



# ACPA Newsletter

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## Kudzu Bug Found in Arkansas, Potential Pest of Soybeans

By: Dr. Nick Seiter, Extension Entomologist, University of Arkansas

The kudzu bug ( *Megacopta cribraria* ) was found for the first time in Arkansas on Monday, September 8 in Crittenden County near Marion. This insect feeds and develops in kudzu and soybean, and has become an economic pest of soybean in the southeastern U.S. A native of Asia, kudzu bug was found for the first time in the U.S. in northern Georgia in fall of 2009. A link to its current distribution in the United States can be found here .

Kudzu bug adults are brown to olive green in coloration, have an unusual box-like shape, and are typically just under 1/4" in size. They lay cylindrical, creamy white eggs in parallel rows, usually on the undersides of leaves or on kudzu stem terminals. The newly hatched nymphs are orange in color, and as the nymphs develop they become light green to tan and take on a hairy appearance. Kudzu bugs go through five molts before they reach adulthood; the fifth and final "instar" before adulthood has large, distinct wing pads. Kudzu bugs go through two generations per year, and take about 6-8 weeks to develop from egg to adult. A series of powerpoint slides are attached to this email as an identification aid.

Identification of the nymphs in particular is key to managing this insect in soybeans. Kudzu bugs feed on plant sap, usually at the stems. This reduces yield by impacting plant vigor, but kudzu bugs do not feed on or damage the seeds themselves. In the southeast, a treatment threshold of 1 nymph per sweep is recommended (note that this is significantly higher than our stink bug

and earworm thresholds). Applications targeting adults, while effective in killing the insects, often result in quick re-infestations of the field. However, when nymphs appear it is a sign that adult immigration into the field is complete or winding down, and a single application is generally sufficient for season-long control. Pyrethroid insecticides, in particular bifenthrin and lambda -cyhalothrin, are very effective for kudzu bug control. The following links are to kudzu bug insecticide recommendations from Georgia , North Carolina , and South Carolina .

The kudzu bug population observed in Crittenden County is small, and appears to be localized based on sampling in other counties. (Soybean fields and kudzu patches in Ashley, Chicot, Desha, Phillips, Lee, Crittenden, Mississippi, Greene, and Clay Counties have been sampled over the past two weeks; thanks to CEAs Kevin Norton, Gus Wilson, Wes Kirkpatrick, Robert Goodson, Stan Baker, Russ Parker, Jason Osborn, Allen Davis, and Andy Vangilder for helping to identify sites). Given how late we are in the soybean growing season, it is highly unlikely that we had any kudzu bug management issues in soybean this year, even if the adults show in some fields (to be clear, we do not have any reports of kudzu bugs infesting soybeans yet in Arkansas). However, please be on the lookout for this insect, and report any suspected findings to Dr. Gus Lorenz (glorenz@uaex.edu), Dr. Glenn Studebaker (gstudebaker@uaex.edu), or myself (nseiter@uaex.edu). Kudzu patches, especially those in



Top- Adult Kudzu Bug

Middle - Immature

Bottom- Infested Plant

well-traveled areas (roadsides, truck stops, rest areas, etc.) are the most likely areas where these insects might be found. If you think you have found kudzu bugs, please take pictures, and if possible collect some of the insects for verification.

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### Special points of interest:

- Kudzu Bug Found in Arkansas for first time
- Thanks to Sustaining Members of ACPA
- Arkansas Crop Management Conference, January 20-22, 2015
- ACPA Research Conference Dec. 1-2, 2014, Fayetteville.
- Soybean Flowers and Cotton Nectar; No Evidence of Neonicotinoids as Threat to Honeybees



## ACPA Industry Sustaining Members for 2014



**Thanks to our Industry Sustaining Members for 2014**

Arkansas Crop Protection Association wishes to thank our corporate sustaining members that help us maintain our organization, provide scholarships for students and conduct the ACPA Research Conference and Arkansas Crop Management Conference. Our sustaining members are listed below:

