



**IPM Coordinating Committee
Maricopa Ag Center
August 30, 2017**



**COLLEGE OF AGRICULTURE
AND LIFE SCIENCES**
COOPERATIVE EXTENSION
Arizona Pest Management Center

Committee Membership:

Paul Brown (ex-officio, UA CE)	Amanda Crump (Director, WIPMC)
Peter Ellsworth (Entomology, MAC)	Jim Farrar (Director, UC Statewide IPM)
Blase Evancho (Pinal, Pima County)	Junior Evans (Dow AgroSciences)
Lin Evans (PCA, stakeholder)	George Frisvold (Ag Economics)
Dawn Gouge (Entomology, MAC)	Alex Hu (Plant Sciences)
Michael Lindsey (Consultant, pest management)	Mike Matheron (Plant Sci, YAC)
Bill McCloskey (Plant Sciences)	Tom Montoya (PCA, stakeholder)
Ayman Mostafa (Maricopa/Pinal/Pima Counties)	John Palumbo (Entomology, YAC)
Jack Peterson (AZ Dept. of Ag.)	
Barry Pryor (Plant Sci, AZ PDN)	Ursula Schuch (Plant Sciences)
Joshua Sherman (Cochise & Graham Counties)	Kai Umeda (Maricopa County)

APMC Staff and others attending: Al Fournier, IPM Program Manager (notes), Gene Hall, Assistant in Extension (AiE) Insect Diagnostics, Wayne Dixon, AiE IPM Assessment, Shaku Nair, AiE Community IPM, Shujuan (Lucy) Li, AiE Public Health Pests, Marco Peña AiE Vegetable IPM, Juan Peña, Mike Wierda, Pesticide Safety Education AiE.

Introduction: The Role of the IPM Coordinating Committee:

- The purpose of this committee is to contribute to the direction of the Arizona Pest Management Center. Members are encouraged to speak up and offer criticism and advise to improve the APMC.
- Through updates and information presented, we hope you will see the scope and value the accomplishments of the APMC.
- Advise us on Strategic investments

Group Exercises

Summary of Responses

(1) tell us what you like about the APMC and what we do.

- Coming together around IPM
- Working with colleagues and teams, trying something new
- Participation in the Western IPM Center. This provides a connection between UA IPM programs and IPM throughout the west and nationally, including interactions with USDA-NIFA, EPA, the IR-4 minor pesticides program and others. It raises regional and national awareness of the important work and outcomes of the APMC.
- Dealing with relevant topics important to public health and economic and environmental outcomes of IPM (e.g., mosquito vector control, commenting on pesticides.)
- Helping new faculty in establishing their Extension programs. This includes collaboration on the grant writing, coordination of activities and communication through state IPM grant supporting research with pesticide use data

- This approach has been working very well for the Community IPM team: we brought together turf, ornamentals and structural and public health IPM all in one group, initially around the project School IPM Inside and Out. This has increased functionality and reach of all team members and their individual and combined programs.
- Serving as a source for communication and connection, enabling timely responses to urgent IPM issues that arise
- Creating a sense of community among UA faculty, personnel, state agencies, and diverse stakeholders
- Through the IPM Assessment team, getting help on surveys, questionnaires to assess stakeholder needs and measure IPM program outcomes
- We like learning about all the great work outside of our own narrow focus areas, which happens largely through these APMC meetings
- Talking to the experts, getting answers to questions
- Veg IPM updates are great!
- Funding for projects that actually help the grower community
- The opportunity to work collaborative APMC staff, Assistants in Extension
- Love interacting with other AiEs, and organization into teams improves outputs
- Collaborative atmosphere
- This group produces important outcomes and impacts that are stakeholder driven

(2) How can we improve?

- New methods of reaching out to a new generation (social media, etc.)
- Would like to meet somewhere other than MAC
- Collaboration with new Ashley Bennet at NMSU, new state IPM Coordinator
- Start a resistance management work group
- Cotton Pest Losses – Bill McCloskey needs the weed tables from last year
- More discipline-specific agents are needed to help clientele
- We need more boots on the ground
- More technical content on the website, and more up to date
- APMC should invest more into plant diagnostics in the state
- Who are the next leaders in Extension? e.g., CA has lost a lot of expertise, don't want to see that in AZ. We need "Succession Plans" for key faculty of the APMC
- Universities need to convince the general public that agriculture is good
- Project our presence better to the public: the APMC as a group needs a unified voice or "brand"
- Improve web presence and media outlets (many votes for this)
- Need to continue to our focus on getting useful materials out that address stakeholder needs
- Wish we had a little more money, resources to support the other things we should be doing

