

## Spotlight on Ornamental Horticulture

# Monsters! (Or WWE - Wrangling With Education)

— by Cristi Palmer, IR-4 Ornamental Horticulture Manager

If you can't tell yet, this Spotlight on Orn Hort is going to be a little different. This little green monster was my 'friend' recently helping me to communicate complex concepts to a diverse group of people at the CropLife America/Responsible Industry for a Sound Environment Spring Conference. I was invited to be one of a round-robin set of speakers presenting various aspects of how new uses of specialty products are researched, registered, and stewarded through commercialization. My charge was to cover problem identification and generally how those problems are solved with research & development – all in 8 minutes or less, repeated 7 times to rotating groups.

This was indeed a challenging task. Just the identification of problems, whether pathogen, pest, or weed issues could be an hours-long seminar, not to mention adding in concepts related to how new problems arise and how solutions are discovered or created. The end users needing solutions could be growers, landscape maintenance personnel or urban/structural pest applicators. And the audience



might have ranged in skill set and knowledge base from general environmental science to vast entomological expertise. These challenges led me to select images geared more towards a naive audience instead of a group of experts.

Hence, the arrival of my little green friend, who represented any number of different 'problems' ornamental horticulture growers, landscape managers, and pest control operators might encounter from structural pests to weeds in nursery containers. The various "screen beans", shown throughout this article



These "screen beans" are used to illustrate problem solving.

and available from the public domain, represented growers, researchers and others who might first observe a problem, identify it and its solutions, or research options for an uncontrollable problem.

None of these images were originally intended for a scientific audience, but they helped illustrate a very complex set of development pathways simplistically. When coupled with short 2 to 3 sentence stories like how researchers will study timing of product application because insect susceptibility might

*continued on pg 8*



## Inside this issue...

3 WSR Training

4 WSR Award Winners

5 New Product Corner

6 Zika Virus, *Aedes* Mosquito and IR-4

9 Hall of Fame Awardees

10 Path Forward

Dear Friends,

I recently attended the CropLife America Annual Conference. Many IR-4 liaisons from industry and EPA attend this excellent conference. Compliments to Jay Vroom and his team at CLA for the superior job in planning and organizing. During the conference I was asked repeatedly “what’s new with IR-4”? The stock answer contained three points:

1. IR-4’s food program had a record breaking year in 2015 - In case you missed it, IR-4 submissions supported 1175 new registration last year.
2. The 2016 research program continues to be extremely challenging - A significant number of food program studies have changed since we finalized the plan in October. The changes were due to a variety of reasons, including changes in company support, new data requirements and potential regulatory issues.
3. IR-4 critically needs a funding increase – IR-4 has suffered many years of funding reductions along with corresponding increases in expenses. IR-4 simply can no longer absorb this funding gap. New resources are needed or IR-4 will have to start the painful process of cutting back on research capacity. This challenge is on top of the situation at IR-4’s host land-grant universities where there is a need for these universities to recoup some of the expenses they have been covering for IR-4. Please see the Path Forward Communique on pages 10 & 11 for more information.

Through the efforts of many, IR-4 is involved with providing solutions for world changing problems. The Public Health Pesticide program is seeking solutions in controlling the *Aedes* mosquito, which carries the Zika virus (pages 6 & 7). The Ornamental Horticulture Program has developed a strategy for data development to protect pollinators, ensuring producers have access to necessary pesticides to control critical pests. The Biopesticide & Organic Support Program is supporting useful pest control alternatives.

In early March, IR-4 held its annual joint meeting between the Commodity Liaison Committee (CLC) and Project Management Committee. The CLC was established in 1991. It has recently grown to 33 members consisting of farmers (both large and small operations), commodity group representatives from various regions, food processors as well as representation from the chemical pesticide and biopesticide industries. During the meeting we discussed IR-4’s challenges. From that, the CLC developed strategies for assisting with future funding needs. Many new ideas were shared and activity has started.

Three long time members of the CLC have retired or resigned. Brian Flood of Del Monte USA and Lin Schmale of the Society of American Florist have retired from their day jobs. During the meeting we were able to thank them for all the help and assistance they have provided to IR-4. Also leaving the CLC was the Chair, Rich Bonanno. Rich has moved from the family farm and has relocated to North Carolina where he has joined North Carolina State University as Director of Cooperative Extension. We wish all three the best as they transition into a new phase of their lives.

Finally, the CLC members elected Mike Bledsoe of Village Farms for a two-year term as Chair. Todd Schultz of USA Dry Pea and Lentil Council, who consistently reminds us that “2016 is the International Year of the Pulse”, was elected Vice-Chair.

All the best,  
Jerry




Saying goodbye to CLC members Brian & Lin above, who have retired, and Rich, who has a new position as NCSU Director of Cooperative Extension.





