

## A Few Words From Jerry

I hope everyone had a joyous holiday season. The beginning of the year is always a good time to reflect on the past and plan for the future. 2006 was another excellent and productive year for the IR-4 Project. The EPA approved 802 clearances that were the result of IR-4 submissions. While this number was slightly less than our all time high of over a thousand clearances in 2004, we believe these clearances will have a huge impact on the availability of pest management tools for specialty crop growers.

These substantial results are only accomplished through the expertise of those directly involved in the IR-4 Project including: Field Research Directors and their technical assistants; the IR-4 Field Research Coordinators; the Laboratory Research Coordinators and their staff of chemists; the IR-4 Quality Assurance Unit; and the team at Headquarters (HQ). In total, IR-4 is made up of a workforce of nearly 125 highly motivated and productive individuals

whose efforts for IR-4, in most cases, is not a job but a passion.

Working with IR-4 are the partners of the program. We could not be as successful as we are without the help and assistance of key people at the State Agricultural Experiment Stations / Land Grant Universities, USDA, (CSREES and ARS) and the crop protection industry, as well as those at the regulatory agencies (EPA, California's DPR and Canada's PMRA). All of these partner groups continue to provide valuable assistance, knowledge and resources, ensuring IR-4's continued success.

Along with our successes, 2006 was a year of change and transition. My mentor for many years, Dr. Robert (Bob) Holm, retired and I was given the honor to be named the sixth Executive Director of the IR-4 Project. I feel so fortunate to have the opportunity to work at a job I love and where the work makes a solid contribution to helping growers. Another major

“...the one constant is that IR-4 employees care about growers...”

change that affected the IR-4 HQ team was the relocation of our office. Our new office, in Princeton, is situated about 12 miles south of the old North Brunswick office. While it was challenging moving 26 associates and 43 years worth of data, we did it without any major issues. Credit goes to the entire IR-4 team for their hard work and patience in working through some of the minor moving glitches.

Throughout my 20 year tenure with IR-4 there have been so many changes, but the one constant is that IR-4 employees care about growers and they care about helping them manage the pests, diseases and weeds that threaten their crops and livelihood.

As we look forward to 2007, we face new

challenges. Of major concern, and our foremost challenge is that of financial resources. Today, IR-4 operates on a budget comparable to that of

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# IR-4 2007 Award Winners

IR-4 Awards are presented each year to recognize outstanding accomplishments of those affiliated with IR-4. This year, winners were selected from ARS, the North Central, Southern and Western regions.

## ARS

The USDA/ARS team selected **Melanie Copenhaver** to receive the **IR-4 Technical Service Award** for her work on over 160 IR-4 Ornamental projects. She is being recognized for her efficient and thorough reports, as well as going above and beyond in setting up a cooperative agreement with the

*ARS selects **Melanie Copenhaver** to receive the IR-4 Technical Service Award.*



Northwest Horticulture Company. This agreement has resulted in allowing IR-4 to conduct numerous ornamental projects within its limited budget.

One notable accomplishment was achieved in Melanie's first year with ARS when she designed and installed a drip irrigation system at the Prosser, WA station to water the numerous pots used in IR-4 ornamental trials.

## North Central Region

The North Central Region has chosen **Mary**



*North Central Region selects **Mary Hausbeck** as the 2007 IR-4 Meritorious Service Award winner.*

**Hausbeck** (featured in the IR-4 Newsletter vol.36 no.4, October 2005) to receive the **IR-4 Meritorious Service Award**, Mary is being recognized for establishing a solid greenhouse and field program in support of the IR-4 mission of providing safe and effective pest management solutions to specialty crop growers. As part of this program, Mary has organized a technical staff that is trained and committed to excellence. In response to industry need, her laboratory has expanded testing of products for efficacy.

More recently, Good Laboratory Practice (GLP) field studies have become a component of her program to support the needed registrations for specialty crop growers in Michigan and the North Central Region. Mary has an ambitious research and extension program and works with several graduate students. She is a regular contributor to extension newsletters and frequently publishes in refereed scientific journals.

Additionally, the North Central Region has selected **Sylvia Morse** as the recipient of the

**IR-4 Technical Service Award**. Sylvia has worked at the Michigan State University (MSU) IR-4 Research Center since 2001. She is being recognized for her work in planning and conducting about 25 residue trials each year. In doing so, she arranges various locations for the research trials, which are conducted on campus research farms, at other MSU research stations, or in grower fields. She also maintains the Master Schedule and coordinates applications with Eric Ott, the field application specialist. Additionally, Sylvia gathers all data and completes the Field Data Books, prepares and ships samples, maintains freezer and other logs, coordinates shipping with carriers, and maintains pesticide storage and inventory. During 2005 and 2006, Sylvia also conducted several trials with the "Electronic Pen".



*North Central Region Technical Service Award winner **Sylvia Morse***

Sylvia is in regular contact with the Regional Field Coordinator, Study Directors, QA auditors and other IR-4 staff in order to solve challenging problems and obtain answers to the many questions that arise each year.

Sylvia is meticulous in conducting experiments and in completing Field Data Books, which are often submitted before they are due. Sylvia is known for her pleasant attitude and willingness to respond to students or staff requesting assistance. She is a great asset to the MSU IR-4 center and to the national IR-4 program.

