IR-4 Executive Director to Retire in September

After eight years of superb leadership that contributed to the substantial increase in productivity of the IR-4 Project, Executive Director, Bob Holm has decided to retire. His announcement stated, “Dr. Holm has served as Executive Director of IR-4 since 1998. Since then, Bob has provided outstanding leadership and vision not only to IR-4, but to the broader pest management community. He has implemented strategies within the IR-4 Project to make it more effective, efficient, and responsive to stakeholder needs. Bob has linked academia to private and public decision makers in a unique and constructive way. He has accomplished this through developing partnerships for IR-4 with government agencies and private sector firms to increase the impact of and funding for the program. A recently conducted external review of the IR-4 Project noted that IR-4 is a ‘model for partnership cooperation.’ Under Bob's leadership, IR-4 has developed an outstanding relationship with the EPA, which has resulted in a more rapid registration of products critical to U.S. agriculture and rural communities. These products support a more profitable and sustainable agricultural industry. Bob has also increased the visibility of the IR-4 Project through a forward thinking and aggressive communications strategy. Both the quantity and quality of communications from the program have increased substantially under his leadership. The program is now using a broad array of communication vehicles to tell the story of IR-4 and to increase access to the program for current and potential stakeholders. The net result has been substantially increased support and funding. His outstanding management skills, his visionary leadership, and his superb people skills will be missed.”

Handing over the reins

Dan also announced that Dr. Jerry Baron will succeed Bob Holm as Executive Director, Bob Holm, has decided to retire.

New AA for NC Region

The IR-4 North Central Region welcomes a new Administrative Advisor. Doug Buhler, was recently named Associate Director of the Michigan Agriculture Experiment Station and Michigan State University’s Associate Dean for Research with the College of Agriculture and Natural Resources. Doug was born and raised on a small dairy farm in southern Wisconsin. He received his B.S. degree from the University of Wisconsin-Platteville and M.S. and Ph.D. degrees (both in agronomy) from the University of Nebraska. He joined Michigan State University as Professor and Chair of the Department of Crop and Soil Sciences, a position he held from 2000 to 2005. From October 2003 to March 2005 he had a 25% appointment as State Leader for Agricultural Programs for Michigan State University Extension.

Doug’s professional activities have generated over 330 publications including 125 refereed journal and review articles. He has been an author or editor of three books. Doug is a Fellow of the American Society of Agronomy, Crop Science Society of America, Weed Science Society of America, and North Central Weed Science Society.

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Alien Ant Invasion!

— by Stephen Flanagan, Western Region Assistant
Field Coordinator

"Imagine going to a bar tonight and drinking your weight in beer..." quipped Dr. Michael Rust of UC Riverside during the opening session of a recent California symposium on sugar feeding ants. This illustration of the basic biology of Argentine Ants preceded a more detailed discussion of "infrabuccal pockets" and "proventricular feeding habits." Suffice it to say in layman's terms that Argentine Ants are prodigious feeders of sweet liquids, but how did they become such a problem in California orchards? The story starts back in 1908 when the pesky critter was first observed in Southern California. Although there are over 270 native species of ants in California, the Argentine Ant is so adept at invading disturbed habitats like orchards that Dr. Rust imagines a future where Argentine Ants (and another invader, the red imported fire ant) have completely displaced the native ants.

One unique aspect of this ant invasion is that the ants themselves are not the primary pest problems in the orchards and vineyards.

The pest control problem arises from the Argentine Ant's ability to tend and protect pests like scale and vine mealybug. These pests are often kept under control by natural predators which feed on these persistent orchard pests. Enter the Argentine Ant and the biological balance is upset and suddenly the scale and mealybug pests become serious problems.

Dr. Kent Daane from UC Berkeley described how Argentine Ants will actually snatch flying wasp predators out of the air and crush them to protect vine mealybugs. The ants protect the mealybugs in order to "harvest" the sweet honeydew excreted by the plant feeding mealybugs. In vineyards these mealybugs invade the grape cluster and in severe infestations can make the fruit unharvestable.

Through the work of Dr. Rust and other University of California researchers a technique utilizing ant bait stations is proving effective to control Argentine Ants. The ants actually drink their weight in sugar water (along with a small dose of pesticide) and then share this fluid with other ants. Through successive "feed and shares", the liquid ant bait is carried back into the nest. The delayed dose of the pesticide then controls the entire ant colony.

Sound like interesting biology? Yes, but where did IR-4 get involved? The hook to IR-4 came through Dr. Keith Dorschner's critical efforts with the EPA to allow the use of these ant bait stations without obtaining food tolerances. Because the pesticide never comes in contact with the crop and is used at very low rates, Dr. Dorschner worked with the EPA to designate the use of these bait stations in agricultural fields as a non food use.