**Americot  
AMVAC Chemical Corp.  
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NK Seeds  
DuPont Pioneer  
Progeny  
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Syngenta  
United Suppliers  
Valent**

### Dr. Tom Barber Announces Program for Arkansas Crop Management Conference 2015, Drone Technology Discussed in Opening Session

*Arkansas Crop Management Conference Scheduled for January 20-22, 2015,*

The 2015 ACMC will feature the production issues incurred during 2014 and provide additional information on new weed control technology that will be available in limited quantity this coming next year. In addition, rice issues will be discussed including fertility management, resistant weed and disease management. The opening session will include a long term outlook on fertilizers and also highlight the use of drone technology in agriculture. Another issue of concern addressed during the conference is

the use and benefit of micronutrients.

New technology will be discussed including weed management plus application technology to limit drift, drone technology and use, irrigation timing, and insect control. The issue of neonicotinoids and bee health will be discussed in relation to colony collapse disorder. The 2015 Arkansas Crop Management Conference will have about the same number of educational credits as last year available to participants. You

will be able to pre-register online at [www.acpanews.com](http://www.acpanews.com) in the near future. Rooms are \$104 per night and includes breakfast at the Wyndham Riverfront in North Little Rock, AR phone: 501-371-9000 for reservations. Please indicate you are with the Arkansas Crop Management Conference. The special room rate is available until January 10, 2014. Do not wait too long to reserve a room, we had a full house last year. Program starts at 8:00 AM on January 20, 2015.

*Plan on attending ACPA Business Meeting during the Arkansas Crop Management Conference January 20, 2015 in Silver City 1-2*

### ACPA Officer Election for 2015 Scheduled for Annual Meeting at Arkansas Crop Management Conference

The Arkansas Crop Protection Association will hold the annual business meeting during the Arkansas Crop Management Conference. ACPA will be selecting officers for President Elect, Vice President, and ACPA board representative for Industry. The annual meeting is scheduled

for 5:30 pm on Wednesday, January 21, 2015. In addition to the regular meeting, several committee appointments will be discussed. The scholarship committee and program committee chairmen will be making a report on the programs. ACPA nominations committee will present nominations for

offices; however, nomination are also accepted from the floor.



## Value of Neonicotinoids in Mid-South Agriculture and Their Potential Impact on Honeybees

By: Dr. Gus Lorenz, Extension Entomologist, University of Arkansas

Neonicotinoids are a class of insecticides that work on the nicotinic acetylcholine receptors, a nerve poison that is systemic. Several examples of these insecticides include Gaucho, Admire Pro, Aeris, Centric, Cruiser, Avicta, Belay, Nipsit INSIDE, and Poncho. This group of insecticides has high insecticidal activity but low mammalian toxicity. For example, imidacloprid is used for control of fleas on dogs and cats. Neonicotinoid insecticides are used extensively in crops for control of many insects that damage plants by rasping or sucking plant tissue. Examples include thrips, plant bugs and aphids. The seed treatments improve crop performance and yield. Estimates for yield increases in corn are around 10 bu/A, soybean 3 bu/A, rice 8 bu/A, and cotton 100 lbs/A. Foliar treatments have a lower risk of flaring pests and reduced environmental impact. Foliar applications of neonicotinoids in cotton provide control of plant bugs, the primary pest.

Recently, neonicotinoid insecticides have been implicated as contributing to a disorder in honeybees called colony collapse disorder (CCD). Colony collapse disorder does not have a single cause but is the result of a combination of factors that ultimately results in honeybee colony death. In the past, insecticides have been the cause of honeybee colony deaths through direct contact that caused immediate death of honeybees. Neonicotinoid insecticides are also toxic to honeybees; however, exposure to toxic doses appears to be limited. Seed treatments have been shown to create small amounts of dust contaminated with neonicotinoid insecticides at planting. The dust ultimately settles downwind of planted fields on vegetation and any flowers associated with field borders. Our studies have shown that wildflowers are often associated with low levels of dust from nearby planted fields. However, these levels are low and probably not a threat to

