



Pest Management Solutions for
Specialty Crops and Specialty Uses

Newsletter

Vol. 48 No.4 Fall 2017

Award Winners



Dan Kunkel welcomes Barbara to the IR-4/EPA working group with a copy of *Food and Feed Crops of the United States* in June 2005.

2017 SOAR Award Recipients
IR-4 is proud to announce the 2017 SOAR Award winners. This award is given to those who excel in serving growers of

Specialty and Minor Use Crops. The awardees will have demonstrated clear Service toward enhancing the mission of IR-4 through participation on committees, advisory panels, or similar activities; excellent Outreach to growers educating growers on IR-4; Altruism by donating time and effort towards IR-4's mission; outstanding Research which contributes to expanded product labels and increased understanding of product use. In other words, awardees SOAR in supporting IR-4 and our mission to provide growers registrations of new and expanded pest management tools. This year's awardees are Barbara Madden, retired Minor Use Officer of EPA and Laura Phelps of the American Mushroom Institute.

Barbara Madden was a regular speaker at IR-4 workshops and helped growers understand the EPA regulatory processes. She was the EPA liaison with IR-4 when planning the annual IR-4/EPA/USDA agricultural tours, and served as the Minor Use Team Leader at EPA where she processed over 315 IR-4 actions that could support as many as 10,000 new uses.

Laura Phelps has been an IR-4 Commodity Liaison Committee member for over 15 years. She has been a leader on the committee and recently designed a training program for other committee members on what to do when visiting Congress. Laura communicates research needs of her growers at the IR-4 Food Use Workshops.



IR-4 is proud to recognize these women with its SOAR Award. Congratulations!

Delaware Valley University (DelVal) Alumni Achievement Award

The Alumni Achievement Award is designed to recognize outstanding alumni who have devoted time, energy, and resources to the betterment of the University and the Alumni Association, participated actively in the community and professional organizations, and have made a significant contribution in a chosen field. The award seeks to honor and extend the traditional ideals of Delaware Valley University by acknowledging alumni whose activities have been consistent with their founding principles. This year, IR-4's Kathryn Homa was honored with the award at their annual homecoming business meeting. Kathryn is the Plant Pathology Program Coordinator for IR-4 and

has been developing residue and efficacy data, coordinating submissions to EPA and serving as a member on various committees and societies including the American Phytopathological Society. In 2017, Kathryn received the National Recognition of Excellence Award from IR-4, for her advocacy of specialty crop agriculture. While working full time, Kathryn earned her Master's degree in Plant Pathology and she is currently in the process of completing her Ph.D. at Rutgers University. In her spare time, she enjoys guest-lecturing Dr. Jackie Ricotta's students at DelVal each spring. Kudos Kathryn!



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Executive Director Notes

Dear Friends,

The fall season is never slow for IR-4. However, this year it was exceptionally busy. It started with the annual IR-4 Food Use Priority Setting Workshop in Denver, CO, Sept. 20-21. One hundred and thirty participants attended to select 2018 research priorities. Prior to the workshop, we were concerned that the workshop would become contentious because of the uncertainty of whether IR-4 could “afford” the post Workshop upgrades. Projects on crops that would normally be selected through the upgrade process would have to make a case for the priority at the workshop. The contentiousness never materialized; in fact, the level of cooperation was at an all-time high.

The next big event was the 3rd Global Minor Use Summit/2nd Global Minor Use Workshop in Montreal, Canada, Oct. 1- 5. Over 225 delegates from 35 countries participated. IR-4 was deeply engaged in the planning and organization of these two conferences. Dan Kunkel served as Co-Chair of the Summit with significant roles for Michael Braverman, Bill Barney and myself. It is amazing the amount of progress global harmonization and cooperation has made over the past ten years. There were significant accomplishments but there is significant work ahead. A workplan to tackle challenges was drafted giving the global minor use community a roadmap to achieve future success.


The third major meeting this fall was the IR-4 Ornamental Horticulture Priority Setting Workshop in San Diego, CA, on Oct. 17-19. Participation was up slightly from past workshops. It was exciting to meet so many people who were attending this workshop for the first time. Once again, high level of cooperation was the rule. Also occurring this week was a mini Biopesticide and Organic Support Workshop that focused on Biopesticide priorities in the ornamental horticulture area.

IR-4 is exploring the potential to bring all three programs' priority setting workshops to a single week in 2019. We believe this is the best way to minimize travel expenses and allow IR-4 stakeholders to attend and benefit from a face-to-face meeting.

We capped the busy fall off with a joint IR-4 Project Management Committee (PMC) Meeting/National Research Planning Meeting (NRPM) at IR-4's offices in Princeton, NJ. The PMC met with a significant amount of time focusing on how to sustain IR-4 in the fiscal environment of higher operating expenses, reduced funding, and greater demands from our host institutions to help them offset their operational costs. The PMC agreed to re-establish the upgrade proposals. This allowed IR-4 to pick up a few more research priorities for 2018.

Field trial assignments for Food Program were assigned at the NRPM. Field trial assignments for the Ornamental Horticulture and Biopesticide Programs will be set at a later date. This year's NRPM was essentially the last task on the “To Do List” for Satoru Miyazaki and Michelle Samuel-Foo as they leave the IR-4 North Central and Southern Region Field Coordinator positions, respectively. Congratulations to Satoru on his well-deserved retirement and best of luck to Michelle as she takes on the new challenge as an entomology professor.