## The Southern Region

The Southern Region has selected **Allen Straw** to receive the **IR-4 Meritorious Service Award**. He is being recognized for providing outstanding service and promoting the



*Southern Region selects **Allen Straw** as the 2007 IR-4 Meritorious Service Award winner.*

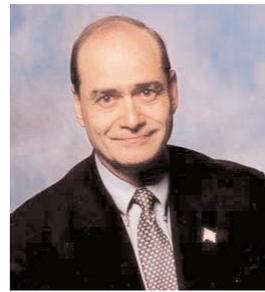
IR-4 program in Tennessee and Virginia. Throughout his involvement with IR-4, Allen has participated in a number of fruit and vegetable conferences where he interacts with growers and listens to their needs. He is always ready to promote IR-4 during these conferences and through field days, county meetings, and local radio and television programs. In addition to his active promotion of IR-4 at conferences, he is a regular participant at the annual IR-4 Food Use

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# IR-4's Administrative Advisors Chair Named Executive Director for NERA

The Northeastern Regional Association of State Agricultural Experiment Station Directors (NERA) announced in December that Dr. Daniel Rossi, Chair of the IR-4 Administrative Advisors, and member of the IR-4 Newsletter Committee, will become their new Executive Director on February 15, 2007.

The NERA is one of five regional associations with responsibility for facilitating the cooperation of scientists in the land grant university system of state agricultural experiment stations on research topics of regional and national interest. The research is supported in part by the Regional Research Fund, which is a federal appropriation authorized by the Hatch Act.



As the Senior Associate Director of the New Jersey Agricultural Experiment Station, Dan worked in multi-institutional collaborations, and in his new role, Dan will build on that experience as he focuses on regional and national issues and activities that advance the policies and programs of the NERA and its constituents.

"After nearly 30 years association with the land-grant system," Dan commented, "I am more convinced than ever of its importance and relevance

in today's society. I am very happy to have this new opportunity to contribute to the success and continuation of this system. The Northeast faces many unique challenges and opportunities and I look forward to working with the directors of the Northeast to face these challenges and capitalize on the opportunities. The region has many great land grant institutions with rich histories of excellence in scholarship and service. My goal is to facilitate integrated, multi-institutional research in the region and assist in identifying new resources to support that research."

Additionally, Dan feels he will still be in a position to champion IR-4 at both the regional and national levels. IR-4 wishes Dan great success at NERA. ▲

## 2006 New Hires, SLRs and Retirees

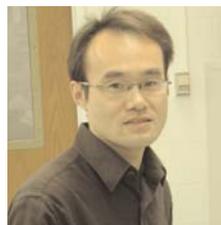
### New Hires ARS

**John Harvey** has been appointed IR-4 Research Technician at the Yakima Agricultural Research Laboratory in Wapato, WA. John brings 10 years of farming experience from tree fruit to row crops. He spent 2006 under the tutelage of Tom Treat where he performed various GLP residue trials.



### North Central Region

The Michigan State University (MSU) Analytical Laboratory welcomes **Cunzhang (Johnson) Zhang** to its program. Zhang is a visiting scientist from the



Institute of Food Safety of the Jiangsu Academy of Agricultural Sciences, Nanjing City, China. He began his work with IR-4 at MSU in August and will continue to work up to 2

years in the IR-4 lab at MSU. There he will receive training in analytical methods and GLP and will work about 50/50 on IR-4 and non-IR-4 projects.

### IR-4 Headquarters

When you call into HQ you will most likely be greeted with a polite and unfamiliar accent. Meet **Uta Burke**, IR-4 HQ receptionist. Uta joined IR-4 as a temporary employee in 2005 and became a permanent employee in 2006. Uta is originally from Germany (so if you need something translated from German to

English, let us know) and has settled with her husband and daughter in East Brunswick, NJ. She is a certified X-ray technician and has traveled extensively as an au-pair throughout Canada, Egypt and California.



**Bharti Patel** also joined the IR-4 HQ team in 2006 as a Quality Assurance Specialist. Bharti brings over 15



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# New Hires, SLRs, Retirees continued from page 3

years of Scientific and Quality Assurance experience to IR-4. She has held positions as a chemist for BASF and FMC Corporation and was most recently a Quality Assurance Specialist for Xenobiotic Labs. Bharti has extensive experience writing Standard Operating Procedures and Good Laboratory Practice (GLP) reports. She has a broad background in regulatory requirements and has gained proficiency in auditing and inspecting various types of GLP studies.

Another new face you'll see at HQ is that of Debbie Carpenter. Debbie joined IR-4 as an Interdisciplinary Study Director. Debbie comes to



IR-4 from SFBC Analytical Laboratories and Rohm and Haas, where she was employed as a Senior Scientist. Debbie has had a wide range of experience conducting plant, animal environmental fate and residue studies under GLPs. She has prepared methods, validation and analytical reports and her experience includes study design, protocol and final report preparation.

## New State Liaison Representatives (SLR)

**Southern Region**  
**James E. Boudreaux**  
Extension Specialist at the Louisiana State



**Louisiana SLR, James Boudreaux**

University (LSU) Agricultural Center, Department of Horticulture in Baton Rouge, Louisiana. James obtained a B.S. in Plant Science from Nicholls State University and received his M.S. and Ph.D. from LSU in Horticulture.