honeybee populations. Honeybee populations also visit nearby crops foraging for nectar and pollen. Our studies have shown no evidence of neonicotinoids present in soybean flowers or cotton nectar, 2 primary sources of nutrition to honeybees in Arkansas. Corn pollen was found to have detectable levels in 20% of the samples but at very low concentrations. Similarly, cotton pollen had very low levels of neonicotinoids in 7% of sample analyzed. In other observations, corn and cotton pollen are not preferred sources of for honeybees. Therefore, the low levels of detection and non-preference of pollen suggests that any potential threat to honeybees from corn and cotton pollen is very limited. Overall, the soybean and cotton nectar is a high quality source of nectar for honeybees that is free from neonicotinoids. The honeybee population threat from CCD will continue to be evaluated and studied in Arkansas.



Bees are a part of Arkansas agriculture providing valuable pollination for crops.

*“Colony collapse disorder does not have a single cause but is the result of a combination of factors that ultimately results in honeybee colony death.”*

## Dr. Jarrod Hardke Announces ACPA Research Conference, Dec. 1-2, Fayetteville Guesthouse International Hotel

Protection Association Research Conference is scheduled for December 1-2, 2014 and will be held at the Guesthouse International Hotel (1-800-214-8378) in Fayetteville, AR. The program will begin at 1:00 PM on Monday, December 1 and continue at 8:00 AM on December 2. There will be a student paper competition with cash prizes awarded for the top papers in both Masters and Ph.D. divisions. Registration fee will be \$50 with all proceeds to benefit the ACPA scholarship fund. Student registration is free. Crop protection researchers

from industry, extension, and academia throughout the state are encouraged to attend and participate by making presentations. Please contact Jarrod Hardke (jhardke@uaex.edu) for a paper/abstract submission form. Send your title by Friday, October 17, 2013 to Jarrod Hardke, 2900 Hwy. 130 E., Stuttgart, AR 72160, or email: jhardke@uaex.edu. Full abstracts are due no later than Friday, November 7, 2014. A diverse group of research presentations will contribute greatly to producing an outstanding meeting.

The program will run on a strict time schedule of 15 minutes for each presentation. The program committee requests each presentation be ~12 minutes to allow time for questions. Visual aids should be computer-driven PowerPoint presentations. Please bring these to the meeting room on an external drive or CD at least one hour prior to your section's start time or during the break between sessions. Continuing education credits will be available.

**“The meeting features future leaders and outstanding talks on current research topics”**

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International Hotel  
Call 1-800-214-8378  
Mention the Research  
Conference and help  
meet our room goal.**

**We're on the web:**  
**acpanews.com**

## **Khapra Beetle – A Stored Grain Pest Exotic to the United States**

**by Joel Bard, USDA APHIS PPQ, Little Rock, Arkansas**

The Khapra Beetle, *Trogoderma granarium*, is a serious stored grain pest found in Africa and Asia as well as some European countries. While not present in the U.S., several infestations have been eradicated in grain storage facilities over the years at great expense. It is one of the world's worst stored grain pests partly because of its "dirty eating" behavior. That is, its feeding only a little on each grain. Hosts include corn, rice, wheat, oats, barley, etc. It is well suited to

the climate in the southeastern U.S. and can survive much colder climates protected in grain storage facilities. Recently it has been intercepted more frequently at U.S. ports of entry in a number of agricultural commodities which has resulted in additional restrictions to prevent its entry into the U.S. Because of these factors USDA APHIS PPQ considers it to have a high potential for U.S. introduction for causing serious economic damage. APHIS and many state co-operators regularly trap for this

exotic pest in an effort to detect infestations early enough to eradicate them. Preventing establishment of this pest in the U.S. also facilitates export of U.S. grain because maintaining our pest free status means our grain doesn't have to meet additional entry requirements imposed by other countries.

For more info about this pest check out the APHIS PPQ Hungry Pests website at: <http://www.hungrypests.com/threat/khapra-beetle.php>



Khapra beetle adult and larvae [Bugwood.org].