The concerted efforts of UC researchers, the California Department of Food and Agriculture's Dr. Kris Godfrey (who coordinated the symposium), IR-4 and a willing manufacturer resulted in a biologically sound ant control product. To quote a grower struggling to control grape mealybug in his coastal vineyard, "I'd buy truck loads of devices and hire bus loads of workers to place them in my vineyards." This grower and others will now have an effective and safe pest control tool to control this invading alien ant.

To learn more visit the Western Region IR-4 website at: wrir4.uc davis.edu and click on the ant image to view just how 30,000 ants per day visit an ant bait station.

Photos courtesy of Kent Daane and Mark Battany.

Clearances
Dec. '05 - Feb. '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.

Product: Boscalid
Trade Names: Emerald, Endura, Pristine
Crops: Celery, Spinach
Federal Register: February 8, 2006
Update: Biopesticide Program

In 2005, the IR-4 Biopesticide program submitted three out of the four approved products posted on EPA’s Biopesticides and Pollution Prevention Division’s (BPPD) workplan. These products included Verticillium isolate WCS850, Agriphage and Sorbitol Octanoate.

Verticillium isolate WCS850 induces resistance against Dutch Elm Disease in American Elm. This product has been used in the Netherlands since the early 90’s. Agriphage is the first bacteriophage product approved by BPPD. This use is for the control of bacterial diseases in tomato and pepper. Sorbitol Octanoate is a type of sugar ester initially developed by Dr Gary Puterka of USDA and is now approved for the control of small soft bodied insects.

This year, the Biopesticide program assisted in the approval of a Crisis Exemption for the use of 9,10-Anthraquinone to deter cranes from feeding on corn seedlings in Wisconsin, Michigan and Minnesota. Spearheaded by the International Crane Foundation, University of Wisconsin and submitted by the Wisconsin Department of Agriculture, Trade and Consumer Protection, this product is an alternative to the chlorinated hydrocarbon insecticide Lindane.

Registration packages recently submitted to the EPA include a weak strain of zucchini yellows mosaic virus which is for the cross protection of cucurbits against zucchini yellows mosaic virus. Tropical soda apple (Solanum viarum) is an aggressive perennial weed native to South America, and recent infestations are present in 10 states. This noxious weed has already caused great economic losses in Florida where it has spread to over 750,000 acres. Dr. Charudattan of the University of Florida has developed a tobacco mild green mosaic virus which causes rapid desiccation of this weed. Also, the IR-4 Biopesticide Program recently submitted an Experimental Use Permit and full registration package to EPA to facilitate the use of this product for control of tropical soda apple.

Grants

Each year, the IR-4 Biopesticide Program funds grants to support Biopesticide research. The primary objective is to further the development and registration of biopesticides for use on specialty crops, or for minor uses on major crops. When initiating the call for proposals, IR-4 invites researchers and in some cases, registrants working with public institutes to submit biopesticide projects in the Early, Advanced or Demonstration stages. This year, in an effort to promote the integration of the needs prioritized in the Food Use Workshop, as well as emerging pest problems, IR-4 encouraged research proposals involving:

- Thrips management with bioinsecticides,
- *Phytophthora capsici* control with biofungicides,
- Soybean Rust - Control on horticultural beans,
- Q-biotype whitefly management with bioinsecticides,
- Aquatic weed management with bioherbicides, and
- Seed treatments as an application method for biopesticides.

Over 100 proposals were received. IR-4 will fund 42 projects totaling $493,795.

To learn more about these projects, visit the IR-4 website at ir4.rutgers.edu.

IR-4, Helping Find Solutions for Growers

IR-4 was created to bring pest management tools to growers. Sometimes, this allows IR-4 to help small companies with regulatory assistance. If industry, regardless of size, has a product deemed valuable to specialty crop growers, then academia, industry

continued on back page
From February 28 through March 2, 2006, over 170 IR-4 Field Research Directors (FRD), field technicians, Laboratory Research Directors (LRD), lab analysts/technicians, Regional Field Coordinators (RFC), Quality Control reviewers, Quality Assurance (QA) officers, Study Directors (SD), Project Management Committee (PMC) members, and Canadian colleagues convened in downtown Phoenix, AZ to attend the 2006 IR-4 National Education Conference (NEC). The two-and-a-half-day NEC was the first national training event since 2001 when a similar conference was held in San Antonio, TX. The conference was organized by the IR-4 Training Committee (TC) as a result of a directive of the PMC, which instructed IR-4 to organize a national training event every three years for the benefit of everyone involved in IR-4 GLP research.