Boudreaux has been employed at LSU for 24 years. He was first employed in the Horticulture Department where he taught and conducted research on peaches and pecans. Since 1985 James has completed extension work on commercial vegetable crops, citrus and strawberries and some of his recent publications include:

- *Vegetable Crop Handbook for the Southeastern U.S. - 2007*
- *Projected Costs Of Establishing And Operating A Louisiana Citrus Grove*
- *Performance of Carrot Varieties: Fall 2005 to Spring 2006*
- *Performance of Beet Varieties: Fall 2005 to Spring 2006*

All of the afore mentioned publications are available at the LSU website:

[www.lsuagcenter.com/en/communications/authors/JBoudreaux.htm](http://www.lsuagcenter.com/en/communications/authors/JBoudreaux.htm).

Alabama's new SLR is **Charles Gilliam**. Charles has served on the Horticulture faculty at Auburn University since 1980 working primarily in the area of weed control in nursery crops. He has been an extremely valuable



resource to the nursery and landscape industry. He is the outgoing president of the Southern Region International Plant Propagators Society (IPPS) and is the recipient of the Southern Nursery Association's Porter Henegar award for his research efforts. In 2006, the IPPS presented Charles with the Sidney B. Meadows Award of Merit. This is the highest honor awarded to a member of the Southern Region of North America. He received the award for outstanding contributions to the IPPS and to plant propagation.

Charles received his B.S. and M.S. degrees at the University of Tennessee-Martin and his Ph.D. from Virginia Polytechnic Institute.

**Western Region**  
Plant Pathologist **Mary Burrows** is the new state

liaison representative for the state of Montana. Mary runs the Plant



Disease Diagnostic Clinic for Montana growers and conducts disease research in chick peas and winter wheat.

Some of her recent publications include:

- *The genetic regulation of polerovirus and luteovirus transmission in the aphid Schizaphis graminum.*
- *The relationship between Aphis glycines and Soybean mosaic virus incidence in different pest management systems.*

Mary describes her role as "a communication link between the university and the agricultural community."

Another new SLR in the Western Region is **Maury Craig**. Maury's duties have expanded beyond his ongoing assignment as a Field Research Director at the Las Cruces Field Research Center to include serving as the New Mexico SLR. Maury conducts field research on chile, onions, pecans, lettuce and other high value food crops that are important to New Mexico agriculture.

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# Winners

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Workshops where he leads discussions on priority pest control product needs for the southern region. Allen also assists field research directors in Tennessee carry out and complete more than 35 IR-4 sponsored field trials and does this in compliance with GLPs. He has also worked at developing field efficacy and phytotoxicity data to support the registration of products for specialty crop uses. This data led to more than 27 labels for necessary pest control in the South.

## Western Region Meritorious Service Award

The Western Region recognizes **Ray Ratto** as its Meritorious Service Award winner. Ray has a long history of service to IR-4 through the Commodity Liaison Committee (CLC) and participation at annual Food Use Workshops. Ray is the quintessential grower cooperator because that's exactly what he is: the pure essence of a grower who will drop what he's doing and answer your questions, provide you a celeriac or Swiss chard field for experiments, or tour you through his checkered fields of vegetable cornucopia with boundless enthusiasm. Ratto Brothers' farm certainly is a beneficiary of the IR-4 program, but

Ray's contribution benefits his fellow growers throughout the United States. The fact that a grower of Ray's distinction and professionalism actively participates in IR-4 activities translates into our projects having a direct and practical service to the grower community. Ray is the spokesman designate for those leafy greens which are not lettuce, and that plethora of root and tuber vegetables that we know only on the periphery of our palate. Ray's ability to address with the practical knowledge of a grower struggling to produce a myriad of specialty crops gives credibility to our discussions that would not exist without his input.

Ray Ratto deserves recognition for his enthusiastic support of the IR-4 program and if you're ever on Beckwith Road in Modesto, California you'll experience first hand the unique world according to Ray. The Western Region is proud to have a grower like Ray who has directly helped the University of California with countless efficacy and magnitude of residue trials which have resulted in new compounds available to specialty crop growers. Ray provides management input to IR-4 through his activities on the CLC, project selection input at Food Use Workshops and research input through access to his farm's unique vegetable crops. They just don't make many rutabaga, celeriac, bok choy, swiss chard, parsnip, mustard

greens, fennel, radicchio, tomatillo and daikon growers like Ray Ratto!

For its **Technical Service Award**, the Western Region selects **Ron Wight** as its winner. Ron has been a valued member of the IR-4 field program since 1994. His expertise in agriculture on a wide variety of diverse crops from apples to wheat has contributed greatly to developing sound data for the program. Conducting approximately 20 trials per year over the last thirteen years, his work has been instrumental in many of IR-4's successes in obtaining crop tolerances across multiple disciplines and crops.

Ron's expertise is vast from post harvest work in apples and potatoes to drying hops to processing mint oil. Ron's knowledge of agriculture is of great value to the program as our trials



*Western Region IR-4 Technical Service Award Winner, Ron Wight*

are to reflect commercially acceptable crops grown and treated in a manner typical of agriculture production. Ron provides this expertise to the program.

