

Integrated Crop Management Working Group Feb 5, 2010

Participants: Paul Brown, Sam Wang, Erin Taylor, Al Fournier, Russ Tronstad, Linda Masters, Trent Teegerstrom, Peter Ellsworth, Bob Roth, Pedro Andrade, Randy Norton, Jay Subramani, Ed Martin, Kurt Nolte.

I. AFRI Grants – Ed Martin

RFP around late March or April. 5 goal areas. 5 year multistate multidisciplinary grants. Extension will provide funds to bring groups together to support proposal development; just ask Ed for support. At least 30% of the grant efforts should be toward Extension and outreach (this is beyond AFRI, NIFA-wide). A portion will go toward education related grants (funding grad students, etc.). They are looking for proposals that will produce results, solve problems. 60-90 day turn around on the RFA is expected, once it is released.

II. Reports from participants – current work and upcoming projects

Sam. Will have 2 wheat projects: (1) varieties / protein content / nitrogen requirements. Will use image processing and remote sensing to estimate yield; measure nitrogen inputs. (2) Project on bread wheat, look at nutrient use efficiency, may develop crop growth models. Will continue cotton hail damage study with Pedro. Will work with USDA collaborators to do crop modeling. Also working with Randy on cotton seed size as relates to season-long N requirements in AZ. This is a beltwide project funded by Cotton Inc.

Erin. Organic grain project: planting configurations for weed control in wheat and barley, using tillage. Funded by AZ Grain Council. Working with Randy in corn and cotton precision applications of Telone for nematode control. Kurt and Erin working with a company called Earth Renew on a heat-treated palletized cow manure as N source for vegetables. Trying various rates. Seems okay for short-duration crops like spinach, less so for longer crops. Erin is looking at it on cantaloupes and watermelons this year. Still working on monitoring melon fields for CYSDV. Last year, saw positive fields in June. May cease fall melon production in Agila. Winter monitoring of weeds for overwintering whiteflies. Alternate hosts include alfalfa and lettuce. May be doing some guayule work with Yulex, developing an Extension program, identifying growers to work with, if their grant gets funded. Working with Rick Gibson on “organic stuff” and sustainable issues, starting to do an economic analysis related to manure use.

Kurt. Minimum till wheat project wrapping up this year. Evaluating the risk of domestic animal waste along ditch banks. They are evaluating role migratory birds, cattle, etc. Jorge is analyzing the samples. Trying to re-write part of the leafy green marketing agreement based on the data. If inspectors find untreated manure, can't grow lettuce in that field for one year. They are working on developing a national guideline (which would be a good thing). Working on water testing procedures. Working with John Palumbo on evaluating in vivo concentration of ranaxypyr in lettuce leaves using HTLC. Treatments are different application methods for the insecticide: how do they impact residues in lettuce leaves. He has been quantifying imidacloprid in lettuce leaves using the same method. Working with Sam on a tobacco project. Kurt in managing the Yuma

sites. RJ Reynolds is looking for a way to produce it in U.S. Also have field sites in Safford and Tucson. He is working with Mark Seimens on a lettuce thinning device in collaboration with NMSU. This device will drive through the field and knock out certain plants and leave others standing. He is also working on traceability technology using RF tags and GPS.

Al. RAMP-lygus survey wrapping up this year. Agronomic IPM Survey also wrapping up; report to be developed on research and education priorities. Specialty Crops Block Grant focusing on 1080 database, to develop data analysis and report on SC pesticide use trends. Program Evaluation website will be launched and announced on Tuesday AM notes in the next few weeks. Will be looking for faculty input to improve the site.

Russ. Working with Cheri Kubota on stem grafting project for cantaloupes (a multistate project). A goal of this would be to reduce pesticide use. He is looking at crop insurance for cotton, beltwide. Insurance has been subsidized and there is a shift toward non-irrigated cotton. Working with Peter and Steve Naranjo on a project related to whitefly movement. Also working on a gaming simulation for growers related to planting decisions and how this impacts lygus, yield and economics. Met last week with contractor that is developing the game. Should be ready to pilot test it this summer. He is working with small farms and direct marketing.