APMC Update on Funding and Strategic Investments (Peter Ellsworth)

- Submitted our EIP organizational grant in April or May. What if we have deep cuts? We scheduled this meeting, anticipating having our award at this point, but it has not come through yet.
- We requested \$900k for 3 years. Our budget did receive a cut (8.3%), and we have already re-budgeted, but are still open to input. \$825k for 3 years. (\$740k last year.) The 3 years are funded as a continuation grant. We have to request the dollars each year. The rules or funding could change. We do not expect indirect costs (IDC) to kick in during years 2 or 3, but it could happen.
- Review of APMC Organizational Chart.
- Chart of funding history. We have seen a mostly steady increase in funding over the years, but have plateaued near the top of what is available for state IPM programs. Unless federal funding to state IPM is increased (some people are working toward this), we will see little more growth except through diversification of funding.
- Though currently we benefit by not paying IDC on our institutional IPM grant, Peter and others favor the inclusion of indirect costs to offset university infrastructural investments. In the long run, we need to grow the IPM pot to support sustained funding at this level while also covering IDC.
- Investment in IPM Program Manager. The idea when AI was hired was a goal of 50% state support for the position. The college administration has now invested 50% in AI.
- EIP invests no more than 50% in the individual Assistant in Extension (AiE) positions for each of the teams.

Administrative Update (Paul Brown)

- Public Relations for the APMC: Paul suggests we work with Faith Schwartz, a person in Extension with Operations, expertise in this social media, TV, Radio, how to get publicity. Public relations is important to get the legislature to release more money for Extension and higher education.
- Extension budget is flat.
- Hiring plan is being slowed by a mandate from upper administration to get salary increases this year. Extension typically invests about 70% of salary and ERE for new Extension Specialists. At the Extension Conference, the Dean spoke about Extension “soft skills” and the importance of the role of Extension. For now, it has been a bit of a battle with Departments. All of us that are based in Departments need to educate department heads and peers on the role and importance of Extension.
- Hiring update:
 - Forest Health agent hire moving forward for Gila County
 - Yuma County Extension director – second round of the search. Hope to complete the process in the fall.
 - After that, New Ag Agent will be hired in Yuma. Not sure if it may include a horticulture component.
 - Horticulture agent for Pima County and one for Maricopa County.
 - Livestock specialist is on the plan, but not likely to be hired soon.

- No new decision package requested this year, because of a pending situation with UA President. The president will be touring the state and has been briefed on Extension, including hiring needs.
- No Extension budget allocated for Signature Program initiatives this year. But Paul can provide a limited amount of funding for ANR programs / products. He will consider informal proposals at any time. Will support some working groups, travel funds to get together. Has specific funding to do workshops related to weather or climate and agriculture.
- Extension will support 50% of AI's time, now set.
- There was a meeting between Extension and ADA, developing a plan to provide funding for a Pesticide Safety program. Extension has agreed to fund the position, ADA will provide operations. Some of the details still need to be worked out. Goal would be to enhance collaboration between UA Extension and ADA.
- Q: What has happened with funding from salary savings for lost positions? Extension also pays for about 28% for college staff that have dual roles. Some goes into pay increases. Some positions have been lost. Some remain for future hires.
- Q: Is there funding in Extension to support new equipment for agents? Not a lot of funding available, but we try to support agents for smaller items.
- Professional development travel funds – now being transferred to new faculty.

IPM Assessment Update – Al Fournier & Wayne Dixon

- Al outlined a recent chemical use mapping project to inform whitefly resistance management. He used this as an example to show how to design an effective evaluation plan that measures changes in knowledge (about resistance management), behaviors (adoption and use of maps), and condition changes (pesticide use patterns), the last of these using pesticide use data and Crop Pest Losses survey data.
- Wayne provided an update on recent improvements to the pesticide use database that are helping us improve the data all the time.
 - Template of valid agricultural sections helps us quickly identify location data errors.
 - We have several tools and approaches for finding invalid data, some automatic and others that we run manually, usually on a project basis.
 - Examples were provided of data checks and error correction.
 - We are always improving our ability to detect and correct errors.
 - Verified, improved data are critical to research and outreach efforts of the APMC.
 - This resource is available for the APMC community, UA researchers and external stakeholders, pending approval of our advisory committee for external data requests