Western Region IR4-Spring Training

The Western Region IR-4 held a field and laboratory GLP training meeting at UC Davis on March 15 & 16, 2016. Instead of rehashing the training agenda, we decided to let a few pictures tell the story. Through the collaboration of many IR-4 participants an excellent training session occurred covering the life of a field trial. The day in the life of a trial went from protocol development and field activities, through to laboratory analysis. If you're interested in any of the training presentations, they are available at the following url: <http://goo.gl/AhXCZD>. 



Potassium Phosphite/Walnut  
11504.16-CA122  
TRT 03



# 2016 WSR Awards

The Western Region presented two Field Research Directors with Technical Service awards at the recent UC Davis training meeting. Wilson Peng and Nathan Leach are exemplars of the quiet, steady forces that drive the IR4 data machine. All EPA data submissions start in an agricultural field and in the hands of someone who is paying attention to the many details of a GLP field study. Wilson has been the steady workhorse for twenty years of Washington State University field trials while Nathan Leach is a relative newcomer to the University of California at Riverside. The Western Region is grateful for the dedication and perseverance of these researchers who have delivered on the data front.

If you have reviewed or stumbled upon a Washington State University notebook from the 1990's (say myclobutanol/hops or fenpropathin/currants) you'll notice some of Wilson Peng's earliest studies at IR4. You might also notice Wilson's unique history



intertwined in the geography of his CV. Wilson was born in Vietnam and with his family immigrated to the United States via a refugee camp in the Philippines. Wilson's bright smile and quiet

demeanor almost hide the remarkable fact that he speaks three languages (Vietnamese, Chinese, and English), and as he trudged through years of GLP data, he also completed his BS degree at Washington State University. Wilson has worked on everything from hops and mint to asparagus and wasabi in his untiring efforts on

behalf of IR4. The Western Region honored Wilson with this technical service award in recognition of his remarkable and long standing contributions to the IR4 program.

The University of California at Riverside Field Research Center has benefited remarkably with the advent of Nathan Leach who became the new FRD at Riverside in 2015. Nathan may be at the start of his IR4 career, but his thorough and steadfast study conduct has been rapidly established.



When Field Research Centers go through transitions, the handoff can be challenging. Nathan stepped into his role as FRD at Riverside with considerable determination. Nathan focused on study details, learned the GLP documentation, and delivered the goods at UC Riverside. With his efforts and practical, unflappable attitude Nathan put UC Riverside on a steady course.

IR4's job and purpose is to deliver new crop production tools for specialty crop growers. As a program we plan, execute and, if all goes well and the regulatory stars align, deliver these tools to growers. Our task, as a program, is dependent on the consistent delivery of high quality and reproducible field data from researchers like Wilson Peng and Nathan Leach. Congratulations and appreciation goes out to both Wilson and Nathan for excellent work in support of the IR4 program. 🌱

## The IR-4 Newsletter Vol 46 No.4 Fall 2015

The IR-4 Newsletter is published quarterly for distribution to cooperators in our partner State/Federal/Industry research units, State and Federal officials, commodity groups, and private citizens. Material from the IR-4 Newsletter may be reproduced with credit to the publication. New Jersey Agricultural Experiment Station Publication No.P-27200-15-04. This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2015-34383-23710 and the Hatch Multistate project accession number 1008823 through the New Jersey Agricultural Experiment Station Hatch Multistate project NJ27202, with substantial cooperation and support from other State Agricultural Experiment Stations, USDA-ARS, and USDA-FAS. USDA-ARS. In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability.

**Editor: Sherrilynn Novack**  
IR-4 Public Relations and Communication Manager, 732.932.9575 x 4632,  
novack@aesop.rutgers.edu

**Newsletter Committee:**  
North Central Regional Director,  
**John Wise**, 517.432.2668.  
Western Regional Assistant Field Coordinator, **Stephen Flanagan**,  
541.688.3155.  
Southern Regional Field Coordinator,  
**Michelle Samuel-Foo**, 352-294-3991  
Southern Region Program Research Prog/Svs, Crd/QA  
**Robin Federline** 352-294-3983.  
Commodity Liaison Committee member,  
**Mike Bledsoe**, 407-493-3933, Village Farms.