Linda. CRIT farm manager was fired. There will be more cotton this year. They still have some guayule. She's interested in planning and early season cotton meeting. They closed the biofuels system that was talked about. It will not be happening.

Trent. Working a number of grants right now. Working with Pistachio Association. He is in the process of updating a computer program for crop budgets. Can be used to evaluate technology adoption. Some details may be lost in the new system, which he hopes will be ready by April.

Peter. Screening reduced risk insecticides for lygus. Belay has been labeled for lygus control in cotton. Big shift in insecticide use for lygus with adoption of more selective product, Carbine. Sulproxiflor, new chemistry from Dow, looks promising; currently doing non-target work. Movento, spirotetromat, important to the vegetable industry, is now tied up in litigation. Comments due to EPA on Feb 8. Additional new whitefly chemistry is on the way. He is working on a new set of Bt cottons from Bayer Cropscience, Twinlink, targeted for release in 2012. Peter will be testing elite lines this year. A transgenic cotton for lygus control is in the early stages. Working with Yulex on guayule, screening for crop safety and insecticide registrations for the crop. Wrapping up the Lygus RAMP project; will have a lot of new information coming out on how lygus movement is affected by crop placement. Contracting with an outside firm to build game training simulation. Once it is ready, we will go on the road with the mobile computer lab. He wants to set up demos around the state for lygus management termination. (Erin will talk to Art & Bruce about a Buckeye demo.) Cotton Pest Losses workshops poorly attended this year. Will probably shift from public meetings to small groups by invitation.

Bob. USDA has been promoting the idea of a phenotyping center for plants. They are working out the technical approaches now. For people who need to assess a large number of plants, this

system would automat the process. They expect that they could rent the system out to companies. Bob is considering options for the demo farm at MAC. Interested in doing variety trials on silage corn. Would it be profitable for us to grow it here for local dairies?

Pedro. Working in cotton. Built a frame to test sensors (spectral, RTs, laser sensors for measuring plant architecture, and one other type of sensor). Have identified important research questions and are learning how to deploy the technologies. Height-to-node ratio can provide management information. Working on field scale wheat trials using various sensors to map the variability of certain characteristics (e.g., reflectance) and finding relationships to yield. Working in pecans as part of multistate SCRI grant focused on water and canopy management. Still doing work on autoguidance, testing the stability of different instruments and approaches for using stabilizers. Could have applications for many different crops.

Randy. A lot of his projects have been described earlier. Telone. Tobacco. Variety testing for cotton, including Pima cotton (including transgenics) in Safford and Maricopa. Water use efficiency work. Corn rootworm control projects are showing results: transgenics and seed treatments.

Jay. He had 3 trials last year on cotton seed. They are trying to find good strains out of 10 lines he grew last year. One line from Arkansas had very good fiber length. But there was a problem with the ginning process. Testing 250 other cotton lines.

Ed. Center pivot system cotton yielded about 1.5 bales of cotton last year. He is working with Russ & Jim Walworth in organic and standard cabbage and use of subsurface drip. Will work with Ursula on a tree experiment; developing crop curves. Ed is still working on crop water use: “Ask Ed” website He will put in a proposal to bureau of reclamation. Randy: in Safford, a lot of subsurface drip going in. Growers there would be interested in a tool that would help them track water use.

Paul. Jeff Silvertooth had a request to re-examine the viability of stub cotton in AZ. Final report should come out Feb 15. Peter suggests they publish it as a cotton report. Cotton Reports – first of March. Mike Ottman started small grain advisories, now on Drupal Extension website. Al will create a link to this from ACIS. Mike Ottman’s links to his old website will disappear. Working with Sanchez on small grain water use. May work with Kurt on lettuce weather data forecasting. He has revised an old Extension bulletin on heat units. The Waddel and Flagstaff weather stations are closing. Others in Southeast AZ may be at risk. Ed: can we do a powdery mildew forecast (for grape producers)? Grape producers might help fund continuation of those stations. Paul: the model exists. It could be done.