Additionally, Ron is always willing to take on last minute "add-on" trials to help us out. Those last minute trials typically appear sometime during mid to late season, generally during the harvest and are usually urgent to have completed "this" year. If there's a will, there's a way and Ron finds us a way.

Congratulations and many thanks to the 2007 IR-4 Award Winners! ▲

### The IR-4 Newsletter Vol 38. No.1 January 2007

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#### Editor: Sherrilynn Novack

IR-4 Publications Communications Coordinator 732.932.9575 x 4632, novack@aesop.rutgers.edu

#### Newsletter Committee:

IR-4 Administrative Advisors Chair, **Daniel Rossi**, Northeast Regional Field Coordinator, **Edith Lurvey**, 315.787.2308. North Central Regional Director, **Bob Hollingworth**, 517.432.7718. Western Regional Assistant Field Coordinator, **Stephen Flanagan**, 541.752.9291. Southern Regional Field Coordinator, **Charlie Meister** 352.392.2399, and Assistant **Robin Adkins** 352.392.1978. USDA/ARS Field Representative, **Ben Fraelich**, 229.386.3609. Commodity Liaison Committee member, **Dave Trinka** of MBG Marketing, 269.434.6791. State Liaison Representative, **Charles Gilliam** IR-4 HQ, Assistant Director, **Van Stamer**: Technical Coordinator /Entomology, **Ken Samoil** and Quality Assurance Specialist, **Jane Forder** 732.932.9575.

*Western Region IR-4 Meritorious Service Award Winner, Ray Ratto*



*The following article is an excerpt from Michigan Agricultural Experiment Station's Futures Magazine Vol. 24 Nos. 1&2. The research described was funded in part by the IR-4 / EPA Biopesticide Demonstration Grant Program.*

By flooding apple orchards with the scent of sexy female codling moths, Michigan Agricultural Experiment Station (MAES) researchers hope to refine pheromone control of the pests.

When a male codling moth emerges from his cozy cocoon in the spring, his first instinct is to find a female and mate. As night falls the males fly around apple orchards on the prowl, searching high and low for that special someone. To attract suitors, female moths secrete pheromones, chemical scents that lead the males to the insect equivalent of a midnight rendezvous. Soon after, the female deposits up to 70 eggs in the trees. After larva hatch from the eggs, they bore holes in the fruit which are impossible to sell.

Codling moths have been one of the tree fruit industry's biggest challenges ever since the pest immigrated to the United States with European colonists more than 200 years ago. Today, the moths are present in all fruit-growing regions of the world, infesting apples, apricots, pears, walnuts, quince, peaches and plums. Codling moth larva are depicted in cartoons and drawings as a worm crawling out of an apple.

"Codling moth is the worst apple pest in Michigan," said Larry Gut, MAES entomology scientist. "Growers primarily have used broad-spectrum insecticides, especially organophosphate compounds, to control these pests for more than 40 years. But insecticide resistance, worker safety concerns and the public's interest in reducing the use of pesticides are leading growers to look for alternative control measures."

"Up to 80-90 percent of a fruit crop can be damaged if a grower doesn't have a control program in place to manage codling moth," added David Epstein, IPM program tree fruit integrator. "This pest can cause great economic hardship from growers-if even a single codling moth larva is found in a truckload of fruit, the entire load is rejected by the processor or packing house."

Once in the apple, the larva munches through the flesh to the fruit's core, leaving a tunnel filled with its droppings, called frass. The worms live in the core until they're mature, then crawl out to the fruit and drop

from the tree to pupate. Some larvae crawl back up the trunk to spin their cocoons in crevices in the bark. They emerge as moths and the cycle starts all over again.

### Scents and Sensibility

MAES scientists have been studying the use of pheromones to disrupt moth mating since 1991. Tags or ropes impregnated with synthetic female moth pheromone are hung from trees in the orchard. The goal is to disrupt the male moth's ability to find females and prevent mating. No mating means no larvae, and no larvae means no wormy apples.

"Mating disruption has been studied for 15 years, and no one really knew the exact mechanism of how it worked," Epstein explained. "We could see the results, so we knew it was successful, but we were unsure of exactly what was happening in the male moths."

Four hypotheses emerged: 1) Desensitization, which includes both habituation (the moth central nervous system becomes accustomed to the scent sensory overload and the

moth's brain quits paying attention to the incoming information) and adaptation (the moth's antennae, which are its olfactory organs, lose sensitivity).

2) Sensory imbalance (the combination of the synthetic and authentic female pheromone in the orchard interferes with the males' response).

3) Camouflage (the blanket of synthetic pheromone blend masks any pheromones put out by the females).

4) Competitive attraction (the males don't find the females because they spend too much time following the false synthetic pheromone trails).

MSU scientists are major proponents of the competitive attraction theory. If this mechanism is indeed how mating disruption works, then having many more sources of synthetic pheromone in the orchard than there are females should make the disruption more successful. To improve the efficiency and economic viability of pheromone-based codling moth control for Michigan growers, MAES scientists are examining the finer points of synthetic pheromone application and composition.

"As soon as the moths emerge, they want to mate," Epstein said. "Their fecundity goes down each day-research has shown that if we can delay the time it takes a female moth to be mated by four days, its ability to produce viable offspring is greatly reduced. So if we can stop them from

# Love is in

— by Jamie DePolo, Michigan





mating for those first four days, we'll have very successful moth control."