IR-4 is very fortunate to have two experienced people step up and take on the duties to replace Satoru and Michelle. John Wise of Michigan State and Roger Batts of North Carolina State will be serving as Regional Field Coordinators in an interim role. IR-4 also welcomed Michael Horak as the new Western Region Field Coordinator at these fall meetings. Additionally, Wlodek Borejsza-Wysocki announced he would be retiring from the Southern Region Lab Coordinator position at the end of year. (See other personnel changes on pg 11)

All for now, and all the best,
Jerry 

Annual Biocontrol Industry Meeting

— by Krista Coleman

The Annual Biocontrol Industry Meeting (ABIM), held in Basel, Switzerland on Oct. 23-25, opened with a private International Biocontrol Manufacturers Association (IBMA) Regulatory Affairs Seminar. The later Annual General Meeting discussed how IBMA is trying to get niche products through the European regulatory system. There were concerns from the public about the long used active ingredient *Bacillus thuringiensis* (Bt). IBMA explained that there is nothing to be concerned about in regards to public health, only that identification needs to be improved to distinguish from species deemed detrimental to humans. The IBMA aims to further revise EU approval of low-risk pesticides within current legislation.

A potential merger was introduced between IBMA and The European Biostimulant Industry Council (EBIC). This would be a joining of European and International forces, regarding EU legislation and easier access to market. There was much discussion about biostimulants. Biological Products Industry Alliance (BPIA) includes biostimulants, which are also recognized in Brazil, South Africa, and India. IBMA hopes to get the EU to recognize these products.

The most important needs for Biopesticide registration in the EU include: knowing active metabolites, establishing clear and accepted criteria for what constitutes biostimulants, improving recognition of biopesticide efficacy, harmonizing efficacy requirements, and generating suitable microbial protocols. Rising needs include

addressing antibiotic resistance, and generating data between microbial strains. This includes distinguishing the actives of registered products from each other, and from similar microbial strains deemed hazardous to public health.

There were various talks concerning EU and Global Regulatory Issues, there was discussion on: 1) allowing minor uses without major uses already on label, 2) preparing overview documents on very specific products of Baculoviruses and bacteriophages that are highly target specific, and 3) recognizing authorization in the US in the EU.

The IR-4 Project had a presentation within the "Initiatives Bringing Biological Tools to the Market" section. It covered the history of IR-4, the Biopesticide and Organic Support Program, and how IR-4 can help with registration of new products from the public sector. It built on the Global Minor Use Summit mentioned by previous speakers and asked for champions from Latin America in 'Global Harmonization of Tolerance Exemptions.' Many were interested in the possibility of getting regulatory help with European products in the United States.

Overall, the meeting was a forum, which successfully educated the European community, and introduced several new people to The IR-4 Project. This is in concert with the globalization of the Biopesticide and Organic Support Program expressed at the Global Minor Use Summit. 🌱

Biocontrol Meeting

New Product Corner

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

Cyclaniliprole* (Insecticide – ISK Biosciences)

Introduction: Ishihara Sangyo Kaisha US subsidiary, ISK Biosciences, received unconditional EPA registration for the new active ingredient Cyclapryn® (Cyclaniliprole) in August 2017. The review was conducted jointly with the Canadian Pest Management Regulatory Agency, with the Australian Pesticides and Veterinary Medicines Authority also participating. Registration of Cyclapryn® provides growers with a new pest management tool for use on a range of fruit and vegetable crops (see labeled crops). Belonging to the anthranilic diamide class of chemistry, Cyclapryn® targets ryanodine receptors of calcium channels in insect cells leading to rapid cessation of feeding and long-lasting control. Cyclapryn® has shown excellent efficacy against lepidopteran pests across crop groups and requires less active ingredient/acre compared to existing diamides and other classes of insecticides, including instances where pests have shown resistance to organophosphate, pyrethroid and carbamate insecticides. In addition, Cyclapryn® has a more favorable profile for beneficial arthropods making it an excellent partner for integrated programs.

Other global registrations: ISK began selling cyclaniliprole in South Korea in 2017, and expects launches in the US, Canada, Australia and Japan in 2018.

US trade name/formulation:

Harvanta™ 50SL Insecticide (50 g ai/L, a soluble liquid formulation);

Verdepryn™ 100SL Insecticide (100 g ai/L, a soluble liquid formulation)

Tolerances: EPA's review of

continued on pg 5

eQC: An Idea to Consider

– by Stephen Flanagan

At this year's National Research Planning Meeting we held an "All Hands" meeting to discuss various program strategy and planning issues. One topic which was touched on was the potential development of an "eQC" system which would electronically monitor field study data in something closer to real time.

The time delay before regional coordinators conduct QC reviews of field data is a key limitation of our current system. Pen and paper field data books are often not reviewed until six to nine months after field events have occurred. It's important to stress that this eQC idea is not a move to digital notebooks. There may be a place for IR-4 to use digital notebooks in the future, but this idea is similar to our eQA system, which uses an electronic database to track and inform our various groups about QA activities.

The idea for eQC was first advanced a couple years ago, but this year it seemed timelier. Nevertheless, rather than pitch what would be great about an eQC system, I thought I'd flip the argument and give 5 reasons why an electronic Quality Control system would just not work.

1) Money: Hey Flanagan haven't you noticed our funding is flat and our work is constricting? This idea would require development costs; therefore, it's dead on arrival.