**IR-4 HQ, 732.932.9575**  
Assistant Director, **Van Starnier** x 4621  
Ornamental Horticulture Manager, and  
Technical Copy Editor **Cristi Palmer** x 4629  
Technical Coordinator/Entomology,  
**Ken Samoil** x 4614  
Fungicide Coordinator, **Kathryn Homa**  
x 4604  
Public Health Pesticides Manager, and  
Technical Copy Editor, **Karl Malamud-Roam**  
x 4628



# New Product Corner

*This is for informational purposes only as IR-4 does not endorse a particular product or registrant.*

## Oxathiapiprolin (Fungicide —Syngenta Crop Protection, LLC)

**Introduction:** Unconditional registration for the new active ingredient oxathiapiprolin (DuPont™ Zorvec™) was granted by the EPA in August 2015 for various food crop uses. Syngenta secured a license from DuPont in 2013 to develop and market products containing oxathiapiprolin and has exclusive rights for foliar and soil uses on all crops in North America. Registration of oxathiapiprolin provides growers with a novel mode of action fungicide for use in controlling various oomycete diseases. It has been shown to be highly effective at very low use rates, exhibits no cross-resistance with any other product and provides preventative and residual disease control. Oxathiapiprolin is classified by the Fungicide Resistance Action Committee (FRAC) as a Group U15 fungicide, the only compound in this group.

### Other global registrations:

Registrations have been granted to DuPont in Singapore, Canada, South Korea, China, Australia, Japan, and Argentina, with several more countries expected in 2016.

### US trade names/formulations

**/labeled crops:** Orondis® Gold 200 (a 1.67 lb ai/gal suspension concentrate), Orondis® Opti and Orondis® Ultra (both 0.83 lb ai/gal oil dispersions) - for uses on ginseng, potato, tuberous and corm vegetables – crop subgroup 1C, bulb vegetables – crop group 3-07, leafy greens – crop subgroup 4A, head and stem

Brassica vegetables – crop subgroup 5A, fruiting vegetables – crop group 8-10, cucurbit vegetables – crop group 9, peas, succulent shelled and edible podded, and tobacco (see labels for specific crops, use patterns and other general directions for use)

### Orondis® labeled pest spectrum:

*Phytophthora capsici*, *P. infestans* and other species; downy mildew (*Bremia* spp., *Peronospora* spp., *Pseudoperonospora* spp.); black shank, etc.

### IR-4/PMC projects submitted with the first dossier (PR#):

cucurbit vegetables crop group 9 – cantaloupe (10620), cucumber (field and greenhouse - 10618, 10607), summer squash (10619); ginseng (10616); head and leaf lettuce (10653); bulb vegetable crop group 3-07 (10617 – dry bulb and green onion); succulent peas (10837); bell/nonbell pepper (field and greenhouse – 10621)

### IR-4 projects pending at EPA

**(PR#)** – asparagus (10623); basil (field and greenhouse – 10722, 10881); leafy Brassica greens, subgroup 5B (11125); caneberry (11720); crop group/subgroup tolerance revisions (Brassica head and stem group 5 – 11856, leafy greens subgroup 4A – 11855)

### Ongoing IR-4 residue projects

**(PR#):** 2015 – pomegranate (10915); 2016 – avocado (11795), hops (11759), strawberry (11719)

### Other IR-4 database requests

**(PR#):** papaya (11603 - to be covered by pomegranate plus avocado), orange, post-harvest (11312 – MFG objective), cacao bean (11883 – under evaluation)

## Fenazaquin (Miticide – Gowan USA)

**Introduction:** Unconditional registration for the new active ingredient (AI) fenazaquin was granted by the EPA in May 2015 for several food uses and non-food uses on various ornamental horticulture plants. This new AI registration provides growers with a selective contact miticide (quick knockdown with excellent residual control), active against all stages of various mite species. Fenazaquin also controls certain insect pests like psyllids, some whiteflies and scales; and it is a unique miticide as it also controls powdery mildew in cherries (*Podosphaera clandestine*) and on greenhouse and shade house ornamental horticulture plants (FIFRA Sec 2(ee) recommendation for Magus® Miticide). It is soft on beneficial insects and can be used effectively in resistance management programs. Belonging to the quinazoline class of chemistry, fenazaquin is characterized by inhibition of cell respiration (is a mitochondrial complex I electron transport inhibitor). The AI has been classified by the Insecticide Resistance Action Committee (IRAC) as a Group 21 acaricide.

### Other global registrations:

Fenazaquin has been registered and used successfully on a wide range of agricultural and horticultural crops in more than 40 countries worldwide.

*continued on pg 8*

# Zika Virus, *Aedes* Mosquito

— by Karl Malamud-Roam, IR-4 Publ

**Z**ika virus poses a major public health challenge throughout the Americas, and the IR-4 Project is helping to minimize its impact by promoting a robust toolbox to control the *Aedes* mosquitoes that spread the pathogen. Working with diverse partners, our primary goals include maintenance of a comprehensive inventory of *Aedes* control methods, assisting registration of novel products that control these vectors, retaining registration of critical existing pesticides facing regulatory challenges, and sharing information widely with researchers, registrants, regulators, and vector control staff.

