

## Arizona Cooperative Extension Proposal Requests - Working Group Award

<b>Title:</b>	Crop Insect Losses and Impact Assessment 2007
<b>Program Area(s):</b>	Agriculture and Natural Resources
<b>County affiliate(s):</b>	Cochise - Randy Norton La Paz - Eric Norton Maricopa - Erin Taylor Yuma - Kurt Nolte
<b>On-campus or Experiment Station affiliate(s):</b>	Entomology - Al Fournier Entomology - John Palumbo Entomology - Peter Ellsworth Plant Sciences - Mary Olsen Plant Sciences - William McCloskey Other: Eric Natwick (University of California)
<b>Lead Faculty:</b>	Entomology - Al Fournier
<b>This Working Group was previously funded:</b>	Yes
<b>University fiscal year:</b>	FY2006
<b>Report of Working Group accomplishments (Outputs and Outcomes) from 2006 – 2007:</b>	
Working Group Outcomes from 2006-2007	
Meetings and Participation	
Melon Insect Losses & Impact Assessment Working Group, Yuma County Cooperative Extension office, Yuma, AZ, June 28, 2006 (9 Attendees from CA and AZ).	
<ul style="list-style-type: none"> <li>• Melon Insect Losses &amp; Impact Assessment Working Group, Maricopa County Cooperative Extension office, Phoenix, AZ, July 19, 2006 (7 PCAs, industry and Extension representatives attended).</li> <li>• Cotton Insect Losses &amp; Impact Assessment Working Group, Maricopa Agricultural Center, Maricopa, AZ, December 12, 2006 (26 Attendees).</li> <li>• Cotton Insect Losses &amp; Impact Assessment Working Group, Yuma Cooperative Extension, Yuma, AZ, December 13, 2006 (15 Attendees).</li> <li>• Cotton Insect Losses &amp; Impact Assessment Working Group, Riverside County Cooperative Extension office, Blythe, CA, December 20, 2005 (8 Attendees).</li> <li>• Lettuce Insect Losses &amp; Impact Assessment Working Group, Yuma Cooperative Extension, Yuma, AZ, April 4, 2007.</li> </ul>	
Other Activities and Outcomes	
<ul style="list-style-type: none"> <li>• Gave presentations about CILIAWG at the 2006 Agriculture Extension Agents Association (AAEA) meeting at the Maricopa Ag Center, December 14, 2006. Invited broader participation of UA specialists and agents in the working group.</li> <li>• Presented about CILIAWG at the 2007 Western IPM Center State Contacts meeting in Portland, OR, March 29, 2007.</li> <li>• Used data from CILIAWG to respond to several insecticide use inquiries from EPA and USDA, including a major request for endosulfan use data in cotton and fumigant use in melons.</li> <li>• Developed and presented a poster on the economic impact of Lygus in cotton for the 2nd International Lygus Symposium in Pacific Grove, CA. Also presented this to regional IPM Coordinators at the 2007 WERA-069 meeting.</li> <li>• Worked with Michael Rethwisch at University of California, Riverside, to develop a draft alfalfa insect losses survey instrument and presented this to PCAs for review and comment.</li> <li>• Published three articles, including data analysis and discussion, in the 2006 Vegetable report on the Crop Insect Losses data for lettuce and melons.</li> <li>• Posted presentations and data from workshops on the Arizona Crop Information Site (ACIS).</li> <li>• Applied for and were granted renewed extramural funding through a Western IPM Center working group grant.</li> <li>• Developed a draft evaluation process for a \$2.5 million USDA Risk Avoidance and Mitigation Program (RAMP) grant that will incorporate the use of Crop Insect Losses data collected by this working group as baseline data</li> </ul>	

for measuring future changes in Lygus management practices in cotton and other crops. Plan to expand the CILIAWG group and data collection process to include West Texas cotton in 2007.

#### Impact of the Data

Additional impacts included in final report submitted to Deb Young, May 25, 2007.