2) Spreadsheets: We have the QC spreadsheets originally developed by former IR-4 SD Johannes Corley and updated by the Western Region, so why fix a working system? The spreadsheets are an economical electronic tool that checks each application made by our field researchers.

3) eQA: This process was a steep learning curve and although we have gained efficiencies let's not get too efficient. One more layer of electronic monitoring is just too much.

4) A few lost trials is no big deal: We book extra trials and we deliver the goods for our stakeholders, i.e. registration data for new tolerances.

5) We're Ag, not Tech: We collect our data on paper and we're not going to use electronic notebooks. We kick dirt clods and walk furrows; innovation is for hipsters not hops.

OK, that last reason might be a tad bit facetious but frankly our current system of data management is remarkably dated. We're technical professionals who carry smart phones and laptops but our GLP requirements tie us to a system where mistakes are discovered from an after-the-fact paper trail. Are we clod kicking Luddites who can only be dragged reluctantly into the digital era? Or is there a middle way where electronic trial tracking could improve our data generation?


What if a field researcher sat down before an application and entered their anticipated tank mix: water, test substance, sprayer output, target time and target area. What if this information was checked against a database which contained specific protocol details that need to square up with the researcher's plans? What if after the application was completed the field researcher could enter their actual, recorded data and the database confirmed an accurate application? What if this information was automatically emailed to the Study Director, Regional Coordinators and the Field Research Director? This system would serve as a check of the GLP recorded

data, and most significantly the QC check of an application would occur immediately, or shortly, after an application was conducted. Yes we would need to train FRDs to input this data, but imagine for a minute the advantages of knowing, close to real time, if an application was consistent with the protocol.

With the collection of application and harvest dates a master schedule could be generated, and these dates could also be compared to other protocol criteria. We have all made errors calculating the exact number of days between two applications, or the exact number of days for a pre-harvest interval. An eQC system could track these key event timings and keep everyone informed of field events in a timely manner. One of the key advantages would be having the opportunity to cancel and re-start failed trials in the current season instead of discovering the error six to nine months after it occurred.

No electronic system is fool proof and yes this system would require some money, effort and change. Our Canadian colleagues developed a similar system where field researchers input proposed and then actual event dates. Through the use of a calendar system this information is then available to regional management, QA personnel and Study Directors. The eQC system proposed here would incorporate event timings and also include application parameters. The database system would then allow both application % targets and critical event timings to be reviewed by all. Call it AppCheck, FieldCheck, eQC or the "The Great Big, New and Improved IR4-Field Event Tracker", no matter the name, but there is an opportunity to improve what we deliver to our growers with such a system.

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page*



Note: Screen shots from the Minor Use Pesticide Program System (MUPPS) database, courtesy of: Jennifer Ballantine, Research Sites Manager, Pest Management Centre Agriculture and Agri-Food Canada

Example Trial date input screen from Canadian Trial Tracking Database:

| ● TRT# 02 | | ● TRT# 01 | |
|-----------------|---|-----------------|--|
| Copy Schedule 1 | | | |
| Application No. | Application Date | Interval (Days) | |
| 1 | 2017-12-21 Actual: <input type="checkbox"/> | | |
| 2 | 2017-12-28 Actual: <input type="checkbox"/> | 7 | |
| 3 | 2018-01-04 Actual: <input type="checkbox"/> | 7 | |
| 4 | 2018-01-11 Actual: <input type="checkbox"/> | 7 | |
| 5 | <input type="text"/> Actual: <input type="checkbox"/> | | |
| Harvest No. | Harvest Date | Interval (Days) | |
| 1 | 2018-01-11 Actual: <input type="checkbox"/> | 0 | |

Example Calendar screen for Vineland Field Station:

| | | | |
|---|--|---|--|
| 8 12019.17-ON335 HAR/ASMT 1 Vineland 12019.17-ON335 HAR/ASMT 1 Vineland | 9 | 10 | 11 |
| 15 | 16 11794.17-ON326 APP 1 Vineland 11794.17-ON326 APP 1 Vineland AAFC17-033R-119 APP 2 Vineland AAFC17-035R-126 APP 2 Vineland | 17 | 18 AAFC17-033R- APP 3 Vineland AAFC17-035R- APP 3 Vineland |
| 22 | 23 11794.17-ON326 APP 2 Vineland 11794.17-ON326 APP 2 Vineland 11794.17-ON326 HAR/ASMT 1 Vineland 11794.17-ON326 HAR/ASMT 1 Vineland AAFC17-033R-119 APP 5 Vineland AAFC17-035R-126 | 24 AAFC17-006R-141 APP 3 Vineland | 25 AAFC17-033R- APP 6 Vineland AAFC17-035R- APP 6 Vineland |

| | | |
|--|---|--|
| 10 AAFC16-035R-041 HAR/ASMT 5 ICMSAbbot AAFC17-013R-109 APP 9 Harrow AAFC17-031R-182 RDFN IR-4 (North Carolina State University) AAFC17-031R-182 RDFN IR-4 (North Carolina State University) AAFC17-058R-231 (RDFN) IR-4 (UMASS Cranberry Station) AAFC17-058R-231 (RDFN) IR-4 (UMASS Cranberry Station) | 11 AAFC15-009RA-354 HAR/ASMT 1 Scott ** (Ting) AAFC17-006E-103 APP 3 CropHealth Advising & Research AAFC17-058R-232 HAR/ASMT 1 Kentville ** (Stéphane) AAFC17-058R-232 HAR/ASMT 1 Kentville ** (Stéphane) | 12 AAFC17-015R-115 APP 8 Agassiz AAFC17-016R-004 APP 1 Agassiz AAFC17-031R-010 HAR/ASMT 7 IR-4 (University of Idaho) |
|--|---|--|

A specific example of a summary table for Study Director and QA: As an example, displayed is the week of Oct 8th for one of our SD's. It shows there are applications, harvests, RDFN's to come in and shows the sites involved. The Trials on Oct 11 with ** are scheduled for QA audits to be done by Stéphane.