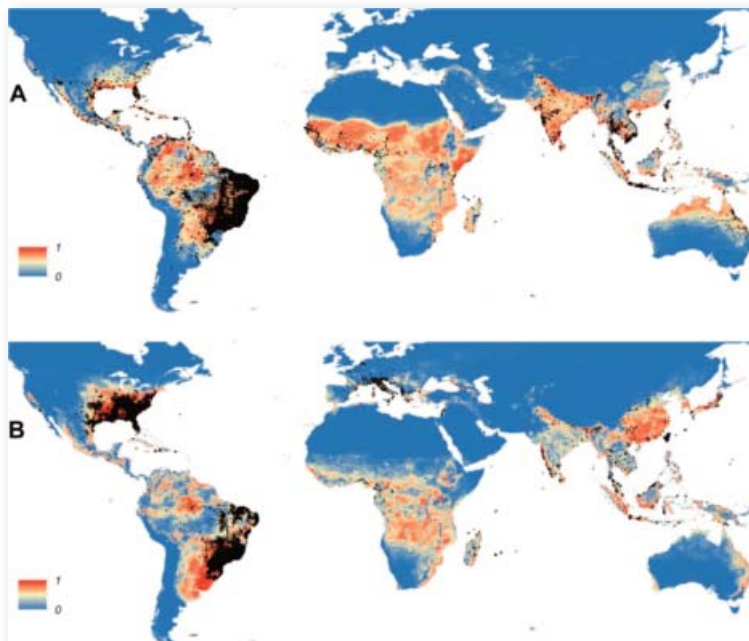


*Aedes aegypti* (left), the yellow fever mosquito, is the most important vector spreading Zika virus so far. *Aedes albopictus* (right), the Asian tiger mosquito, is potentially an even greater threat as the virus moves into the U.S. mainland.

Zika is primarily transmitted by bites from *Aedes aegypti* and *Aedes albopictus*, and preventing its spread will require interventions effective against both species. These mosquitoes are notoriously hard to control, as they lay eggs in small and dispersed sites, live their adult lives largely in houses, bite during the day, and maintain disease cycles even at low population densities. Thus, the vector control approaches that work well with malaria or West Nile virus, which are spread by *Anopheles* and *Culex* species respectively, are insufficient. Insecticide-treated bed nets have been the mainstay of

malaria control programs but do little to prevent *Aedes* bites, and area-wide larval or adult control methods which work well to reduce West Nile vectors have shown relatively little effect in reducing *Aedes*-borne pathogen transmission. Environmental sanitation can reduce *Aedes* habitats for a time, but the abundance of plastic trash in most urban areas makes this an unsustainable effort, and no biological control has been found to reduce these challenging pests significantly. Finally, while screens and repellents can provide personal protection, they do not reduce the abundance of mosquitoes or stop outbreaks unless everybody is protected. Thus, aggressive use of existing chemical control products, rapid development of novel *Aedes*-control interventions, and integrated use of all available tools will probably be required for effective control.

These *Aedes* species are “skip-ovipositors”, which means they lay their eggs in many small batches and, like all *Aedes*, lay their eggs on moist surfaces rather than in open water, with the eggs hatching in large numbers after they are wetted. Together, these features make larval control very difficult, especially with conventional spray equipment. A particular challenge is larval production in drinking water containers. The IR-4 project is supporting research on “autodissemination” of insect growth regulators (IGR’s) by egg-laying female mosquitoes, and field evidence of efficacy is starting to accumulate, although these efforts have not yet led to registration. In addition, we have conducted literature and label searches to identify products that might be useful in drinking water, and are working closely with potential registrants to bring these soon to Hawaii and Puerto Rico, where the need is most urgent.

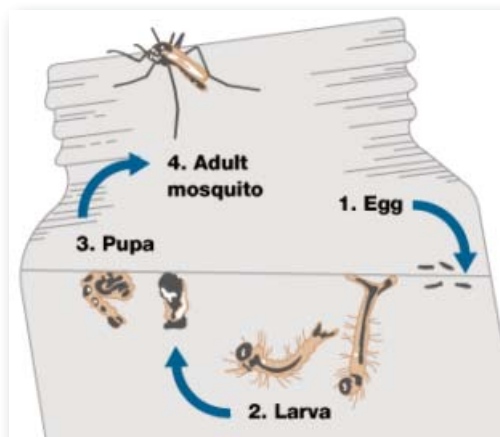


Global distribution of *Aedes aegypti* (above) and *Aedes albopictus*, showing the possible distribution of Zika, as well as dengue and similar viruses.

# Control, and the IR-4 Project

Feature

ic Health Pesticides Program Manager



*Aedes* life cycle in a plastic bottle. The adults leave to find mates and food, and then lay eggs in other small habitats. (figure courtesy of Nature.com)

Efforts to reduce bites from *Aedes* infected by Zika, dengue, or similar viruses have generally focused on adult mosquito control, and our review of the toolbox shows reasons for concern, for optimism, and, above all, for substantial activity in this realm.

