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The Invasive Kudzu Bug Reaches Maryland

Alan Leslie and Dr. William O. Lamp, Department of Entomology

Soybean growers in Maryland may have a new invasive insect pest. The kudzu bug (also known as the bean plataspid, or *Megacopta cribraria*) is an economic pest of soybeans in its native range in Asia, and has been spreading throughout the southeast United States. This species was first discovered in October 2009 in northeastern Georgia. No one knows for certain how the insect made the move from Asia to the U.S., but it has been spreading quickly since it arrived. As of 2012, the insect had been reported in eight states in the southeast U.S., including neighboring Virginia. The invasion of kudzu bug into Maryland was considered by many researchers to likely occur this year as a part of its northward dispersal. This led us to conduct a survey this summer of southern Maryland counties to search for this new invader. The survey was funded by the Maryland Soybean Board. As of early July, the kudzu bug has been found in five Maryland counties. What the new bug means for Maryland soybean growers is still uncertain.

Impacts:

The kudzu bug gets its common name from the fact that it feeds and develops on the invasive kudzu vine (*Pueraria montana*), but the insect also feeds on a wide variety of legumes, and has been reported on some non-legume crops as well. The life history of this introduced pest has been most extensively studied in the southern states, where it has already proven to be a serious soybean pest. The general life cycle pattern has been the overwintering adults emerging and

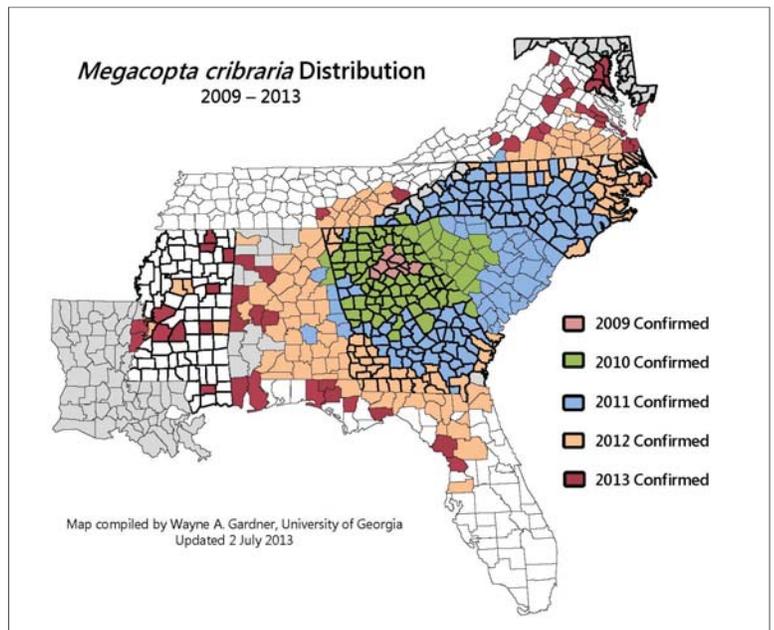


Fig. 1 – Distribution of kudzu bug in the United States
Credit: Wayne Gardner, University of Georgia, kudzubug.org

producing a first generation on kudzu vines. The new adults then disperse and produce a second generation on both kudzu and soybeans. Both nymph and adult stages feed on stems and leaves of the soybean plants with their piercing-sucking mouthparts, disrupting plant physiological processes that cause reduced growth and yield.

The kudzu bug has been found in roadside kudzu patches in St. Mary's, Charles, Calvert, Prince George's, and Anne Arundel Counties in Maryland. The insect has not yet been reported on the Eastern Shore, though it is likely present there as kudzu bugs have been confirmed to be present on the Virginia and Delaware portions of the Delmarva Peninsula. During the remainder of the summer, we will scout for the insect in soybean fields across the state. Our goal is to determine the extent of counties that are home to this new invader, and to determine whether it poses a serious threat to Maryland soybean farmers. It is currently unknown whether the growing season in Maryland is long enough to support two full generations of the insect, or whether the insect will reach high enough densities to produce economic damage.

Identification:

Adult kudzu bugs look like small beetles, but they are actually more closely related to stink bugs than to beetles. They have piercing-sucking mouthparts, rather than the characteristic chewing mouthparts for beetles. Adults measure between 3.5 to 6 mm (1/8-1/4 inch) in length, and are rounded like lady beetles. The abdomen is covered by a hard plate (scutellum) that covers the wings and makes them look like small, brown to greenish brown, mottled beetles. The shape of this scutellum gives the kudzu bug a distinctive appearance, as the posterior end is truncated, rather than narrowly rounded like in other bugs and beetles.