Cyclapryn® showed a lack of toxicity, thereby supporting an exemption from the requirement of tolerances for all crops. However, for international trade purposes, ISK requested that EPA establish tolerances for residues resulting from direct applications to certain commodities. In addition, an exemption from the requirement of a tolerance is established for indirect or inadvertent residues in or on all raw agricultural commodities, except for those commodities with established tolerances. Cyclaniliprole is on the 2017 JMPR schedule for evaluation to establish CODEX tolerances for the crops listed above.

Labeled crops (see labels for specific use patterns and other general directions for use): Harvanta™ 50SL Insecticide: Leafy Vegetables (non-brassica) Crop Group 4-16, Brassica (Cole) Leafy Vegetables Crop Group 5-16, Fruiting Vegetables Crop Group 8-10, Cucurbit Vegetables Crop Group 9. Verdepryn™ 100SL Insecticide: Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; Small fruit vine climbing, except grape, subgroup 13-07E; Low growing berry subgroup 13-07G; Citrus Crop Group 10-10; Tuberous and corm vegetables subgroup 1C

Active IR-4 residue/performance projects (PR#): globe artichoke (11952 – a 2017 study); GH tomato (11894 – a 2018 study); sunflower (12264 – a 2018 study, which will also cover safflower [11570])

Other IR-4 database requests (PR#): GH eggplant (12042); GH pepper (11891); GH cucumber (11893); blueberry (11592) and cranberry (11982) are registrant objectives

IR-4 Orn Hort Program Protocols: Foliar feeding beetles on orn hort plants (18-080); armored scale on plants in containers (18-010); managing thrips infesting orn hort plants (18-014) 🌿

*Cyclapryn, Harvanta and Verdepryn are registered trademarks of Ishihara Sangyo Kaisha, Ltd.

It was Tuesday, September 5, 2017, when South Florida began to brace herself for the largest Category 5 hurricane to hit the state in years. As people began evacuating, some very brave IR-4 personnel drove into the storm area to save trial samples. These emails and telephone logs tell the story.

Tuesday, September 5, 2017, 10:28 AM. Homestead, FL, Research Director, Rebecca Tannenbaum phoned Quality Assurance (QA) director, Tammy Barkalow with concerns that hurricane Irma was knocking on her front door. Kathleen Knight was already in Homestead to perform an In-Life audit, so she might be able to drive some samples back to Gainesville. In an effort to save samples, Rebecca and Tammy proposed the following action plan: "1) We will need TFM (Testing Facility Management) approval of the GLP exception in that QA will become involved in study conduct (sample transport) due to this emergency. 2) This exception will need to be noted in the compliance statement for these studies. 3) The SDs (study directors) will need to write amendments for each study approving the Florida lab holding the samples for 10405, 17-FL127 and 10765. 17-FL130 prior to them (U of FL lab) shipping the samples to the Tifton lab."

Tuesday September 5, 10:48 AM. IR-4 Executive Director, Jerry Baron soon responded with these comments: "Thanks for the quick plan to secure the samples in anticipation of this potentially devastating hurricane. TFM approves of the involvement of the QA unit in the transport of these samples in this exceptional situation. Kathleen, thank you for going beyond the call of duty to ensure the security of the samples. Please

be safe on the road back to Northern Florida and remember your safety is the most important task on your ride home. Our thoughts and prayers will be out there for everyone in the path of Hurricane Irma as well as those rebuilding from Hurricane Harvey. Please let us know if there is anything we can do to assist."

Tuesday September 5, 11:42 AM. Regional Field Coordinator Michelle Samuel-Foo wrote: "I just talked with Rebecca and learned that they have about 189 lbs of fruit from the subject trials on hand. It will be difficult to get the 4:1 ratio of dry ice to sample that they normally use when shipping samples, will it be ok if she uses a 2:1 ration instead?"

The hurricane is expected this weekend in south Florida. Rebecca is scheduled to harvest 11292 Flumioxazin sugar apple samples from this decline trial on Friday so even though they are sending the majority of the samples with Kathleen overnight today to the Gainesville lab, she will still have these in the freezer. The remaining fruit may/may not survive the storm. She is also supposed to harvest 10765 Trifloxystrobin & Fluopyram papaya next week. This trial will potentially be in jeopardy."

Tuesday September 5, 1:41 PM. Quality Assurance Assistant, Kathleen Knight provided an update to the situation that afternoon: "The Homestead site is very very close to the only way to get down to the FL Keys. There are lots of cars pulling large boats heading for higher ground. The gas stations are packed with anxious drivers and it took me about 10 minutes to get to a pump. The only gas available cost a premium of \$3.30 per gallon, which brought my fill-up to \$51. Now that the

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state van is filled, I should be able to make it home without needing more gas. Folks here are taking this very seriously. Most of the bottled water at the quick shop places are already running out down here, south of Miami.