The concerns come from observations that space sprays outdoors rarely enter buildings effectively, and that residents often fear indoor pesticide applications. Therefore, efficacy is generally a concern with chemical control of these vectors. In addition, the only two classes of insecticides – pyrethroids and organophosphates (OP's) – registered for use against adult mosquitoes in the U.S. both face major challenges. Pyrethroid resistance has been widely found throughout the world, and experience over the last decade in Mexico has shown that reliance on this class of adulticide alone can lead rapidly to overwhelming control failures. On the other hand, regulatory pressure on the OP's is increasing rapidly in the U.S., with increasingly stringent requirements in many realms, and in particular

relative to developmental toxicology and endangered species. Proposed new risk assessment methods for both human health and ecotoxicology could lead to reduced availability of OP's for vector control. While EPA has shown a willingness to retain these registrations for public health, the long-term commercial viability of this class of adulticides is uncertain. IR-4 is working to retain critical uses and search for viable alternatives.

On the other hand, optimism about adult *Aedes* control is justified by a decade of active mosquito control research aimed primarily at malaria control and protection of military personnel. A wide range of new product classes might help against *Aedes* species. Attractive toxic sugar baits (ATSB), lethal ovitraps (LOT), *Wolbachia* endosymbionts, new fabric treatments, and other novel vector control interventions have been introduced in this Newsletter, and many of these show good potential for Zika protection, even if they were developed for other purposes. One ATSB material based on garlic and at least three LOT products are now commercially available in the U.S. for both homeowner and mosquito abatement use, and other novel products are coming soon. IR-4 has worked closely with the developers of many of these products and we look forward to more product and experimental use permit submissions.

We continue to add to our inventory other new interventions, including GMO mosquitoes and the use of bacterial inclusions in

mosquitoes to block pathogen infection or transmission, which we have not directly supported.

In the longer term, there are great hopes that wholly new chemicals might be introduced soon for vector control. Large-scale chemical screening supported by the Innovative Vector Control Consortium (IVCC) will likely lead to the introduction of two or three wholly new insecticide chemical classes with no cross-resistance to existing tools within the next three years. IR-4 and IVCC are exploring collaboration.

New biopesticides in our portfolio might reduce pollinator risks in vector control, and companies with RNAi technologies for highly selective pesticides have approached us for regulatory support. Finally, we are working with new chemical screening efforts to incorporate results into our PHP Database.

Finally, there is good evidence that both established and novel *Aedes* control tactics can reduce mosquito populations, but there is little known on the relative value or the optimal integration of control tools, and IR-4 is promoting a major comparative efficacy trial in the coming year. With collaborators, we hope to clarify which elements of the toolbox most effectively reduce *Aedes* numbers and which combinations of actions provide the greatest value in disease protection at the lowest cost. While it is likely that Zika virus will continue to spread, we hope that IR-4 activities will keep its impact as limited as possible. 🌿



# Spotlight on Orn Hort

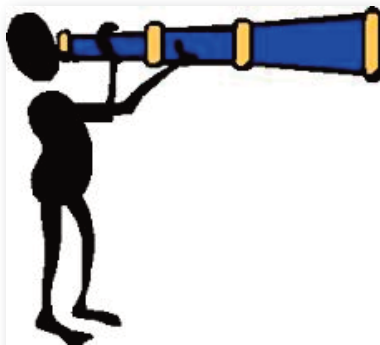
continued from pg 1

vary throughout a pest's lifecycle, these images helped engage various members of my audience .

So why am I sharing this story? Scientific literacy is a major impediment in developing sound science based US policy. Often times with complex issues, emotion trumps reason. Fear of the unknown and protection of those we hold dear drive many decisions without pausing to think critically about the topic or potential ramifications of the various options. Without solid information based on science, whichever choice stirs the most positive or the least negative emotions is selected.



Over the past several years, communication of scientific concepts has been a theme at the annual meetings of the American Pathological Society and the Entomological Society of America and at the recent CLA/RISE Spring Conference. My takeaway from these events include: 1) KISS (Keep It Simple and Short to describe the scientific topic in 30 seconds or less using everyday language or defining science terms that need to be included); 2) pictures or cartoons are worth a thousand words; 3) the same words or



images may have different meanings to different people based on their backgrounds (flowers may bring to mind a bouquet given for a special event, a certain favorite color or fragrance, or even source of food for pollinators); and 4) make it memorable. People remember stories where there are strong emotions or personal connections.

Engaging stories and images will influence policy more than dry facts.