Conference co-chairs, IR-4 Assistant Director, Dan Kunkel, and IR-4 TC Chair, Van Starner, kicked off the meeting with an introduction, followed by welcomes from the IR-4 Western Regional Director Marion Miller, and PMC Chair, Marty Marshall. Western RFC, Rebecca Sisco introduced the Director of the Arizona Department of Agriculture, Donald Butler, who welcomed attendees to the Grand Canyon state. He talked about Arizona currently being the business of farming houses, and shared that 11 people move into Maricopa County every hour. He went on to state that Agriculture is the third largest industry in Arizona with tourism and tech coming in first and second. In the Southeast corner of AZ, Eurofresh Farms maintains over 150 acres under glass and farming is expanding throughout the state. He discussed the diverse crops of Arizona, and stated that a good majority of winter produce comes from Yuma. One major challenge facing Arizona growers is labor, which, he stated could be alleviated by a guest worker program with Mexico. He also informed the group that Arizona and New Mexico would collaborate on an Agriculture Anti-terrorism table-top workshop this spring.

IR-4 Executive Director, Bob Holm delivered the "State of the IR-4 Project," which included new initiatives and future challenges. His talk was followed by Rocky Lundy, Chair of the Commodity Liaison Committee, who discussed the status of current and future funding. Dan Kunkel reviewed 2005 IR-4 successes, previewed the 2006 field program, and commented on the significant impact of PRIA (Pesticide Registration Improvement Act) on coordination of IR-4 submissions to EPA. He concluded his presentation with a 12-minute "not-yet-ready-for-prime-time" video of the faces and spaces that make up IR-4 HQ - a classic that apparently made up the "top-5 list" for many attendees.

Three special events concluded the first day's activities, starting with a keynote address by Laurie Richards from Laurie Richards & Associates, Washington, D.C. She enlivened conference participants as she enthusiastically encouraged them to "Strive to do things better, don't just get the job done!" Following Laurie's interactive session, the 2005 IR-4 Meritorious, Special and Technical Service Awards were presented to recipients in attendance. Finally, an outdoor reception brought everyone together for an evening of lively conversation between old friends and new acquaintances that continued long after refreshments ran out.

On Wednesday, IR-4 lab and field participants attended sessions geared specifically for either lab or field issues. Through mid-afternoon the lab group learned about formatting and writing SOPs from Daniel Myers (EPA Office of Compliance); heard the latest about new analytical instrumentation from Dustin Yaworski (Agilent Technologies); and discussed with Charles Stafford (EPA Analytical Branch) analytical method modification and trends in enforcement methodology from registrants.

Attendees with primarily field responsibilities, experienced a variety of learning opportunities. First, guest speaker Andrew Landers (Cornell

IR-4 Awards Recipients were presented with plaques. (l to r) David E. Yarborough, receiveth the Meritorious Service Award from the Northeast, Judith A. Collins, also from the Northeast, region received the Technical Service Award. Diane Infante, who was nominated the Northeast and Western regions received the Special Service Award. The IR-4 Meritorious Service Award from the Southern region was presented to Jau W. Yoh and Jason Seward, presented with the North Central Region’s Technical Service Award.
two, 1-hour mini-courses which they chose from a selection of four courses. Daniel Myers taught a "Writing/Reviewing SOPs" course during both hours--this was a follow-up to his lab session in the morning. Likewise, Andrew Landers taught "Application Technology" during both hours, providing more in-depth instruction in follow-up to his morning presentation. A third course on the do's and don'ts of "Conducting Performance Trials" was taught by John Palumbo (entomologist and IR-4 state liaison for AZ) and Mike Matheron (plant pathologist), both from the University of AZ. Finally, another tag-team, interactive presentation by Martin Beran (Western Region QA), John Roncoroni (FRD at U.C. Davis) and Van (SD) focused on their different "Perspectives on QA Audits and Responses."

At the end of the day all attendees met in a general Q&A session, and heard from IR-4 Study Director, Ken Samoil about 2006 changes in IR-4 Field Data Books and protocols, and from Van who reviewed the IR-4 Advisory process. On Thursday morning all participants convened for final sessions of the conference. Northeast RFC, Edith Lurvey and Van discussed the need for very detailed crop sampling descriptions in FDBs, and provided actual FDB examples that encouraged lively discussion. Emy Pfeil (ARS LRD) led a lab/field/QA panel discussion (Bronson Hung - U.C. Davis lab, Jane DeCann - Cornell lab, Bob Kon - MI State lab, Mike Dunlop - Ohio State Univ. field, Berry Tanner - Univ. of FL field, Martin - QA, and Michelle Mitchell - CA field contractor) on a range of issues pertinent to the lab/field interface.