Rebecca is working on getting the dry ice and determining how to best pack the samples. It looks like all the samples will not fit if the 4:1 dry ice is going to be required. I know she and Michelle are working on possibly getting permission to go with a 2:1 ratio.

The dry ice will be placed in the freezers until tomorrow morning. The coolers will be packed and loaded into the state van and I should be on the road by 9:00 AM. Rebecca and I decided that it will be best to skip the audit tomorrow morning. The study has already been audited in Puerto Rico and I want to get on the road as soon as possible. I know from experience that Miami traffic is terrible from 6:30-9:00 AM even without evacuees, so we will leave at 10:30 AM.

I did talk to Wlodek (Florida Lab Director) and Gail this morning. Wlodek said that he is ready for sample delivery tomorrow. I will call him when I pull out and will give him updates so the lab will be on stand-by."

Tuesday September 5, 1:49 PM. Jerry wrote back to provide further guidance: "Kathleen – A few minutes ago, I provided a blanket approval to deviate from the requirement for the 4:1 ratio of dry ice to sample to a minimum 2:1 ratio. Please do what you can, it is very much APPRECIATED. We

4 History Book!!

also appreciate the efforts by others (Wilfredo, Rebecca, Jonathan) to take as many precautions to save this work as possible. Safe travels tomorrow and let us know how the trip ends; hopefully safe and sound."

Tuesday September 5, 3:43 PM. Yavuz Yagiz (QA Lab) added comments: "Ms. Kathleen and I have discussed having a sample receiving audit for the SOR Lab and documenting this emergency situation by two different QA officers. I will conduct an In-Life audit for these samples upon their arrival. Warm regards."

Tuesday September 5, 4:12 PM. Michelle wrote back with more actions: "I want to provide an update to everyone regarding the situation in Homestead. Kathleen's vehicle is too small to accommodate all the samples that Rebecca will be sending in the morning, and she didn't know if they would have enough dry ice in Homestead to pack the samples. Jonathan worked to help source additional dry ice from the surrounding areas and I just spoke to Rebecca and learned that they acquired an additional 100 lbs. Earlier this afternoon, I had told Dr Gu that I would be willing to fly into Miami, rent a van and bring the remaining samples up to the lab in Gainesville. He approved this plan. I will take the 6:30 am flight into Miami and be in Homestead by 8:45am. The traffic will be headed in the opposite direction so this will work to my advantage. Rebecca also has to prep the field site/office (field data books, chemical storage, logs etc) in case of flooding so I will help her take care of this tomorrow. She also has an application on her papaya trial in the morning that will proceed as planned. As you can tell, there will be a lot of moving parts.

Will keep everyone updated as we proceed."

Tuesday September 5, 4:21 PM. Jerry replied to Michelle: "Thanks & be safe."

Wednesday September 6, 10:18 AM. Deborah Carpenter provided an update: "Michelle called. She is at Homestead with Rebecca and they are packing samples up. They are running low on dry ice. Jonathan has gone out to look for some. If Jonathan can find dry ice, that will help, but it may not be possible. They have blue ice available, and if they need to, they will use that, along with data loggers in any coolers with blue ice. Michelle and I discussed what samples were less important, in the event they can't get them all shipped on dry ice.

We talked specifically about PR 10405.17-FL127, the decline trial on guava. I said that the RAC samples were most important, so to ship one untreated and the RAC samples – B, C, D, E and F. I'd like the RAC samples and if they can't get the decline in the coolers, so be it. If she can get some of the decline samples in, we only need one (EPA recommends two samples, and we always take two, but one will suffice for registration, as long as the data looks good). So, ship one 7-day sample, one 10-day sample and one 14-day sample (samples G, I and K). For any samples shipped on blue ice, I suggested that they fill up a zip-lock bag (double bag it) with wet ice. That will give them an additional clue regarding sample integrity, along with the data loggers. Keep any samples that can't be shipped in the freezer, in case the hurricane track changes.

Michelle said it is usually a 5-hour drive from Homestead, but the roads are packed, so it likely will take longer. They are doing their best to see that the samples arrive in good

Feature

condition. To all of you in Homestead, Gainesville and Puerto Rico – thanks so much for all your efforts to save as many samples as you can. Drive carefully and stay safe. Our prayers are with you."

Wednesday, September 6, 1:26 PM. Michelle wrote: "Kathleen and I are in route from Homestead. We left around 11:30 AM. The traffic is at a standstill at some points and moving in other areas. I decided to take I 75 and avoid the turnpike, as I noticed the traffic was completely at a standstill as I was driving in from the airport this morning heading out of Miami. According to my GPS, I should be back in Gainesville around 7 PM."

"Wlodeck, I know it is going to be quite late, but please arrange to have someone meet us at the lab to document receipt of the samples and check their integrity before we put them in to the freezers. Will keep everyone updated as we progress on the road."

Wednesday, September 6, 11:31 PM. Michelle provided an update: "I just made it to the lab. Yavuz and Wlodeck are here and are checking the samples I brought with me. They are all still frozen, thankfully. The bags of regular ice that we had in Ziploc bags are also intact and frozen with the samples that had blue ice. These were the ones that I was most worried about, the ones with the dry ice of course are still frozen also. My legs feel paralyzed from sitting in the car for the past 12 hours, but I made it. Kathleen is about 30 minutes behind me. I just spoke to her on the phone. I'm heading home to shower and sleep."