As I continue to wrangle with developing those engaging, emotionally-positive outreach stories for future Spotlights, the Ornamental Horticulture Program will continue to develop solutions to dispel the little green monsters bedeviling ornamental horticulture crops.



## New Products

continued from pg 5

**US trade names/formulations/ labeled crops:** Magister® SC Miticide (1.6 lb ai/gal) - for food uses on cherries and almonds, and for use on Christmas trees and non-bearing tree fruits and nuts; Magus® Miticide (1.6 lb ai/gal) - for use on greenhouse and shade house ornamental horticulture plants, Christmas trees and field grown, outdoor ornamental plants, non-bearing tree fruits and nuts, and established ornamental landscape plantings (see labels for specific crops, use patterns and other general directions for use)

**US labeled pest spectrum:** Tetranychid mites (McDaniel, Pacific, Twospotted, European red mite, brown mite, Willamette, Spruce and Strawberry spider mites), Eriophyid gall mites (plum nursery mites), cherry powdery mildew (*Podosphaera clandestine*), powdery mildew on ornamentals

**IR-4 database requests:** blueberry (10384 – Mfg submitted), grape (11791 – under evaluation)

## eNewsletter is Available

Please let Sherri Novack know if you no longer wish to receive a hard copy Newsletter. She can be reached at 732.932.9575 x 4632 or via email at [novack@aesop.rutgers.edu](mailto:novack@aesop.rutgers.edu)



# IR-4 Recognizes Three Hall of Fame Recipients

IR-4's highest award is given to those who have made a considerable contribution to the program. In October, 2015, the Project Management Committee (PMC) approved the selection of three award winners for this prestigious award. The winners, Robert (Bob) Hollingworth, Mary Duryea and Diane Infante each served IR-4 for many years and IR-4 is better today because of their contributions.



Bob Hollingworth shares his memories of IR-4 at the spring PMC meeting.

## Welcome New CLC Members

IR-4 welcomes new Commodity Liaison Committee Members

Jill Calabro  
AmericanHort

Alan DeYoung  
Van Drunen Farms

Drew Gruenburg (Alternate)  
Society of American Florist

Keith Pitts  
Marrone Bio Innovations

Allen Mize  
Del Monte

Dennis Tristao  
J.G. Boswell Company



Mary Duryea with IR-4 Executive Director, Jerry Baron, at the spring PMC meeting.

Bob and Mary received their awards at the spring IR-4 PMC meeting. There, family and peers attended a reception on their behalf; it was a beautiful spring night in Washington, when Bob spoke about memories of his years as Director of the North Central region program. Mary was also delighted for being chosen and shared her fondness for the program. Mary was the Administrative Advisor (AA) for the Southern region and also held the position of AA chair from 2012 until her retirement in 2015. Mary was also very active in supporting IR-4 when attending the annual Southern Region Ag Experiment Station Directors' meetings.

Diane Infante worked at IR-4 Headquarters and was the master of the IR-4 database and the Food Use Program. She served IR-4 for nearly 40 years. Her knowledge of the IR-4 process made her the person



Diane Infante will receive her award at the National Education Conference in 2017.

to go to for answers to almost any question they had about the Food Use program. Diane retired in 2014, but will return to IR-4 to receive her award at the National Education Conference in early 2017.

IR-4 wishes to express its thankfulness to these three very worthy IR-4 Hall of Fame Award recipients. 🌱

## Hall of Fame Recipients

Charles	Compton	1987
John (Ed)	Swift	1987
Harold	Alford	1989
Tom	Archer	1989
James	Mahlstede	1989
Howard	Wilkowske	1989
Virgil	Freed	1990
Bailey	Pepper	1990
John	Bourke	1991
Duane	Coyier	1991
Robert	Menges	1993
Jack	Sheets	1993
Kenneth	Dorschner	1994
Willis	Wheeler	1997
Gene	Carpenter	1998
Dick	Guest	1999
Bob	Libby	2000
Pat	Sarica	2002
Takayuki	Shibamoto	2002
George	Markle	2003
Neal	Thompson	2003
Ray	Frank	2003
Hoyt	Jamerson	2003
Robert	Holm	2006
Charles	Mouer	2008
Marion	Miller	2013
Rocky	Lundy	2014
Lois	Rossi	2014
Robert	Hollingworth	2015
Mary	Duryea	2015
Diane	Infante	2015

Dear Friends,

On behalf of the IR-4 Project Management Committee (PMC), I am reaching out to IR-4 stakeholders and supporters to notify you of certain fundamental changes that will be occurring within the IR-4 system and organization. To best prepare for this, we have created a task force to identify the issues and to begin to explore our options. This effort is referred to as the IR-4 Path Forward and the task force's multiple objectives will be discussed in more detail in the next update.