Fruit growers in some areas, most notably Washington state, rely heavily on pheromone-based mating disruption for moth control. Despite its introduction in Michigan more than 12 years ago, codling moth mating disruption has not been widely adopted because of differences in the states' topography, weather and diversity of insects with which growers must contend.

"When it comes to growing tree fruits, major differences exist among different regions of the country," Epstein explained. "It's more of a challenge to grow apples in Michigan than in Washington, for example, because we have a greater diversity of insect pests and diseases to manage here."

### More Pheromone Means More Confusion for Males

MAES scientists are experimenting with various ways to place more pheromone sources in apple orchards. Traditionally, pheromones have been applied by hanging polyethylene ropes or other reservoir-type dispensers containing the compound in tree tops just before bloom. The pheromone products must be purchased and applied (by hand) before the grower knows whether codling moth will even be a problem because the goal is to prevent pest populations from ever reaching damaging levels. It can be

hard for a grower to justify spending more than \$100 per acre for pest control before he or she knows if the pest will even be a problem. "With pheromones, the bigger the area you treat, the better the control," Gut said. "But all the research on areawide control had been done out West. We thought it was time to study it in Michigan. We want to help growers reduce their risk-growers were coming to us and asking for this type of research. We want to demonstrate the effectiveness and economic viability of environmentally sustainable approaches to managing the codling moth in Michigan apple production."

In 2004, the scientists started by working with cooperating growers on 800 contiguous acres on eight farms in Kent County to demonstrate the potential of areawide codling moth control. Now growers in three regions of the state are participating in the project on more than 2,500 acres. To be as successful as possible, an areawide approach requires that all growers involved use pheromones on all of the acreage on their farms. If one section is not treated with pheromone, it puts the entire area at risk because moths could potentially mate in that area and females could lay their eggs anywhere. Using pheromones also requires growers to intensively keep track of moth levels in their orchards. Pheromone disruption doesn't work as

well when moth levels are extremely high. If numbers of moths go above a certain threshold, then insecticide treatments need to be incorporated into the control program. Options for growers that are being used in the areawide project that pose extremely low environmental risk include codling moth granulosis virus and some new EPA approved reduced-risk insecticides. The granulosis virus infects only codling moths and is harmless to humans, fish, wildlife, livestock and beneficial insects.

"When using pheromones, growers have to maintain a thorough, weekly monitoring program using pheromone-based traps along with visual inspection of the fruit for damage throughout the disrupted area," Epstein explained.

Using pheromones costs more and requires more knowledge," Gut added. "Growers have to scout, and they have to know where the pest is in its life cycle. It can be daunting. That's why we're doing this project in collaboration with growers. Offering education and training is a big part of what we're doing. The number of acres of on-farm research that are involved speaks to the support we have from growers. It's incredible. We're very appreciative of their help with this project."

Early results showed that the areawide approach was most effective in orchards where pheromone

disruption had been used before for at least a year. In these orchards, the number of moths caught in traps-a way to measure the moth population and keep track of moth biological development over-wasn't more than two per trap. Orchards that were using pheromone disruption for the first time had about 20 moths per trap.

"It wasn't surprising that disruption was most successful where it had been used previously," Epstein said. "We're trying to drive down codling moth population levels over time. The more successful we are at lowering population pressures, the better disruption will work on its own. This will reduce the need for companion insecticide sprays and improve the grower's return on the investment in disruption products.

"Adopting an areawide approach accomplishes several things that individualized, block by block pheromone treatments can't," Epstein continued. "First, it has been shown repeatedly around the world that this is a technology that works best on large, contiguous acreage. Secondly, by pooling their resources and sharing information, the participating growers are better equipped to make informed decisions on the application and timing of additional control measures that will drive down codling moth populations and keep them down." ▲

# New Hires, SLRs, Retirees continued from page 4

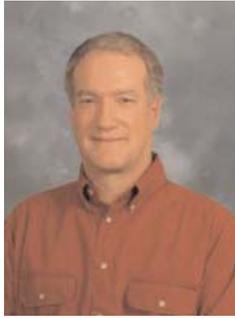


Photo by Victor Espinoza NMSU

Maury will represent the needs of New Mexico specialty crop growers to the IR-4 program.

**Sylvia Rivera** has joined the University of California at the Riverside IR-4 Field Research Center. She joins Chuck Farrar in conducting IR-4 magnitude of residue trials in Southern California. Sylvia will be



conducting trials as a Field Research Director in a diverse mix of specialty crops including avocados, citrus, and vegetables.

**The North Central Region**  
The North Central Region welcomes Sharon Clay as as the SLR for South Dakota. **Sharon** is a faculty member in the Plant



Science Department, of South Dakota State

University. She teaches the course, "Weed Science", that helps students develop an understanding of weeds, herbicides, and their fate in the environment. She is very familiar to the people in IR-4 as she runs several IR-4 field research projects annually.

The North Central Region has also appointed two SLRs representing Kansas. **Raymond Cloyd**, whose interest is in ornamental entomology and is an associate professor of entomology at Kansas State University (KSU), will be the lead representative for Kansas. Ray has co-



authored two books, *Pests & Diseases of Herbaceous Perennials : The Biological Approach* published by Ball Publishing in 2006 and *IPM for Gardeners* , published by Timber Press, in 2004.