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Orn Hort Tour

The 2017 Ornamental Horticulture Workshop began with a unique 3-stop tour related to production and maintenance of ornamental horticulture plants. The stops included a behind the scenes tour of the San Diego Safari Park, which is a combination botanic garden and naturalized areas for animals; the Center for Horticulture and Research at Altman Plants; and Mellano and Co which grows cut flowers, foliage and certain seasonal potted crops like poinsettia.

San Diego Zoo – Safari Park

Tour attendees enjoyed the Safari Park and learned about the unique pest problems facing the horticulture team there. The Safari Park is open to the public year round and has a board that reviews pest management options available to the horticulturalists. Often they resort to power-washing insect pests off of trees because they have no internally-approved treatment options. In addition to the normal insect and mite pest management problems (diseases and weeds didn't come up in discussion), Gail Thurston, Horticulture Lead, shared the challenges they have with mammal damage and maintaining prized botanic specimens. Safari Park pest managers often deal with small mammals such as mice, rats, and rabbits, but they also need to manage damage caused by the very mammals they are displaying.

Giraffes are the tallest living land animal and sleep only two hours per day. Because they feed mainly on leaves, buds and seeds, the

potential for damage is high on any low growing vegetation. **Rhinos** can cause damage to trees with their horns and by rubbing up against the trees. Rhinos are powerful and can rip off the chain link protection horticulturalists install on tree trunks, so large rocks and boulders are stacked around the base of trees to prevent rhinos from getting too close. **Tigers** are large cats, and like their domesticated smaller cousins, enjoy digging their claws into scratching posts. Without chain-link fencing and mild electrical currents to discourage scratching live specimen trees, the large cat enclosures would have little tree cover.



Photo by Cristi Palmer

Altman Plants

Altman Plants, which started in the owners' backyard in 1975 as a hobby growing succulent plants, has grown into a multi-state wholesale nursery business encompassing over 1700 acres across six states. During our tour, we saw their ongoing efforts to breed new hibiscus and rose cultivars with drought tolerance and disease/pest resistance traits. While grown in the breeding plots, potential new cultivars are provided limited water and no fungicides or insecticides so that the best performing cultivars are selected as genetic stock for future breeding and/or for commercialization. To deal with limited water resources in California Dustin Meador highlighted how Altman's reuses water by collecting runoff into a retaining pond and then filtering and purifying it prior to mixing it

with well water to irrigate their crops. One of their innovations to conserve water is the use of drip lines under absorbent mats to retain water for uptake into the pots.



Drip lines under water retaining mat. Photo by Mika Pringle-Tolson

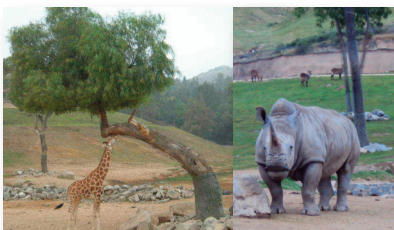
Mellano and Company Cut Flowers

Mellano and Company farms over 400 acres of fresh flowers and foliage in San Luis Rey and Carlsbad, California. One of the major challenges Mellano's faces is labor: Mike Mellano spoke about difficulty in finding good workers domestically and the need for a continued guest worker program to fill the gaps. Mike also spoke about the impact upcoming increases in the CA minimum wage will have. Labor costs are a fixed item in their budget. When hourly wages increase, their workers will be working fewer hours. To deal with this, Mellano's has been developing more efficient processes so that harvested cut flowers and foliage are touched as few times as possible by as few workers as possible. Managing diseases, pests and weeds can be problematic because the plants are spaced very closely together and typical applications may not penetrate plant canopies well. Preventative applications to manage rust is critical, and these are often applied using aerial equipment.

Setting the Stage for Priority Setting

While we have highlighted several non-pest related issues growers and landscape managers face, we also learned about their disease, pest and weed challenges prior to the priority setting workshop. This was a good way to understand their needs, see new aspects of production and meet other workshop participants prior to setting future research priorities. 🌱

Large mammals such as giraffes and rhinos cause damage to plantings. Photos supplied by Safari Park



One for the History Book

Tolerance Successes


Thursday, September 7, 12:50 AM. Kathleen pulls into the lab: "The second eagle has landed!!! The sample inventory received by Wlodek and Yavuz matches my notes as to what was packed in which coolers. A HOBO® (temperature monitor device) that was placed in one of the coolers was found and then replaced for downloading tomorrow.

I must say that there is an almost total lack of gasoline here. The rest areas on the turnpike had little gas or had at least a 1- 2 hours wait. Once you leave the turnpike there is NO gas! Lucky for me I knew a place about 10 miles off I75 in Ocala where I was able to fill up. This was a blessing as the 11 gas stations I passed on the rest of the way to the lab had no gas.

As Michelle can tell you a 5-hour trip took us 14 hours. The hundreds and hundreds of cars pulled off in the plazas are a statement of how seriously

Floridians are taking this storm. This was such an unbelievable group effort. It was AMAZING and everyone helped make it happen!!! Now to sleep and hopefully waking up to find that Irma has turned out of our path."

Thursday, September 7, 7:36 AM. Deborah Carpenter responded: "Thanks to all of you – for getting the samples there, and signing them in. It was a long day....and I wish you and your families' safe haven. Take care."

Thursday, September 7, 2017 8:43 AM. Dr. Gu's thanked everyone involved for their efforts: "I want to recognize the extraordinary efforts of the IR-4 teams in Puerto Rico and Homestead to evacuate samples and drive them to Gainesville yesterday... These are unbelievable efforts. This is a story that goes into the IR-4 history book. Thank you all." 