III. IPM Update

1. Al provided a review of agriculture- related commitments from this year’s Extension IPM grant. The grant concludes at the end of August this year. From revised outcomes document, based on final approved budget:

(3) Agronomic: An agronomic crops IPM stakeholder survey and report will be posted to the

APMC website, identifying research and education priorities for IPM in agronomic crops, including future directions for Extension program development.

(4) High Value Crops: On farm demonstration workshops / meetings for high value crops will be held in Yuma, Pinal and Maricopa Counties, including 3 on-farm cotton demos; Over 50 IPM hrs (i.e., CEUs) will be conveyed via trainings statewide; New and revised education materials including at least 1 IPM Series publication, one updated IPM Guideline, one IPM Reference Guide and / or Pesticide & IPM Fact Sheets, and 1 manual for training & licensing new cotton PCAs; 1 peer-reviewed cotton report; one completed Cotton PMSP; re-established biweekly Desert Vegetable Advisory web-based newsletter; conduct 2 weed management demonstrations in pecans; deliver presentations to AZ Pecan Growers Association; 2 Extension publications on pecan weed management; various popular press articles.

Progress has been made on some of these objectives (e.g., Vegetable IPM Newsletter) but not others.

2. New proposal update. Peter provided a brief overview of the new Extension IPM proposal, just submitted, which will cover 3 years of funding. We applied for 5 emphasis areas (High value crops, agronomic crops, school IPM, Consumer / Urban IPM, and Housing IPM), 350k per year. The grant budget includes support for travel, etc., but the main focus is to support 3 “Assistant in Extension: positions at 100% FTE: One in Yuma, dedicated to vegetable IPM (Marco Pena) ; one for urban IPM in Maricopa county (to be hired); one at MAC for agronomic crops in central AZ (to be hired). The IPM Coordinating Committee will meet March 19 to plan for revised budget. We expect to have preliminary award notification by the end of Feb.

IV. Plan for Spring meetings

Kurt – We need some work in alfalfa, or a dual cotton / alfalfa meeting. In alfalfa: black aphid is important (could Palumbo present on this?); weed management (Barry T) [Bill will be gone until late June]; irrigation (Ed?); Mike Ottman on grain varieties; Eric Natwick in Imperial Valley is a resource for alfalfa varieties and insect management. Peter would be interested in coming down for general discussion and identifying pest management needs in alfalfa. Crop monitoring (Randy and/or Silvertooth?). In Yuma, alfalfa is on the Mesa with citrus. Not interested in rotation information. Focus should be on early season management. **Timing: April 22.**

Erin- Feb 23 for MAC meeting is still a go. She has a save the date notice to go out. **March 2 Marana meeting** (morning) is confirmed. **June 22 summer meeting in Buckeye.** Morning field day possibly followed by meeting at ELKS club.

Linda- Feb 24 Parker meeting. Eric Natwick might be a good contact.

Randy – Meeting already planned for Feb 17. June 24 is tentative date for Safford meeting.

V. Specialist Agent Communication – Ed Martin

This is the group that is doing agriculture programming. We are not likely to see any additional personnel. Kurt: it would be helpful for me and others if we had a group newsletter. He would

appreciate if each of us wrote a paragraph about their program and what they do and what they can contribute to the Vegetable IPM Advisory or upcoming Extension meetings. We lack a coordinated inventory of what we all do and can provide. This is something that county faculty could draw on, using information selectively for their newsletters. We discussed setting something like this up using Google docs. Ed Martin will follow up.

Next meeting: August 10, 11, or 12 – AI will send a doodle.

Leadership: Paul Brown