Ray has held positions in private industry as a landscape maintenance supervisor and greenhouse manager. He and his family recently moved to Kansas State University from University of Illinois. Representing Kansas along with Ray will be **Kassim Al-Khatib** from the Agronomy Department, at Kansas

State University. Kassim's area of interest is weed science. He conducts research on weed



physiology and plant-herbicide interactions. Kassim teaches graduate level courses, and supervises graduate and undergraduate students. He is also the product manager for a new experimental herbicide that KSU owns. As the product manager, Kassim performs market assessments and field research evaluations under different cropping systems.

Some of his recent publications include:

- *Grain sorghum response to simulated drift from glufosinate, glyphosate, mazethapyr, and sethoxydim*
- *Alachlor and metolachlor transformation pattern in corn and soil.*

Kassim was honored with the 2005 Outstanding Weed Scientist Award by the Western Society of Weed Science.

Ray and Kassim are very experienced and familiar with IR-4. This may be the first time that IR-4 has had two State Liaison Reps from one state but the North Central Region

views this as a great strength due to their different focus areas and willingness to represent IR-4 at state and regional levels.

## 2006 Retirees

**Samuel Fernando** retired



as the Southern Region Quality Assurance Coordinator in December 2006 after 9 years of service with IR-4. Sam has provided excellent service and training to the Southern Region and its personnel. We thank and applaud Sam's efforts as Quality Assurance Coordinator for the Southern Region, and wish him the best on his retirement.



We also want to wish **Bob Holm** who officially retired in December, (featured in the IR-4 Newsletter vol.37 no.4, October 2006) much happiness in his retirement.

IR-4 welcomes all new employees and SLRs and wishes the best of luck to Sam and Bob in their retirement. ▲

# The Life of a Study: Acetamiprid/Strawberry

*The IR-4 Newsletter has been following a study throughout its 30-month life in order to give our audience a better understanding of all phases involved in a study. IR-4 Study Director, Ken Samoil, worked closely with the editor in providing facts and information and has partnered in writing this series that followed the acetamiprid study on strawberries. This study was chosen because it can be tracked in all regions and ARS.*

## **Part V - QA Review of the Final Report and Petition Preparation**

Once the Study Director is satisfied that all of the components of the final report draft have been included (except for the QA Statement), the report may be submitted to Quality Assurance for review. The designation of the QA reviewer for each final report is primarily based on which laboratory conducted the analytical phase of the study. If the samples were analyzed at one of IR-4's Leader Laboratories, then the QA Officer for that region must conduct the review or assign another qualified QA reviewer to do the job. If the samples were analyzed at any other lab (USDA-ARS, registrant, or private laboratory), then the QA review is usually conducted at IR-4 Headquarters (HQ), but some of these reports are also sent to a contract QA reviewer to even out the work load. Because the samples in the Acetamiprid/Strawberry study were analyzed at the North Central Region Leader Laboratory, the designated QA reviewer was Dr. Michael Chen of Michigan State University. Dr. Chen contracted with Dr. Ken Kanagalingam to perform the review; Dr. Kanagalingam has worked with IR-4 on a contract basis for about a decade and has reviewed many final reports.

Although the data were on hand in the autumn of 2005, a draft final report could not be submitted for QA review at that time because of delays in obtaining responses from some field researchers to the QA findings listed in the Field Data Book audits. IR-4 HQ Standard Operating Procedures require that responses have been received to all findings in earlier audits before QA review of the final report may begin. The Study Director may be able to respond to some findings, but usually input is needed from the field cooperators. In July of 2006, all findings had been received and the final report for the strawberry study was sent to Dr. Kanagalingam for review. Dr. Kanagalingam sent his findings to IR-4 HQ within three weeks ("QA1" audit), and the Study Director, Ken Samoil, responded to those findings within a week. Some of those responses involved making revisions to the final report. In August the Study Director's responses were reviewed by an IR-4 HQ QA auditor, Jane Forder, who then submitted a "QA2" audit to the Study Director that pointed out any findings from Dr. Kanagalingam's report that had been inadvertently overlooked when the report revisions were made. In early September the Study Director made his final responses and report revisions, and at this time the data from the study were entered into the Archives at IR-4 HQ (Good Laboratory Practices require that study data are archived just prior to the completion of the study). Jane Forder then issued a Quality Assurance Statement that was incorporated into the final report. Shortly thereafter the report was signed by Ken Samoil and Jerry Baron, the Executive Director of IR-4, bringing the study to a close.

In late October Ken prepared the first draft of a petition, an administrative volume that includes tolerance proposals and summaries of final reports. When multiple tolerances are going to be proposed for a single pesticide, these are included in the same petition. Thus, a petition may be accompanied by several final reports. In this case, however, IR-4 had only conducted one study beginning in 2004 with acetamiprid, so the petition was written to include only the proposed strawberry tolerance. Until recently, the proposed tolerance was chosen by the Study Director and was usually just slightly higher than the highest residue found in any of the treated samples in the study. The EPA has asked IR-4 to begin using a tolerance calculator spreadsheet that takes into account the variability of the residues in the samples. When the strawberry residue results were entered into the spreadsheet, the calculator determined that the appropriate tolerance should be 0.60 parts per million.