### Background

Since 1963, the IR-4 Project has been the primary entity in the United States to facilitate registrations of conventional pesticides and biopesticides on specialty food crops (fruits, vegetables, nuts, herbs, spices) and non-food ornamental horticulture crops (greenhouse flowers, nursery, landscape plants, and Christmas trees). These registrations are necessary to prevent damage to the crops we eat, or the plants that enhance our environment. In this capacity, IR-4, with primary funding support, from the US Department of Agriculture's (USDA) National Institute for Food and Agriculture (NIFA), develops research data to support US Environmental Protection Agency (EPA) registrations and cooperates in the registration of pest management tools for specialty crops and specialty (minor) uses on major crops.

### Challenges and concerns

The majority of IR-4 research is conducted at Land Grant Universities/State Agricultural Experiment Stations (SAES) throughout the US. The SAES have historically received significant appropriations from State and Federal funds to support infrastructure and fulfill their mission to agriculture, both in terms of research and extension activities. In more recent decades, as public funds declined, this funding has diminished or ceased altogether. One way the SAES has closed the funding shortfall is to collect indirect costs (IDC) from research grants. IDC is a federally defined percentage of a grant that covers the cost of centrally-provided services such as electricity, heat, water, building and freezer maintenance, administrative services such as personnel, grant administration and purchasing.

In 2015, Cornell University's College of Agriculture and Life Sciences could no longer subsidize IR-4, as required by University policy, and other programs that did not recover sufficient IDC to cover the costs of centrally-provided services. Based on Federal regulations, SAES are not allowed to collect IDC on IR-4 grants. Cornell University policy resulted in the need for IR-4 to relocate its Northeast Regional Center. IR-4 sees this as the first university to initiate a policy for cost recovery and believes other universities will follow this trend. In fact, University of Florida recently proposed that no faculty member will be allowed to submit a proposal if it is an IDC rate below 12%.

The IR-4 Project Management Committee firmly believes that the long term sustainability of the IR-4 program depends on taking proactive steps to assure its regional units will continue to be hosted on university campuses. The IR-4 PMC is considering requesting a change in the USDA funding mechanism which would allow institutions to charge up to 10% IDC. While this still falls well below the full IDC rates at participating institutions, it will show an important "good faith" effort of support. This move will also greatly enhance the ability for IR-4 Administrative Advisors to defend hosting IR-4 operations to university administrators, and maintain IR-4 operations well into the future.

In addition to the IDC issue, the workload at IR-4 is increasing. There is an increased demand for product performance data needed to register emerging biopesticide technology. Additionally, certain companies are asking IR-4 to conduct performance trials before they will agree to register new uses. IR-4 is scheduling extra field trials and conducting more analytical analysis to ensure that there is adequate data to meet both EPA requirements and international trade standards. IR-4 labs are using more resources on modern chemicals which are often difficult to analyze.

**All told, IR-4 simply does not have the funding to continue to operate the same way we do now.**

### Moving Forward

While it is unclear at this point exactly how a potential 10% IDC and the increase/modified need for IR-4 data will impact IR-4 research, it is believed that the number of research studies IR-4 conducts and the personnel conducting this research will change. In order to clarify the impact of this change, the IR-4 PMC will examine ways to adjust

procedures to accommodate these changes. Concurrently, IR-4 will be conducting a comprehensive organizational review to identify different operational models (completed by summer 2016) and will continue to identify new potential sources of funding.

The PMC will issue frequent letters, emails, etc., to notify you of these changes and we will solicit input on implementation and further direction in moving forward. I look forward to sharing more detailed information as potential solutions and changes in operations are identified.

### Path Forward Working Group

The Path Forward Working Group was established to comprehensively consider how IR-4 can best operate after years of flat/decreasing funding; a changing budgetary environment in the Land-grant institutions; challenging regulatory requirements; and evolving industry needs. The Path Forward Working Group has formed five subcommittees and an Organizational Assessment Panel with the following members to look at various elements including:

- Changes Within the Land Grant Universities- John Wise, Doug Buhler
- Impact of a Reduction in Operational Funds - Jerry Baron, Dan Kunkel, Matt Hengel
- Regulatory and Environmental Changes-Dan Kunkel, Jerry Baron, Marty Marshall
- Transparent and Open Communication-Dan Rossi, Mike Bledsoe, Sherri Novack
- Alternative Funding Sources-Jerry Baron; Commodity Liaison Committee representative
- Organizational AssessmentPanel - Steve Slack, Professor Emeritus, The Ohio State University, former Director of the Ohio Ag Experiment Station; Jim Cranney, California Citrus Quality Council; John Abbott, Syngenta Crop Protection; Brian Scully, USDA-ARS; Kathryn Burkgren, Director of Organizational Development for Faculty and Staff, Cornell University

The work by many of the Subcommittees are progressing. In fact, most of the subcommittees provided an initial document for review at the March IR-4 Project Management Committee Meeting. For example, Changes Within the Land Grant University Subcommittee noted that there is ample evidence that multiple Land-Grant Universities that host IR-4 field research centers, analytical laboratories and coordination offices are putting new processes into place that mandates the collection of funds to cover some administrative costs. The Impact of a Reduction in Operational Funds Subcommittee developed some scenarios and models to account for many years of stagnate funding. The Subcommittee documents are being further refined and should be available for review and further input next quarter.

