant professor at the University of Puerto Rico (UPR) Mayaguez, and the new IR-4 State Liaison representing Puerto Rico. Dr Robles completed both his Bachelor's degree (Animal Sciences) and his Master's degree (Crop Protection with major in entomology) at the UPR. In 2002, he was hired as a research associate at the UPR Agricultural Experiment Station to evaluate entomological agents as biological control of aquatic plants. In 2004, Wilfredo attended Mississippi State University (MSU) pursuing a Ph.D. in Weed Science. His dissertation was titled "Population Assessment and Herbicide Injury Detection on Aquatic Plants Using Remote Sensing". This research project involved an interdisciplinary effort among many disciplines such as weed science, geography, biology, and engineering. During his time spent at MSU, he was awarded the Midsouth Aquatic Plant Management Student

Scholarship in 2007 and the Graduate Research Assistant of the Year in 2008. In 2009, Wilfred earned his Ph.D. from MSU.

Since 2009, Wilfredo has been building the weed science program at UPR Mayaguez and teaching undergraduate and graduate classes such as Principles in Weed Science and Mode of Action of Herbicides. His research interests involve the use of herbicides and biopesticides as tools in integrated pest management on tropical crops. Throughout his career, he has authored and co-authored nine peer

reviewed articles, 16 proceedings articles, and more than 25 oral presentations in both English and Spanish.

Wilfredo has also served as a reviewer for many journals and is an active member of Southern Weed Science Society, Aquatic Plant Management Society, Weed Science Society of America, and Puerto Rico Society of Agricultural Sciences.

The IR-4 Southern Region is proud to welcome Dr. Wilfredo Robles as our new State Liaison Representative for Puerto Rico, and we look forward to collaborating on future projects as we make strides to re-establish an IR-4 field research center at the University of Puerto Rico. 🌿

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# Pomegranates' Sphere of Appro

— article and photos provided by the Pomegranate Council

**P**omegranate's arrival in California predates its inclusion into the United States. Starting in 1769 Franciscan missionaries from Spain, led by Father Junipero Serra, established Roman Catholic Christian missions, commercial enterprises, and lodging throughout the coastal region. Pomegranates were imported from outside Alta California and planted at these missions.

Commercially, pomegranates have been grown in the Central Valley of California for over 100 years. Although pomegranates do thrive in other climates, most noticeably Texas, Georgia and Florida, only California has historically produced fresh market pomegranates for domestic and international markets.

**Pomegranate as a Unique Crop**  
*Punica granatum*, the scientific name assigned by Linneaus, is only one of two species in the botanical family of pomegranate. What this orphan genus lacks in width it surely makes up for in depth: a species that can be found as an evergreen in tropical conditions to a deciduous plant in temperate climates.

Pomegranates are the chameleon of the botanical world. Their phenological characteristics are as much a function of their human owners as they are the hand of mother nature. Dwarf varieties can be used both for landscaping as

well as bonsai, with dainty trees less than 12 inches in height producing golf ball sized fruit. Commercially their full size brethren are natural bushes but can be trained to be multi trunk trees, single trunk trees, or free form bushes which constantly renew their vegetative growth through suckers. This flexible growth habit comes with evolutionary benefits – trees killed by winter freezes will regrow from the crowns, while tropical trees will bloom nearly year round.

Common folklore for this crop, which has been reported throughout antiquity, still is present in the modern era. The commonly held belief that all pomegranate fruit contain the same number of arils, or seeds, has recently been proven incorrect by researchers in the United States. The largest of pomegranate fruit can contain up to 2000 arils, while some ornamental pomegranates produce finger shaped fruit that are completely void of any seeds! A humorous feature of Wonderful, the most widely recognized pomegranate cultivar in the United States, is that this inside-out berry-like fruit is nearly spherical regardless of how many arils are inside. Only a unique crop like pomegranates could be the color of royalty and also wear a crown – naturally!