Ken sent the draft petition via e-mail to the registrant representative for acetamiprid, and requested the following materials that are required with any petition submission to EPA: a Letter of Authorization from the registrant to allow the EPA to access other documents that have previously been submitted by the registrant, multiple copies of the proposed pesticide label (with the strawberry use instructions included and highlighted), an application form for the label changes, and a Notice of Filing (a document that summarizes the residue data, the toxicological data, and the environmental data for the pesticide). Once these documents were received from the registrant in December, they were packaged with the petition and final report and sent to the U.S. EPA for a decision on the tolerance request. Under the current regulations, a decision should be published within 15 months. Also, because field trials were conducted in Canada to support a registration there, a copy of all of the above will be submitted to Shirley Archambault, the Canadian Coordinator at Agriculture & Agri-Food Canada, for submission to the Canadian regulatory agency in order to establish a Maximum Residue Limit and obtain a registration in Canada. ▲

# IR-4 2006 Ornamental Program

The Ornamental Horticulture Program continues to support an industry of over \$15 billion sales annually representing about 30% of all specialty crop sales in the U.S.

In 2006 the IR-4 Ornamental Horticulture Program conducted more than 1210 trials, approximately the same as in 2005. These trials included fungicides, insecticides, herbicides and plant growth regulators.

## 2007 Research Priorities

Priorities for IR-4's 2007 ornamental horticulture research program were established at the 2006 IR4 Ornamental Horticulture Program Workshop, held October 10 - 12 in Denver, CO. Over 100 university and USDA-ARS scientists, extension personnel, grower organization representatives, crop protection industry representatives and other stakeholders attended this three day workshop. Participants were asked to review potential projects and select the most critical projects to be included in the research program and funded with USDA-CSREES funds. The pathologists elected to continue researching *Phytophthora* and *Pythium* management tools. The entomologists selected thrips as the primary project with tools to manage coleopteran pests

also ranking highly; a third limited project was added for *Lygus* control. The weed scientists agreed to investigate tools to manage sedges as the primary project for 2007, both for crop safety and efficacy, with some efforts to finalize certain aspects of the 2006 high priority weed project. The researchers involved in plant growth regulators decided to continue with the two priorities from 2006: evaluating PGRs for their impact on woody ornamental branching and for their impact in maintaining or enhancing herbaceous plant shelf life.

## Regulatory Update

During 2006, the Insignia (pyraclostrobin) label added ornamental horticulture uses for the first time. IR-4 conducted 13 efficacy trials with Insignia demonstrating good efficacy, data which aided BASF in selecting appropriate label rates. Also during this past year, crop safety data for Outlook (dimethenamid) was provided to support Special Local Need registrations in Washington and Oregon to manage weeds in and around conifer and deciduous seedlings. IR-4 conducted 5 crop safety trials with Outlook supporting these SLN registrations.

## Q-Biotype Task Force

During 2006, IR-4 continued to participate as

a member in the Ad Hoc Task Force for Bemisia Q-Biotype whitefly. Through the Q biotype task force, IR-4 sponsored six researchers to test the efficacy of standard whitefly products and examine the ability of new tools to manage this whitefly. While the research results from the Fall 2006 trials are still being submitted, the preliminary answer is that this pest is manageable with some of the current tools and with newly introduced products. As long as growers are maintaining good integrated pest management practices including scouting and rotating with different chemical classes, the Q-biotype whitefly will not pose a significant problem in the short term to US ornamental horticulture growers.

## 2007 Ornamental Survey

The 2007 Ornamental Survey is a tool to help in planning for the next year's research priorities. The goal is to learn from growers, landscape care professionals, researchers and grower groups just what are the pressing needs end users face in terms of pest management.

The survey asks respondents to identify the top three disease, weed and insect concerns and to select if new products are needed or if current labels need to be expanded to include the concerns. It also asks the respondents

if more phytotoxicity or efficacy research is needed to address the concerns. The survey is available through late summer. The results are tallied and participants at the Ornamental Workshop use the results to help determine research priorities for the following year.

The survey is now available on the IR-4 website at [ir4.rutgers.edu/ornamental/survey/](http://ir4.rutgers.edu/ornamental/survey/) and we welcome your comments. ▲

## Contact Information for IR-4 Regional Field Coordinators and ARS Director

**Northeast Region**  
Ms. Edith Lurvey  
315.787.2308  
[ell10@cornell.edu](mailto:ell10@cornell.edu)

**North Central Region**  
Dr. Satoru Miyazaki  
517.336.4611  
[ncr4@msu.edu](mailto:ncr4@msu.edu)

**Southern Region**  
Dr. Charles Meister  
352.392.2399  
[cmeister@ufl.edu](mailto:cmeister@ufl.edu)

**Western Region**  
Ms. Rebecca Sisco  
530.752.7634  
[rsisco@ucdavis.edu](mailto:rsisco@ucdavis.edu)

**USDA-ARS**  
Dr. Paul H. Schwartz  
301.504.8256  
[schwartp@ba.ars.usda.gov](mailto:schwartp@ba.ars.usda.gov)

# Clearances Sep. '06- Nov. '06

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 is not necessarily 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, regardless of whether a tolerance has been established for a chemical on that crop. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label in their respective home state. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical.