Meanwhile, crop protection product technology and regulation continue to evolve. IR-4 has witnessed some shifts in development of new crop protection products; there are fewer new chemical pesticides in the development pipeline while an increasing number of biopesticides are gaining registration. We expect this trend to continue with EPA's latest concerns over pollinator protection, endangered species, cumulative risk of pesticides, modeling of pesticides in water, worker protection, as well as the consolidation of companies that develop and register new chemical pesticides. Another significant trend is that for various reasons, the amount of data required by IR-4 for a new pesticide registration continues to increase, both in terms of residue exposure and product performance.

In IR-4's most recent strategic plan: IR-4 Vision 2020, the IR-4 Project Management Committee authorized an Organizational Assessment of existing IR-4 infrastructure, capabilities and stakeholder needs for IR-4 services. The goal of the Organizational Assessment is to provide recommendations on how to position the IR-4 Project for the future. The timing of the Organization Assessment fits right in with the larger and more comprehensive Path Forward activities.

The Organizational Assessment Panel (OAP) is scheduled to meet at IR-4 Headquarters the week of May 23. The OAP is being asked to critically evaluate the number and locations of the state and ARS coordination offices, field research centers/field research cooperators and analytical laboratories, as well as future expected workload, and suggest appropriate changes for a responsive and relevant IR-4. Specifically, the OAP is examining operational efficiencies and/or if savings can be achieved through reorganization of IR-4's units. Simply put, if you were starting IR-4 from scratch today, how would it best be structured to provide deliverables to stakeholders? It is anticipated that the Organizational Assessment report will be available July 2016.

Thanks in advance for your support as we undertake this extremely important dialogue and decisions on the future of IR-4. – Jerry





## Tolerance Successes

**Federal Register: January 13, 2016**

**Pronamide**

**Trade Name:** Kerb

**Crop:** Leaf Lettuce

**PR#:** 08709, 11278

**Federal Register: February 3, 2016**

**Cyazofamid**

**Trade Name:** Ranman

**Crop:** Herb subgroup 19A

**PR#:** 10265

**Federal Register: February 12, 2016**

**Diflubenzuron**

**Trade Name:** Dimilin

**Crop:** Cottonseed subgroup 20C, Carrot, Pepper/eggplant subgroup 8-10B, Peach subgroup 12-12B, Plum subgroup 12-12C, Tree nut group 14-12, Alfalfa (west of the Mississippi only)

**PR#:** 05526, 08643, 08664, 08678, 08910, 09599, 10110, 10111, 10112, 11420, 11421

**Federal Register: March 2, 2016**

**Penoxsulam**

**Trade Name:** Pindar

**Crop:** Pome fruit group 11-10, Stone fruit group 12-12, Small vine-climbing fruit (except fuzzy kiwifruit) subgroup 13-07F, Tree nut group 14-12, Olive, Pomegranate

**PR#:** 10866, 10867, 10899, 10944, 11609, 11610

**Federal Register: March 8, 2016**

**Zoxamide**

**Trade Name:** Gavel

**Crop:** Ginseng, Small vine-climbing fruit (except fuzzy kiwifruit) subgroup 13-07F, Tomato subgroup 8-10A, Tuberous and corm vegetable subgroup 1C

**PR#:** 09708, 11615, 11616, 11617



Dont forget to follow us.  
[www.facebook.com/IR4Project](http://www.facebook.com/IR4Project),  
[www.facebook.com/IR4OrnHort](http://www.facebook.com/IR4OrnHort)  
 and



@IR4\_Project and  
 @IR4Project.

NON-PROFIT  
 US POSTAGE  
 PAID  
 NEW BRUNSWICK, NJ  
 PERMIT NO. 157

IR-4 Headquarters,  
 Rutgers, The State University  
 of New Jersey  
 500 College Road East  
 Suite 201 W  
 Princeton, NJ 08540

Major funding for IR-4 is provided by Special Research Grants and Hatch Act Funds from USDA-NIFA, in cooperation with the State Agricultural Experiment Stations, and USDA-ARS.

Rutgers, The State University of New Jersey • University of California • Cornell University • University of Florida • Michigan State University

USDA  
 National Institute of Food and Agriculture

as  
 Agricultural Research Service