Community IPM – Shaku – School IPM & More

- Maricopa Unified School District earned an IPM Star Award. This is a very rigorous third-party IPM certification program overseen by the IPM Institute of North America. Quite an accomplishment.
- We have had a significant increase in tribal interactions over the past year, including more trainings and positive interactions.
- Community IPM is diverse: School IPM, public health, turf, structures, ornamentals
- Shaku has been collaborating with Kai Umeda on a grant funded native grasses and groundcover project.
- Shaku has led an effort to develop an IPM plan for the Casa Grande Ruins National Monument, in collaboration with the UA School of Architecture as part of a funded grant project. The monument site includes over 470 acres of land as well the famous ruins themselves. Adorable ground squirrels are doing a lot of damage to the site. The goal of the project is to reduce their impacts around the monument.
- We explore a lot of potential sources for grant funding – USDA, WIPMC, EPA, Cooperative Extension, UA Foundation – Green Fund, American Mosquito Association.

Community IPM – Lucy – Public Health IPM in Community Environments

- Lucy's works in sensitive community environments: schools, public housing, etc., with a primary focus on public health pests.
- City of Phoenix, public housing project is conducting research in 612 units in five public housing sites. We documented very significant decreases in infestations: bed bugs & cockroaches. Now they use IPM. A major behavior change from monthly sprays to more effective insecticide baits has been documented.
- Stop Pests in Housing. In collaboration with Cornell University, we hosted workshops for housing authorities in AZ. 30% of the audience were tribal members. Gila River shared their IPM plan nationally with other tribal nations, through the Western IPM Center.
- Lucy takes the lead on developing the School IPM Newsletter 10 months of the year, which reaches 5,000 readers nationwide.
- CDC project: Vector Control project in collaboration with Maricopa County, Department of Health Services, and UA Dept. of Entomology. Evaluation of field management techniques, including assessing the impacts of targeted larviciding. The project is centered in Chandler and Gilbert. We have 60 mosquito traps sampled monthly. Populations are sent to Maricopa County for evaluation to determine presence of Zika virus, transmitted by *Aedes Egypti*.

Insect Diagnostics – Gene Hall

- Gene oversees the insect diagnostic clinic in Tucson. He is on track to receive about 700 unique inquiries for insect diagnostics this year. A project recently funded through a Specialty Crop Block Grant related to Blister Beetles of Arizona. We have about 150 species in the state. There are concerns due to toxic cantharidin in the bodies of the beetles. Populations have sometimes been associated with produce and there are concerns about potential contamination. Some of these beetles were showing in bagged

salad greens in stores. This project will provide accurate identification tools for growers, including digitizing a large collection of blister beetles in the Insect Museum. Floyd (Warner) publication from the 1960s will be updated. We will take high quality digital photos of specimens, update the physical specimen collection, provide identification tools for growers, pest managers and the general public. Will also examine differences in cantharidin levels of different BB species. Expected outcomes: develop education resources for BB ID; work with APMC and CE personnel to promote BB education; provide diagnostic support for growers, extension agents and the general public; and promote insect diagnostic resources of UA.

- Peter has been in discussion with a grower who wants to make additional investments in BB identification and management.
- A separate project: monitoring the presence of bark beetles around the city of Tucson. Taking over a grant the Peter Warren previously received. Gene will be trapping and monitoring certain bark beetle species around Tucson. Potential for ongoing funding.

Agronomic Crops Team Update – Peter Ellsworth / Blase Evancho

- Lydia Brown’s contract is expiring soon. She has been working part time, remotely, from New York. We expect to be forming a search committee and conducting a national search for this position.
- Lydia has also been a grad student under Peter and did excellent work on the economics of Brown Stink Bug control.
- The Alfalfa IPM group, especially Ayman Mostafa and Mike Ottman, recently published a headline article in Western Farm Press: “alfalfa sessions based on university data, less on conventional methods.”
- Blase put together an excellent program to provide hands-on training for new PCAs. This idea was very insightful on Blase’s part, identifying the need and quickly implementing an Extension solution. This is an example of how we can be nimble.
 - Contacted Peter 8/9
 - Thoughtful dialog / emails
 - 8/17: Blase and Peter deployed the training to 4 new PCAs, impacting hundreds of thousands of acres.
 - Blase had the idea some years ago, as a young PCA. He felt intimidated at times in this environment with experts and experienced guys. He is aware of at least 8 new PCAs. He thought it would be great to have a venue just for them, where they feel comfortable.
 - Blase will develop this into an ongoing series of field and classroom trainings on important topics.
- New invasive pest: sugarcane aphid, 7/2016. Developed Section 18 (8/16) for transform in sorghum. Ayman has an impressive trial out for this.
- Lost sulfoxaflor registrations in field crops. Section 18 exemption for lygus management in cotton granted 4/2017