**Product: Diflubenzuron (I)**

**Trade Name: Dimilin**

**Crops:** Brassica, leafy greens, subgroup 5B; Turnip greens, Wheat, Barley, Triticale, Peanut, Pummelo **PR#:** 08032, 08031, 08028, 08023, 08024, 09499

**Federal Register:** 11/29/2006

**Product: Paraquat (H)**

**Trade Name: Cyclone,**

**Gramoxone, Starfire**

**Crops:** Vegetable, cucurbit, group 9; Ginger, Tanier, Onion, dry bulb, garlic, shallot, Wheat, Triticale, Okra

**Paraquat (H) continued**

**PR#:** 07824, 01476, 02978, 02982, 02985, 03069, 03070, 03926, 06224, 06503, 00292, 01913, 02983, 04968

**Federal Register:** 9/26/2006

**Product: Fenbuconazole (F)**

**Trade Name: Enable,**

**Govern, Indar**

**Crops:** Bushberry subgroup 13B; Cranberry, Grape **PR#:** 06368, 06853

**Federal Register:** 9/22/2006

**Product: Propiconazole (F)**

**Trade Name: Alamo, Banner, Brak, Orbi, PropiMax, Tilt**

**Crops:** Leafy petioles subgroup 4B; Cranberry, Mint,

**PR#:** 06320, 07359, 09419, 06350

**Federal Register:** 9/22/2006

**Product: Pendimethalin (H)**

**Trade Name: Pendulum, Prowl, Stomp**

**Crops:** Fruit, pome group 11; Vegetable, fruiting group 8, Fruit, stone, group 12; Pomegranate, Strawberry, Onion green, Leek, Onion

**Pendimethalin (H)**

*continued*

welsh, Shallot, Juneberry **PR#** 06608, 06760, 06609, 06610, 06611, 06674, 02219, 02740, 02741, 02739, 06669, 05097, 04578

**Federal Register:** 9/27/2006

## Join the IR-4 Listserv to Receive Monthly Reports

Starting this month, Jerry will be sending out his monthly reports via the IR-4 Listserv.

The monthly reports will contain a detailed listing of IR-4 registration successes as well as general information about ongoing work at HQ. The report will contain PR numbers and names of those involved in the research. If you have not joined the listserv and wish to be added, send an email with your request to Sherrilynn Novack at [novack@aesop.rutgers.edu](mailto:novack@aesop.rutgers.edu).

## Jerry *continued from page 1*

2002. Everyone realizes how expenses have skyrocketed since 2002, yet our budget remains flat. The new Congress offers some hope, but like their predecessors in the 109th Congress, the new Congress will be facing some very tough decisions.

The IR-4 Project Management Committee (PMC) and the IR-4 Commodity Liaison Committee (CLC) will be working diligently to inform those who decide on IR-4 resources of the past and present

successes and future goals that can only be achieved through continued investment in the Project. But we must also work together to make sure our resources are expended in the most effective and prudent manner— another goal for 2007.

Garnering resources takes a valiant effort and I want to take this opportunity to express my personnel thanks to IR-4 CLC, who have been instrumental in this effort. The IR-4 CLC is a group of volunteers whose membership consists of representatives from specialty crop

commodity groups, individual specialty crop growers or food processors. They continue to provide excellent suggestions on how the IR-4 Project can better serve the needs of their particular industries and constituents. We are truly fortunate to have such a passionate group of stakeholders who contribute so much energy and talent to the work of IR-4 and I look forward to strengthening this bond in 2007.

Finally, I want to thank all of you for your contributions to IR-4's success. ▲

## Calendar of Events

### Calendar of Events

#### Western Region Field Training Meeting

January 17 -18, 2007

Honolulu, HI

#### Western Region State Liaison Meeting

March 21-23, 2007

Fort Collins, CO

#### 2007 Food Use Workshop

September 11 - 13, 2007

Tampa, FL

#### Ornamental Workshop

October 10-12, 2007

TBD

#### Combined Southern/Northeast State Liaison Meeting

October 16-18, 2007

Nashville, TN

#### National Research Planning Meeting

October 30 - 31, 2007

Princeton, NJ

## Join us in Tampa for the 2007 Food Use Workshop.

The 2007 Food Use Workshop will be held at

The Embassy Suites Hotel  
3705 Spectrum Boulevard  
Tampa, FL 33612

Located on the campus of the University of South Florida, the Embassy Suites Tampa – USF/Busch Gardens gives you access to the very best Tampa has to offer. The hotel is near major league sports stadiums, the Florida Aquarium – Tampa Bay and the exciting Busch Gardens theme park. IR-4 has secured a special room rate of \$114.00 per night single; \$124.00 double for guests attending the Workshop. This rate is also available the weekends before and after the Workshop.

The 2007 IR-4 Food Use Workshop will be held September 11-13, 2007. Make sure you mark this on your calendar and don't forget, the cut-off date for reservations is August 20, 2007.

Reservations can be made by calling 813.977.7066. Mention the IR-4 Food Use Workshop to secure the special rate. For more information contact: Cheryl Ferrazoli at ferrazoli@aesop.rutgers.edu or by calling at 732.932.9575 x 4601. ▲



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



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