Pomegranates are shaped as



bushes, single trunk trees or multi scaffold trees depending on the farming practices of the grower. Cultural practices used by farmers on companion crops have a significant bearing on pomegranate cropping strategies. If farmers already produce grapes then machinery management optimization will make pomegranate establishment with in row spacing of 5 foot with rows at 12 feet prudent. For farms with large canopy permanent crops such as citrus, almonds or walnuts, pomegranate orchards are established at a wider spacing, such as in row spacing of 17 feet with rows at 19 feet. Wider spacing better accommodates a common set of large farming implements such as disc harrows, and brush shredders already utilized for tasks on other crops.

Because of the indeterminate flowering pattern of pomegranates there are repeated harvest passes through each pomegranate orchard until the supply of fresh fruit is exhausted or market conditions do not justify



# Appreciation and Production Grows

the harvest costs for additional efforts. Since the crop is selectively hand harvested, large groups of laborers are needed each autumn. The harvest process involves removing the fruit from the tree by either clipping the fruit or using a twist-snap procedure. Fruit is then placed into canvas bags, and can be loaded into plastic totes or large bins for transport to packing facilities. Packing facilities vary in sophistication. Nearly all facilities pack other types of tree fruit so methods of conveyance and sorting depend on companion crops at a given farming operation.



## Production Challenges for an Emerging Crop

Although considered a hearty crop, relatively free from production limitations, pomegranates face challenges in their primary areas in the western parts of the U.S. Some such as cold heartiness and susceptibility to fruit summer scald are a part of normal environmental conditions faced by farmers annually. But the largest obstacles to reliable production of high quality fruit have and continue to come from biological organisms.

## IR-4's Assistance Invaluable

As pomegranate acreage ebbed and flowed through the latter half of the 20th century, the farmers responsible for this odd commodity faced difficulties in defending the

crop from several insect pests. Omnivorous Leaf Roller (OLR) was the most damaging, but with IR-4's assistance in the late 1970s new products became available. Because of the extremely long period which fruit is in the field – bloom occurs starting in mid April and harvest can begin as late as mid October – OLR was deemed enemy #1 for growers seeking late harvest season fruit to fill the void created between summer stone fruit production and winter citrus harvest in the Central Valley of California.

## IPM and food safety tools

Even as acreage began to prominently increase, pomegranates were not considered when many new chemistries were launched over the past 10 years. However, IR-4 has been present to support tools for integrated control of such pests as aphids and whiteflies (imidacloprid), and materials which allow for export markets to be supported while maintaining external and internal quality (methoxyfenozide and spinosad).



## The Modern Pomegranate Industry

The breakthrough for pomegranate production came at the exact moment where the crop's health benefits became prominently known. In 2001, the post harvest fungicide fludioxonil began its' development for control of Botrytis in stored fruit. Prior to this product's IR-4 registration fruit had been marketed exclusively as pick-pack-ship, with tremendous losses from storage decay. Syngenta's support of Scholar allowed the fruit to be stored beyond the traditional autumn harvest, opening up export opportunities as well as extended marketing for whole fruit and an ever-broadening array of pomegranate-based products such as extracted fresh arils.

"As the pomegranate industry has grown, IR-4, especially the western region staff at Davis, has worked collaboratively with technology providers and the growers to tackle the issues as they've emerged," stated Bernard Puget, the director of pomegranate production at Paramount Farming Company. Puget has spent years interacting with IR-4 and the chemical registrants and reflected that many of the products which make current large scale production of this fruit possible came through minor crop registration efforts. The need for management tools to address glyphosate-resistant weeds such as marehail and fleabane are on the horizon, reported Puget. 🌿

# 2011 Food Use Workshop – Results and New Process Assessment

— by IR-4 Assistant Director, Van Starner

The 2011 IR-4 Food Use Workshop (FUW) was held September 13-14 in Cary, NC. Each year this is the single most important gathering of IR-4 stakeholders for establishing the next year's research plan. This year IR-4 stakeholders selected a total of 45 priority "A" projects to satisfy some of the most critical herbicide, fungicide and insecticide needs of U.S. specialty crop grower stakeholders. These "A" priority projects form the core of the IR-4 food use field and lab research program in 2012. Additional researchable projects have been added to the 2012 plan via upgrades determined between IR-4 regional and headquarters staff.