Plant Pathology Update – Alex Hu

- Making farm visits, primarily in SE Arizona. Texas root rot is a big problem. Historically a cotton region, now pecan and pistachio going in. A new pistachio planting in San Simon is affected. He is working with county agent Josh Sherman, looking for solutions.
- Alex provides diagnostic support services for plant diseases. This takes a lot of his time.
- Conducting a project on bacteria leaf scorch, which is becoming more common in AZ, in urban ornamental trees, and there have been outbreaks on pecan. He is doing a study to determine how common it is, what are the strains, alternative hosts, etc.
- Working with Jack Peterson of ADA on pathogen detection project.
- Working with Judy Brown on Citrus Greening; they just submitted a proposal. The disease has been detected in Riverside County, CA. Trying to develop a better delivery system and an Extension program. \$4mil grant. \$300k for 4 years for Hu component.
- Strip rust. Affecting small grains, some areas heavily infested.

Western IPM Center Update – Amanda Crump

- Annual report 2016. <http://westernipm.org/index.cfm/about-the-center/publications/annual-reports1/ar2016-pdf/>
- Thanks to Peter and Al who participate in many WIPMC activities. The Western IPM Center is a joint effort of UCD, OSU and UA. Peter and Paul Jepson serve as Co-Directors. Al works on responding to EPA public comment periods on pesticide registration and other IPM questions and helps out with evaluation in the Western region.
- The WIPMC serves as a regional coordinating body of IPM people and projects, in collaboration with universities, regulatory, other groups.
- There is a small grants program, which opens in October with a Dec deadline. It is open to University, tribes, companies.
 - Project initiation grant – seed funding, 30k
 - Work groups, 30k
 - Capstone project for outreach and implementation. 30k
 - IPM planning documents: Pest Management Strategic Plans (PMSP), outline commodity needs for research, extension and regulations. Can fund meetings of growers to help understand their needs. These PMSPs document needs which can be cited in other grant proposals. Can be non-ag, e.g., school PMSP.
- The WIPMC helps support the Crop Pest Losses (CPL) Impact Assessment Signature Program. We have begun implementing CPL surveys in other states in the Pacific NW: onions, cranberries, potatoes and other crops.
- Weather based decision tools. Weatherpest.org. supported through WIPMC as a signature program. Can develop models for pest management if data are available.
- We highlight regional IPM successes. They are ramping up communications, traveling throughout the west to develop glimpses into IPM activities in different states: articles, videos, blogs.
- WIPMC advocates for IPM in the west. Agriculture is a lot different. We remind people of the diversity. We talk about IPM needs. It is hard come up with a comprehensive list of crop needs and priorities for such diverse systems.

- We work with other regional programs, such as Western IR-4 program, Western SARE (sustainable agriculture) and others.
- What you can do for me:
 - Sign up the WIPMC newsletter. WesternIPMCenter.org. IPM in the West. Grant opportunity updates.
 - She would like to send Steve Elliot (Western IPM Center writer) to visit AZ to look at interesting IPM issues in our state.
 - Let me know about regional meetings going on, I may come. We will post them in the newsletters.
 - If any lists of priorities come out of different meetings or commodity groups, please forward those.
 - We can help facilitate collaborations across states.
 - We are interested in non-ag issues as well.
 - It is a farm bill year. The money that funds EIP, ARDP and Centers, are a line item in the farm bill. A rep from Hawaii has pitched an increase in IPM. If you have a relationship with members of AZ congress that are interested in IPM, please let her know. We are always looking for more IPM champions.