#### **This Working Group is connected to a state- No wide initiative:**

##### **Which one?**

**Budget amount requested (up to \$2,000.00):** \$2,000.00

**Budget amount approved (up to \$2,000.00):** \$2,000.00

#### **Situation/issue:**

The availability of accurate, real-world data on crop pest losses is critical to assessing the impact of Extension recommendations, including IPM programs. Data from Pesticide Use Databases (PUDs), surveys, and other sources are useful, but experience shows that more accurate and complete data can be obtained through face-to-face sessions with major stakeholder groups. However, key participants (e.g., consultants, industry representatives and Cooperative Extension faculty) often lack time and travel funding to participate in this important process. This Working Group proposal is intended to support a system of incentives (offset by other funding sources) to encourage participation through travel compensation. This data-gathering process, which started in cotton, was expanded in 2004-2006 to include head lettuce and melons throughout production areas in Arizona and the low desert regions of California. We ve developed a draft survey instrument for measuring insect losses and factors affecting quality in alfalfa and expect to pilot this in the coming year. Another significant future expansion of this process will be the inclusion of data on weeds and plant pathogens and their impacts on crop losses. Mary Olsen and Bill McCloskey have joined our working group for the coming year and will work with us to expand the data-collecting process to include important information on weed and disease impacts on crop losses.

#### **Inputs including budget:**

- Time, energy, and communication efforts of specialists and agents involved in the working group.
- Time of the IPM Program Manager to develop, analyze, maintain, and disseminate crop insect loss data (through ACIS and compiled state and federal reports)
- Funding to support travel incentives and meeting logistics.
- Resources requested through this proposal will be leveraged with \$9,000 over one year from a Western IPM Center grant. This grant provides mainly salary dollars for the IPM Program Manager (Fournier) to coordinate these efforts. The additional funds sought through this proposal will support travel and meeting logistics for all working group participants.

#### **Outputs:**

##### Activities:

- Provide a forum for discussion and development of crop insect, weed and disease loss data in appropriate subgroups, Cotton Insect Losses (at least 2 live sessions in 2007-2008), Lettuce Insect Losses (Yuma meeting 2008), Melon Insect Losses (at least 2 live sessions in 2007-2008); potential expansion to other crops (potentially alfalfa) to be determined through stakeholder and WG participant feedback.
- Develop, analyze, manage, maintain, and disseminate data.

##### Participation:

Direct participants include CILIAWG members and stakeholders that participate in the data-gathering process (Pest Control Advisors, industry reps, growers, extension personnel). Ultimately, data generated on insect-related losses, insecticide use, management tactics and costs are useful to a variety of audiences, including researchers, Extension personnel, growers, industry representatives, PCAs, pest managers, and state and federal government agencies.

#### **State at least one educational product:**

- Products: Data will be made available to all stakeholders through the ACIS website; impact assessments will be

generated based on data in key economic crops in the region: cotton, melons, lettuce; data will ultimately contribute to the generation of Pest Management Strategic Plans for the Western Regional IPM Center; data are useful for reporting insecticide use patterns in response to EPA and USDA inquiries (an ongoing role of the IPM Program Manager)

- Data also serve as a means of measuring adoption and use of Extension IPM guidelines and recommendations.

**Short-term outcomes:**

Working Group efforts will generate important data related to crop pest losses and pesticide-use, and will disseminate these data to stakeholder groups via the ACIS website, meetings, and Extension publications, and reports for regulatory agencies. This will result in increased awareness and knowledge of insect management principles for key crops.

**Medium-term outcomes:**

The generation of accurate pest-related loss data across key crops will facilitate generation of Pest Management Strategic Plans and improve reporting to regulatory agencies. Another goal is to continue to extend the Cotton insect losses model to new crops and to further expand the model to include other pests (e.g. weeds, plant pathogens) across the state. The data generated will facilitate quantitative assessment of Arizona IPM programs. The process itself may serve as a model for the collection of similar crop data in other states and regions.