(except potato) subgroup 1D, Bulb onion subgroup 3-07A, Green onion, Head and leaf lettuce, Bushberry subgroup 13-07B, Caneberry subgroup 13-07A, Small vine-climbing fruit (except fuzzy kiwifruit) subgroup 13-07F, Rhubarb, Strawberry, Fescue
PR#: 02072, 02083, 02085, 02402, 02403, 02404, 02681, 02772, 03029, 03405, 03947, 09825, 11361, 11362, 11365

Federal Register: Sept. 27, 2017
Oxathiapiprolin
Trade Name: Orondis
Crops: Cacao bean
PR#: 11883

(No IR-4-related permanent tolerances were established in October.)

Tolerance Successes

August - October

Federal Register: Aug. 3, 2017
Ethaboxam
Trade Name: Elumin
Crops: Ginseng, Pepper/Eggplant subgroup 8-10B, Cucurbit vegetable group 9, Tuberous and corm vegetable subgroup 1C
PR#: 10649, 10650, 10651, 10652, 11113

Federal Register: Sept. 27, 2017
Fluazifop-p-butyl
Trade Name: Fusilade
Crops: Tuberous and corm vegetable

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Wow! So Many Workshops

This Fall could be summarized as a huge listening session with two priority setting Workshops and a Global Minor Use Summit (GMUS). The first Workshop was the Food Use Workshop (FUW) held Sept. 20-21 in Denver, CO. Over 130 participants discussed 162 researchable projects, and chose the 42 highest priorities for the 2018 GLP residue research plan.

At this workshop, projects requiring only Efficacy and/or Crop Safety data (Performance research) were also prioritized along with projects requiring GLP residue data. Stakeholders selected the 8 highest priority performance projects; these were designated as "H+" and trials will be conducted for these priority Performance projects in 2018.

Find the complete list of GLP residue and performance projects on the IR-4 website home page (ir4.rutgers.edu).

The next prioritization step occurred after the workshop when Regional Field Coordinators and HQ staff determined upgrade projects and then subsequently assigned field sites for all GLP residue projects. Plans for 2018 performance research are made to first complete ongoing projects and then initiate research on the new performance projects.

Next was the GMUS

On Oct. 1, 2017, Shirley Archambault of Agriculture and Agri-Food Canada's Pest Management Centre (AAFC/PMC) noted more than 200 experts from 35 countries gathered in Montreal to kick off the four-day **Third Global Minor Use Summit**. The

Summit aimed to help producers of specialty crops from around the globe through discussion of regulatory challenges and trade related issues to producing and marketing minor crops.

The event was hosted and lead by AAFC/PMC in partnership with the IR-4 Project, United States Department of Agriculture Foreign Agriculture Services and other organizations.

Since pesticide regulations vary from country to country, some countries will reject products at the border, even if they contain trace pesticide residues which scientific studies show do not pose an unacceptable risk.

The Summit provided a venue for experts to discuss these issues and identify ways to harmonize pesticide regulations. The goal is to reduce whenever possible the amount of duplication and cost involved in developing and reviewing regulatory submissions.

This year's Summit saw some significant progress. The group agreed to work on the following themes over the next five years:

- Increase cooperation by creating minor use champions from different regions of the world;
- Actively promote the adoption of procedures to establish global maximum residue limits (the amount of pesticide that can remain on crops);
- Work towards a globally acceptable definition of "minor crops";
- Find consensus on crop grouping and representative crops (crops that are similar enough that they can be treated the same, i.e.

onions and leeks); and

- Develop a white paper on capacity building to meet regulatory data requirements.

Ultimately, securing consensus about regulatory approaches and minor use pesticide management on an international basis will provide producers with improved market access.

The final day of the Summit was the **Global Minor Use Workshop** where people representing 23 countries selected research priorities. There were a total of 3,852 global priorities. Participants were asked to chose "A" priorities for each growing environment: greenhouse, temperate and tropical. They then identified 2nd and 3rd priorities in each and labeled those "B" priorities.

The "A" priorities are:

Temperate climate,

Basil/downy mildew/oxathiapiprolin and lettuce/weeds/haloxifen-methyl haloxifop

Tropical climate,

banana/nematodes/fluopyram, biopesticide options i.e. Burkholderia sp and mango/anthracnose/tbd; and carried forward from past workshop

Greenhouses,

ornamentals/thrips/pyridalyl, biopesticide options, and cucumber/powdery mildew/flutianil.

To read more about the Summit and Workshop visit gmup.org.

And then onto Ornamental Horticulture.

The 2017 Ornamental Horticulture Workshop

was held Oct. 17-19 in San Diego, CA. The workshop kicked off with a tour of three sites related to production and maintenance of ornamental

continued on next page

New Faces at IR-4

There are many new faces at IR-4. The Western Region has hired **Dr. Michael Horak** to fill the position of Regional Field Coordinator previously held by Rebecca Sisco, who recently retired (see related acknowledgment from Jerry Baron Vol 48 No 3)

Michael received his B.S. and M.S. in Plant Science from the University of California, Riverside and his Ph.D. in Agronomy (Weed Science) from the University of Illinois – Urbana. He worked as an Assistant and Associate professor in the

Department of Agronomy at Kansas State University. His research program encompassed basic and applied studies on the biology, ecology and control of troublesome annual and perennial weed species. He later joined Monsanto Company as a Plant Ecologist. He was responsible for scientific studies to assess the potential ecological impacts of biotechnology crops on the environment. In 2014, he assumed the role of Global Weed Resistance Management Platform lead for Regulatory. His responsibilities included engagement with the academic, industry and regulatory scientific community around herbicide resistant weed management.