Electronics were the focus of the rest of the morning, as Kathryn Hackett-Fields first addressed current and future sources of GLP/EPA/IR-4 information. Dan Kunkel summarized IR-4's involvement in electronic data submissions to EPA, and gazed into his crystal ball at the future of electronic data capture of all IR-4 data. Finally, Karen Briggs of 3C Company, provided an overview of IR-4's 2005 "JustWrite" 3C Pharma Pen Pilot Project. Her preview of 2nd-year plans served as a transition for the 2006 JustWrite participants (FRD, RFC, QA, SD) who met Thursday afternoon for special Pharma Pen training.

Survey comments to-date have indicated general satisfaction with the content and conduct of the NEC. A document entitled, "Phoenix Proceedings", is being prepared by the TC subcommittee (Edith Lurvey, Marylee Ross, Ken Samoil, Van Starner, and John Wise) that organized the event and will be published by mid-2006.

A sincere "Thanks" goes out to all those who helped make this conference a huge success!
Efficacy and Crop Safety Data: The Key to PCR Acceptance

— by Charlie Meister, IR-4 Southern Region Field Coordinator

With the trend of agrochemical company (registrant) mergers and acquisitions putting a strain on company budgets, more and more companies are requiring efficacy and crop safety data in order to support researchable Project Clearance Requests (PCRs). Anyone needing a product to control pests on specialty crops is encouraged to submit a PCR, which is the primary tool used by IR-4 to prioritize its research and provides a means for tracking each project from cradle to grave. An accurate, complete and thoroughly researched PCR is essential to the successful completion of all IR-4 projects. IR-4 has always encouraged the submission of performance data with each PCR but, in recent years, this has become more of a requirement.

Several older PCRs remain under registrant evaluation or are given a low priority due to lack of satisfactory efficacy and crop safety data. Other product/crop needs are simply not requested by scientists, consultants and growers due to lack of adequate performance data.

So where does this research come from?

Responding to the need to provide this data, the Southern Region formed the Southern Region Performance Program (SRPP) by using specified funding to carry out the research. Working with IR-4 Headquarters (HQ), the SRPP identifies and funds food use, ornamental or biopesticide research projects from proposals submitted by cooperators. The goal of the SRPP is to use the data to support future PCR requests.

The SRPP has grown substantially during its three years of operation, and in 2005, it funded 111 projects in twelve southern region states. The research is funded through proposals submitted to the Southern Region Field Coordinator. From there, IR-4 HQ, agrochemical companies, growers and researchers are consulted to be sure the need is justified and information is accurate. Additional treatments are added to include the newest pest control products and to answer current needs. The requested funds are negotiated and dispersed. The SRPP has been able to support many more trials than would have been otherwise possible by leveraging limited southern region funds with funds from over 30 contributors including agrochemical companies and in recent years, growers and growers associations.

More than 230 Food Use projects were selected for research in years 2005 and 2006. At least 64 of these projects were supported with efficacy and crop safety data developed by the SRPP.

Raspberry Crown Borer Efficacy with Bifenthrin, E2Y45, and Novaluron

Personalities in the News

Retirement

Bob as IR-4 Executive Director. He continued, “The IR-4 Program and the pest management community could not have a more capable, committed, and experienced professional to take over the reins than Dr. Jerry Baron. Jerry joined IR-4 and Rutgers University in 1986 as Coordinator and Assistant

Research Professor. Jerry served as National Coordinator and Associate Research Professor from 1991 to 1997 and Assistant Director and Research Professor from 1998 to 2002. He spent just over a year refining his leadership and management skills serving as Associate to the Executive Dean of Rutgers’ Cook College from 2001 to 2002. Since 2002, he has served as the Associate Director of IR-4. In that capacity, Jerry manages the development of the yearly research plan; oversees all aspects of IR-4’s ornamental and non-food crop research objectives; and supervises IR-4 Project Headquarters administration support staff.”

Dan concluded, “Dr. Baron is an excellent choice to provide leadership to this program that is so critical for the success of specialty crop production in the U.S.”

Dr. Jerry Baron will be appointed IR-4 Executive Director in September.
IR-4 Project Targets Onion Thrips

by Keith Dorschner, IR-4 Senior Entomology Coordinator

The IR-4 Project normally concentrates its efforts conducting Magnitude of the Residue studies. We determine how much pesticide residue is on the crop at harvest after carefully calculated and monitored applications. EPA then uses this information to set a tolerance for the legal amount of chemical residue remaining on the crop. IR-4 has been very successful at this core mission and has seldom strayed into other areas of pest management research.