A pre-workshop on-line project nomination process has been in place since 2006, and a similar nomination process was used this year in August (an IR-4 website-based process, listing projects potentially researchable in 2012, presented for nomination in three separate lists, one for each discipline – herbicides, insecticides and fungicides). Any stakeholder (except employees of agricultural chemical companies) could individually nominate projects. Those projects given at least one "A" nomination



were the focus of workshop discussions. At the Workshop this year IR-4 replaced the discipline-driven project prioritization with a commodity-driven process, focusing on the most critical pest management needs for each commodity. There was no quota of "A" priorities by discipline, by crop group or by commodity. Attendees simply worked through the entire slate (~210) of potential projects for 2012 crop by crop, beginning with Crop Group 1 through Crop Group 99 and identified a "first pass" of "A" priorities. Subsequently, the total "A" priorities was whittled down to a target of 45. (To see the assigned Priority "A" projects visit [ir4.rutgers.edu](http://ir4.rutgers.edu).)

The impetus for the significant change in the project prioritization process was driven by many comments and suggestions received over the past few years from FUW participants and other IR-4 stakeholders. Some 2010 FUW

participants also indicated that the final slate of "A" priorities assigned for 2011 research included some questionable projects to "fill discipline-allotted quotas." They suggested a different prioritization scheme be considered that would 1) better address grower needs, 2) be able to adapt to these needs as they change from year to year, and 3) be a more reasonable use of taxpayer dollars that support IR-4.

From feedback provided by FUW attendees this year (~60 survey responders) and through other verbal communications, the new prioritization process appears to have been a huge success. About two thirds of responders commented that this new priority setting process was quick and efficient, and it worked really well. A few even wrote that this was the "best Food Use Workshop ever." Others commented that they didn't think it would work (vs the prior discipline-based, quota system of "A" priorities), were pleasantly surprised how smoothly it went, and that it should be continued in future workshops. With this kind of positive response, the 2012 FUW at the Union Station Marriott in St. Louis, MO, will likely be organized around this new priority setting process.





# 2011 Ornamental Horticulture Program Workshop

## Outcomes & Tour Photos

—by Ir-4 Ornamental Horticulture Manager, Cristi Palmer

The IR-4 Ornamental Horticulture Program held a workshop October 5-6th to determine research priorities for 2012 and 2013. After presentations on ongoing projects and new potential areas for existing and new products, the attending growers, researchers, and extension agents established high priority projects for entomology, pathology and weed science.

### Entomology


For insects infesting crops in greenhouses, thrips and whiteflies are high priorities. The thrips protocol will test 3 new products for western flower thrips and other species. For whiteflies, 5 products will be examined for *Bemisia* and other whiteflies. For insects feeding on woody ornamentals, scale, borers, and foliar feeding beetles are important. In addition to these priorities, thrips materials crop safety will continue. This project will screen Hachi-Hachi, Kontos, Overture, NNI-0101, and tolfenpyrad SC.

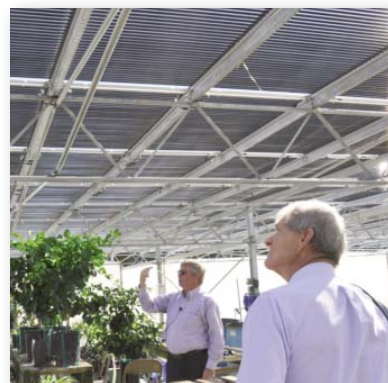
### Pathology

After reviewing the efficacy projects from 2010/2011, the pathologists elected to maintain three projects as high priority:

Bacterial Efficacy, Pythium Efficacy and Disease Products Crop Safety. For Bacterial and Pythium Efficacy projects, the products will shift to focus on the most promising materials and new active ingredients. The crop safety protocols will cover foliar and drench applications and include 7 different materials (acibenzolar, MCW-2, NF-149, Orvego, Torque, Tourney, Trinity).