Headquarters has hired four

Efficacy, New Disease Management
Tool Crop Safety

Entomology - Borer & Beetle
Efficacy, Mealybug & Scale Efficacy,
New Pest Management Tools for
Crop Safety

Weed Science - Preemergent
Herbicide Crop Safety, Postemergent
Herbicide Crop Safety and Efficacy in
Field Containers

The Ornamental Horticulture
Program regional priority projects
for 2018 include:
NCR - Nematode Efficacy,
NCR/WSR - Thrips Efficacy,
NER - Herbicide Crop Safety for Cut
Flowers, - Herbicide Crop Safety for
Green Roof Production (embedded
in related national project)
NER/WSR - Snail & Slug Efficacy,
SOR - Cover Crop Management for
Christmas trees.

In the space of about a month, IR-4
listened to our stakeholders and,
based on their needs, developed
research priorities for 2018. 

part-time/temp people. Amy Abate,
Nick Drost, Sarah Latyn and Basil
Stergios.

Amy Abate is working with Cristi
Palmer on the pollinator project.
Amy is currently an undergraduate
student at Rutgers University
studying Environmental and
Business Economics and Plant
Science. Amy can be reached at
amy.abate@rutgers.edu.

Nick Drost is a recent graduate
from MSU. He was raised in Grand
Rapids and lived there most of his
life. He earned his Bachelor of
Science in Agriculture Business
Management in the Spring of
2017. Nick is working as a Unit
Administrator/ Specialist under the
supervision of Sherri Nagahiro
helping to facilitate and manage
grants and awards. Nick can be
reached at nick.drost@rutgers.edu.

Sarah Latyn is a graduate student at
Rutgers University in the
Professional Science Master's
program. She will be receiving a
Master's of Business and Science
with a concentration in Global
Agriculture in May 2018. Sarah
received a B.A. from Rutgers with a
major in Biological Sciences and a
minor in Entomology. and is
working with Michael Braverman
and Krista Coleman in the
Biopesticides program. She is
mainly focusing on updating the
Biopesticide Label Database, but
also helping with various other
projects when needed. Sarah can
be reached at
slatyn3@scarletmail.rutgers.edu.

Dr. Basil Stergios has completed
two graduate degrees at Michigan
State University (1975), the first in
Systematic Botany and Plant
Ecology, and the latter in small fruit

Workshops

horticulture plants. Participants
visited the San Diego Zoo Safari
Park which is a combination botanic
garden and naturalized areas for
animals, the Center for Horticulture
and Research at Altman's, and
Mellano and Co which grows cut
flowers, foliage and certain seasonal
potted crops like poinsettia. (read
more about the tour on pg 8).

During the Ornamental
Horticulture Workshop
priority-setting sessions,
participants listened to
presentations about new active
ingredients and expansions of
current products and then
discussed potential projects. At the
end of the day, attendees voted on
the top projects for each program
via a sticker caucus.

The national priority projects for
2018 and 2019 for the
Ornamental Horticulture Program
are: **Pathology** - Botrytis Efficacy,
Non-Oomycete Root & Crown Rot

New Faces at IR-4

horticultural science (Viticulture, Oenology, and highbush blueberry culture). Dr. Stergios has joined the IR-4 team as a part-time collaborator with the Specialty Crop activities dealing with updates and revisions of the crop monograph drafts destined for inclusion in a future new edition of the *Food and Feed Crops of the United States*. Basil can be reached at basil.stergios@rutgers.edu.

Retiring and Moving On

IR-4 also had many retirements this year. At HQ, Study Director, **Ray Leonard** retired in Sept. and is now happy to be spending time with his first grandchild. QA Specialist, **Diane D'Angelo** took advantage of the opportunity to relocate to North Carolina, where the beach is close and the temperatures are warmer. She is now enjoying her brand new home and getting to

know the community.

The North Central Region will be losing **Satoru Miyazaki** as the Regional Field Coordinator this year. Satoru held that position for over 39 years. He plans on serving as a Japanese public radio reporter (like NPR) for Michigan, USA, and also plans on doing more golfing and traveling in his retirement. In the interim, NCR Director, John Wise, will carry on the RFC duties.

The Southern Region will miss **Wlodzimierz (Wlodek) Borejsza-Wysocki**, their Regional Laboratory Coordinator. Wlodek began his IR-4 career in Geneva, NY at the Northeast IR-4 Laboratory in 2000. When that lab closed, Wlodek was offered the Laboratory Coordinator position at Gainesville, FL. While most people go south for retirement, Wlodek will be going back to NY to be with

his family there. Replacing Wlodek will be Gail Mahnken.

Also moving on, in the Southern Region is the Regional Field Coordinator, **Michelle Samuel-Foo**. Michelle will be taking an assistant professor position at Alabama State University. She has been with IR-4 for ten years. Roger Batts will serve as an interim Regional Field Coordinator for the IR-4 southern region until a permanent RFC is found. Roger will work remotely from his location in North Carolina. Robin Federline and Amanda Hogle will be assisting him from the Gainesville, FL office.

IR-4 sends best wishes to our retirees and Michelle, and welcomes those who have joined us. 🌱

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