However, new challenges arise and grower’s needs and expectations shift. So in 2004 the IR-4 Project Management Committee approved a limited pilot efficacy program. The goal of the pilot efficacy program was to use IR-4’s research and industry contacts to help identify a particularly difficult pest control problem and, by performing field level efficacy work at a national level, identify potential solutions.

Participants of the entomology session at the 2004 Food Use Workshop were asked as a group “What is the most serious pest control void that you are aware of?” Food Use Workshop participants come from all areas of the United States and Canada. They have varied backgrounds and expertise. Yet, even with all this diversity of opinion, the group settled on one vexing problem: thrips on onion.

The control of thrips infesting onion has been a serious issue for several years. Growers face thrips populations that grow more difficult to control every season. Standard control products and practices seem to grow less and less effective. It’s not that talented entomologists have not been researching this problem; they have. Unfortunately, identification of broadly effective solutions has proven to be an elusive goal. Participants hoped IR-4 could help identify a solution.

With a small amount of grant money, IR-4 supported researchers from all areas of the country and identified a series of treatments to which researchers were free to add additional treatments.

One of the stand-out treatments IR-4 identified was Carzol (formetanate HCL) from Gowan Company. This product had outstanding performance in all trials. Another outstanding material was Dow AgroScience’s XDE-175, a new yet to be registered product closely related to spinosad, itself a rather good thrips control material that has recently been registered through the IR-4 Project. Other products also showed promise compared to the commercial standard treatments.

The pilot program’s findings were discussed at the 2005 Food Use Workshop and Carzol was chosen as a registration objective for residue research during the 2006 field season.

In only one year, the entomology pilot efficacy program was successful in identifying an effective thrips control pesticide for onion growers and this information led to a high priority 2006 residue study. While the pilot project demonstrated the potential impact IR-4 can achieve in narrowly targeted efficacy tests, onion growers will still require additional alternatives for resistant management purposes.

IR-4 Listserv

IR-4 has developed a listserv to send email communications of news and information to those in our directory. If you would like to receive these email notifications and have not yet received a welcome message, your name/email may not be included. To sign up for the IR-4 listserv, send an email to Sherrilyn Novack at novack@aesop.rutgers.edu and request your name/email be included.

Calendar of Events

August 16-17, 2006, 2006 NC Region IR-4 Meeting: Wooster, OH, Contact: Satoru Miyazaki 517.336.4611

September 11, 2006, 2006 Food Use Greenhouse Workshop: Indianapolis, IN, Contact: Cheryl Ferrazoli 732.932.9575 x 601

September 12-14, 2006, 2006 Food Use Workshop: Indianapolis, IN, Contact: Cheryl Ferrazoli 732.932.9575 x 601

October 10-12, 2006, 2006 Ornamental Horticulture Workshop: Denver, CO, Contact: Cheryl Ferrazoli 732.932.9575 x 601

October 17-19, 2006 Southern Region Meeting: Ft. Lauderdale, FL, Contact: Robin Adkins 352.392.1978

October 24-25, 2006 ARS Liaison Meeting: Corvallis, OR, Contact: Paul Schwartz, 301.504.8256
and IR-4 work cooperatively in gaining registration for the product.

A recent illustration of this cooperative effort came to fruition, when a number of scientists tested KHH BioSci’s Milsana® bioprotectant concentrate, a plant extract from Reynoutria sachalinensis, on a variety of specialty crops. The scientists, working throughout the country, were impressed by its control of several diseases in these high value crops.

These results caught the attention and support from various IR-4 staff members, including the Southern Region Field Coordinator, Charles Meister and IR-4’s Biopesticide Manager, Michael Braverman.

Its ability to induce resistance in treated plants was discovered in another cooperative project between BASF and a German university, resulting in KHH BioSci obtaining an EPA registration for the commercial ornamental use of Milsana primarily on roses in Ecuador.

However, when KHH Bio Sci sought to obtain a registration on food crops, they came to a road block. They lacked the know-how in submitting the available data to EPA. This lack of knowledge halted the project. That was when IR-4 lent their expertise. Their interest, leadership and dedication made it possible to obtain EPA approval for the use of this product on food crops.

This accomplishment is a testimony to the effectiveness of IR-4 in helping small companies with seemingly small products provide effective solutions to growers.

Correction
In the January issue it was reported that new employee, Mario Miranda Sazo received his Ph.D. from UC Davis. Mario received his Masters degree from UC Davis, not a Ph.D.