### Weed Science

This lively discussion generated two high priority projects for crop safety. The first focuses on the over the top application of liquid herbicides as plants break dormancy with a repeat application 6 weeks later. The herbicides to be tested include F6875, indazaflam, and Tower with Gallery included as a standard. The second protocol focuses on over the top application of liverwort management products. An additional factor to be tested is whether irrigation immediately after application will alter crop safety. This protocol will also include a minimal efficacy confirmation with the new application and irrigation pattern. 



Dr. Lieth (UCDavis) explains benefits of photovoltaic shadehouse which generates electricity while growing crops under its canopy. *Photo by Cristi Palmer.*



UC Davis' Arboretum supports teaching and research. Gardens represent different geographic areas, plant groups, or horticultural themes. *Photo by Kathleen Hester.*



Matsuda's of Sacramento is a family owned business specializing in woody and perennial ornamental production. *Photo by Cristi Palmer.*

# Cyclamen – The Persian Violet

— by Cristi Palmer, IR-4 Ornamental Horticulture Program Manager

With ethereal blooms hovering above heart-shaped, variegated leaves, cyclamen almost glows in wintry light.

Cyclamen originating in the Mediterranean is hardy to zone 7, and, although it can be grown outside in some areas of the United States, it is primarily known as a houseplant. Its lengthy blooms are commonly used to brighten interiors in the winter, and its popularity as a winter-blooming houseplant is growing. In 2009, 5.1 million plants were sold in the United States at a value of \$14.8 million.

Cyclamen has relatively few pest and disease issues for most homeowners as long as it is kept in a sunny location and not overwatered.

Producers do, however, face some issues when growing



Photo by Cristi Palmer

cyclamen. Impatiens Necrotic Spot Virus causes necrotic (dead, brown) patterns in the leaves. Leaf spots such as *Septoria* and *Phyllosticta* mar foliage, while *Botrytis* gray mold also causes floral spots and will grow and sporulate in decaying flowers and leaves. *Erwinia* bacteria rot the tuber, and root pathogens such as *Pythium*, *Phytophthora*, and *Fusarium* can cause heavy losses if not managed. Thrips and mites including cyclamen, broad, and spider may become issues. Cyclamen mites feed within the calyx and base of petals and cause cyclamen flowers to be discolored or to shrivel or wilt. Infested flowers may fail to open. These mites also feed on leaves causing them to pucker, crinkle, or curl. Broad mites will bronze foliage as they are feeding because of a toxin in their saliva.

Other than a little crop safety research with Endorse, IR-4 has not worked directly with cyclamen, although several of the diseases and pests damaging this crop have been studied. *Botrytis*, *Erwinia*, *Pythium*, *Phytophthora* and *Fusarium* have been some of the pathogens receiving attention in research projects over the last 3 – 4 years.

Screening for effective thrips products has been a key research priority. To read IR-4 summary reports on these projects, visit [ir4.rutgers.edu/ornamentals.html](http://ir4.rutgers.edu/ornamentals.html). 🌱



APS Compendium of Flowering Potted Plants

## Calendar of Events

Western Region Training  
February 7-8, 2012  
University of California, Davis  
Contact: Becky Sisco  
530.752.7634

Global Minor Use Summit 2  
February 21-23, 2012  
Rome, Italy  
Contact: Dan Kunkel  
732.932.9575 x 4616