Veg IPM Update – Marco Peña & Juan Peña

- It is not an accident that our yields are high! New technologies always developing, sustaining high levels of productivity. Pest management programs need to be developed locally, specifically for the desert area.
- Goal of our multidisciplinary team: Increase awareness and technical knowledge of IPM and increase the number of stakeholders reached.
- AZ Veg IPM Updates. Each update has the latest, most important information on insect, weed and disease management for vegetable and melon crops. Information is provided as a smart phone update and also posted online with help from Wayne and Naomi. Currently, we have 879 subscribers. It is redistributed by many sources, including Western Farm Press, reaching tens of thousands of readers. PCAs are mobile, accessing the information on the go. A lot of work goes into each update, from our insect, weed and disease experts based in Yuma, and all put together by Marco, who is a former pest control advisor (PCA) himself. He knows PCAs access the information in the field to make decisions, implement pest management practices. His experience informs the format for the updates.
- Marco developed detailed evaluation of the Veg IPM Updates and their impacts. 80 responses, very positive. In the lettuce pest losses survey, there was a decrease in broadly toxic insecticides, an increase in use of reduced risk insecticides. Most growers have large operations, 44% are larger than 8,000 acres. How much have your economic returns per acre improved? 63% said they increased their yield. One company plans their chemical inventory based on the Veg IPM Updates.

Pesticide Safety Education Program – Mike Wierda

- Main purpose in this job: take an “uninteresting” topic and make it impactful to the target audience, by finding interesting ways to engage learners. I try to relate topics to people’s day to day work, and also how what they do relates to their families, their pets, the community, the ecosystem. One grower told me he was going to re-evaluate his pesticide program after a training.
- Developed a new Core Training approach in collaboration with Kai Umeda and Jennifer Weber (ADA). Developed a multi-day training (2 days), provided lunch. The new format was a big improvement, a higher pass rate on the Core exam (from 59% to 82%). Will have Core manuals available prior to the next training and hands-on exercises for every chapter. WE plan to provide “diluted CEUs”, to let experienced applicators repeat the Core for half the amount of CEU credits. The goal is to have experienced applicators side-by-side with the new learners to facilitate learning.
- Respirator program development. Certification and training changes from EPA created a need for this. This was seen as the #1 PSE topic by stakeholders & ADA. We received some funding from CE to get started on this. The target audience is mixers and loaders, but also anyone who works with a pesticide at all. Another target audience is trainers. I am working on a regional effort for train-the-trainer respirator training. Program will educate people on safe use of respirators, incorporate fit-testing, which is an OSHA requirement. We will do dedicated trainings, and also can do one-hour presentations on respirators as part of other meetings.
- IPM Short on dog collars – especially for people who apply many collars, there may be exposure concerns. Mike is working on a short radio spot, video, other ways to reach non-readers.
- IPM short on adulterated pesticides recently produced.
- Working on a short on the use of vinegar as an herbicide. Misperceptions about safety and efficacy of vinegar versus glyphosate.
- Mike participates on several regional and national work groups and provided an update.
- Considering a PSEP-IMI grant proposal related to drift management. Collaborating with Bill McCloskey.
- PSEP PRIA funding – rumors that the funding may come back. The organization who is going to handle the funding has not been announced. But the WIPMC is one of the two applicants.

Advise on Strategic Investments – Final Group Discussion

How can the APMC help me?

- Operation budget of the EIP grant – there are funds for each team. It can pay for travel, trainings related to IPM, but it is a modest budget. Suggestion is to increase requests for operation dollars through EIP, or seek support through CE when appropriate. Contact team AiE or AI.

How can the APMC better serve the needs of stakeholders?

- IPM is being lost as the university program. It is hard for incoming PCAs to satisfy the requirements for a PCA license. There is an online IPM course. It is in the summer and only offered once per year.
- Improving the image and presence of the APMC. It needs to be thought out. There is a cost to projecting your presence. Tucson Festival of Books. It is a huge event. Within it they have Science City (outdoor displays). Naomi Pier, grad student, led an effort to promote the APMC at this event. It is very busy – Peter, Naomi, Alex and Shaku helped out. Included overnight travel to Tucson. If we do it again, we need more participation. It is high profile. It may help market to our own university as well. Next time, we need 3x the number of volunteers. Another example is the Insect Festival. A one-day commitment. What is the outcome? Is it worth the investment in time?
- The IPM CC meeting is too long. I do like the updates. Have a longer morning break and do Team Updates as a poster session.
- This time of the year is tough. Don't meet in August.
- Try lightning talks for the updates. 5 minutes. Slides advance automatically every 20 seconds. It keeps everyone's attention.