2012 Food Use Workshop  
St. Louis, MO  
September 11-12, 2012  
Contact: Van Starner  
732.932.9575 x 4621

# Development of a Mosquito Control Pest Management Strategic Plan

— by Karl Malamud-Roam, IR-4 Public Health Pesticides Program Manager

When the Food Quality Protection Act (FQPA), with its extensive new data requirements for pesticides, was passed in 1996, there was concern in many pesticide user communities that important pest control tools could lose their registration if the data costs were too high, and that this could leave substantial gaps in the ability to respond to pest outbreaks. This concern was especially acute for growers of low acreage crops, for vector control personnel, and for others whose pesticide purchases might not be sufficient to allow manufacturers to economically cover the new regulatory costs. The new law responded to the risk that small pesticide markets might face critical shortages in their pest control toolboxes through several new mechanisms, including support for the development of Pest Management Strategic Plans or PMSP's. PMSP's are intended to serve as formal mechanisms for growers or other IPM practitioners to communicate their pest management practices and challenges, and in particular, any critical shortfalls in available pest control tools, to regulators, to researchers, and to funders (see [ipmcenters.org/pmstp/](http://ipmcenters.org/pmstp/)).

PMSP's are created with the support of USDA's Office of Pest Management Policy (OPMP) and the Regional IPM Centers, and they have been popular and effective. Until recently, almost all of the 100 PMSP's have been developed by agricultural commodity groups, but recent Notices of Cancellation of registration for significant public health pesticides have led to an effort, initiated by IR-4, to prepare a Mosquito Control PMSP. The FQPA addresses: vector control and public health pesticides (PHP's) as a specific pesticide "minor use", provisions for a Public Health Coordinator within the Office of Pesticides Programs, requirements that public health consequences be considered in regulatory decisions involving PHP's, and an authorization for potential federal funding if the costs of new data requirements caused registrants to pull PHP's off the market. Since the Act's passage, however, these provisions were not directly put to the test until recently, when the registrants of resmethrin, a pyrethroid used to control adult mosquitoes, and temephos, an organophosphate larvicide, announced that they could not afford the data-call-in (DCI) expenses associated with re-registration of their materials

([edocket.access.gpo.gov/2010/pdf/2010-11697.pdf](http://edocket.access.gpo.gov/2010/pdf/2010-11697.pdf); [edocket.access.gpo.gov/2010/pdf/2010-1583.pdf](http://edocket.access.gpo.gov/2010/pdf/2010-1583.pdf)). Vector control practitioners, represented primarily by the American Mosquito Control Association (AMCA), the Centers for Disease Control and Prevention (CDC), and the IR-4 Public Health Pesticides Program, submitted numerous comments and letters on the proposed cancellations, focusing on the small number of registered PHP's and the need to protect them generally, as well as providing information on use patterns and extraordinary attributes of these specific chemicals. However, efforts to secure an appropriation of federal funds to generate the data required by the DCI's have been unsuccessful, perhaps not surprisingly given current budget challenges. Proposals to satisfy the DCI's with existing data or to justify

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Larvicide application in Hudson County, New Jersey




# Mosquito PMSP

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waivers from some data requirements have been prepared, but it is not now clear whether these proposals will be accepted, whether the materials will in fact disappear from the tool box, or whether there will be some other outcome.

Resmethrin and temephos are not the only mosquitocides that have faced regulatory scrutiny in recent decades, from state or local as well as federal authorities. Many carbamates and

organophosphates have been taken off the market and mosquito larvicidal oils are increasingly scarce and scrutinized. While new control tools have also entered the market during this period, the loss or potential loss of well-known, reliable products has caused significant uncertainty in many corners about whether needed tools will be available in years to come not only for routine operations against familiar pests, but also to respond quickly and effectively to introduced mosquito species, disease outbreaks requiring high vector control efficacy, resistance to standard pesticides, budget cuts, or a number of other foreseeable challenges.

In light of these challenges and questions, IR-4 approached OPMP and AMCA early in 2011 to discuss the feasibility of developing a Mosquito Control PMSP similar to those in agriculture. Specifically, there is a need for an inventory of the chemical tools that are available or under development, a review of their limitations and the regulatory challenges facing them, and a presentation of priorities for research, regulatory assistance, funding, and training. These discussions led to a series of subsequent workshops, and has demonstrated that there is significant interest in the idea. Current plans include a final workgroup meeting in late October, and a draft PMSP for public comments for release in early 2012. 



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