Fig. 2 – Kudzu bug adult
Credit: Russ Ottens, University of Georgia, bugwood.org

This gives the overall outline of the kudzu bug a squared shape. When disturbed, kudzu bugs will release a chemical that smells similar to that of stink bugs. Eggs are laid in two parallel rows on the undersides of leaves in groups of about 16. Kudzu bugs undergo 5 nymph stages before molting to the final adult stage.

Two websites have been developed to provide information on this invasive insect to farmers and the general public. The Megacopta Working Group (www.kudzubug.org) is a multi-state collaboration that has been tracking the spread of this insect since it was first discovered in 2009. Their website includes detailed images that can be used for identifying the insect, current county-level distribution maps of the insect, information on how to control this pest, and forms for reporting new sightings of the kudzu bug. The Dr. William Lamp Laboratory at the University of Maryland is conducting a survey this summer of kudzu

vines and soybean fields in southern Maryland counties through funding from the Maryland Soybean Board. Our website (<http://mdkudzubug.org>) includes descriptions of the kudzu bug, online forms for reporting sightings, and regular updates on results of our survey this summer. If you discover what you believe to be the kudzu bug in your fields, please consider reporting it to our website. The information will help us prepare for its likelihood of becoming a soybean pest in Maryland.



Fig. 3 – Kudzu bug nymph
Credit: Joe Eger, Dow AgroSciences, bugwood.org



Fig. 4 – Kudzu bug eggs
Credit: Joe Eger, Dow AgroSciences, bugwood.org

Crop Reports

Western

Wheat harvest is winding down. Recent, widely scattered showers have been common and have corn and soybeans looking very good. Hay inventories are on the rise as yields are outpacing the hay yields of last year. Hopefully, severe dry weather will stay away.

Central

Too much moisture continues to be a concern across the region. Early in the reporting period localized rainfall limited wheat and hay harvest. Later in the reporting period hot temperatures and no rainfall allowed for a flurry of work to be completed. Soils remain wet in some areas, delaying double crop soybean planting. Corn growth is excellent, as the crop begins to silk. Wheat test weights vary from excellent to light.

Northeast

Overall the weather has not been kind to small grain producers. The barley harvest is essentially complete and wheat harvest is well under way; however the weather conditions have created challenges in putting acceptable quality grain in the bin due to low test weights, protein levels, vomitoxin and falling number issues. This is a year when average or even low level management of the small grain crop has produced an abundance of grain that may be hard to market. On the other hand, the corn crop is responding to these same weather patterns and looks very good with

most of the crop in early to late tassel. Soybeans are looking good for this stage of the season. Pasture conditions are good but hay is hard to put up without getting a shower on it.

Southern

Corn is pollinating or has already pollinated in many fields. Most fields are in good to very good condition. Some areas will need some rain soon to prevent moisture stress. Soybeans also look very good with many full season beans now flowering. Wheat harvest is behind schedule with some fields already deemed too late for double crop soybean planting. Frequent rains and high humidity have slowed wheat harvest and double crop planting progress. Wheat quality has been good so far, though test weight is beginning to decline. Alfalfa fields are showing hopper burn injury from leafhopper feeding.

Upper Eastern Shore

Wheat harvest is finishing up, with the last part of the crop having very low test weight. Some fields are still too wet to plant double crop soybeans. Corn on well-drained fields looks very good, but it is evident that on fields with wet or saturated soils, yields will be depressed. There was some good hay made around the Fourth of July, but very little since then.

Lower Eastern Shore

Unusually wet conditions are continuing across the region. In the last 2 weeks, many

areas received an average of 5 inches of rain. Sprouted wheat is a major concern with the delayed harvest. On poorly drained fields, corn is suffering from nitrogen deficiency. Gray leaf spot which is a serious yield reducing disease, has been spotted in corn. Mold is building up in some late planted corn fields. Sweet corn ear formation is suffering from the weird weather patterns. In particular, differences can be found in uniformity among the ears. Early planted soybeans have drowned which has made it necessary for replanting on at least 20% of the early planted acres. However, both corn and soybeans are looking great in the fields with well-drained soils. The extremely wet conditions have caused watermelons and cantaloupes to have reduced yield. Among vegetable crops, snap bean yields appear to be the worst affected. Due to incidence of Pythium, yield reductions of over 25% will be common for snap beans. Farmers markets are active and the produce is moving out in normal volume.

Timeline: This crop report is for the field observations from June 21 through July 11, 2013. Crop Report Regions: Western (Garrett, Allegany and Washington), Central (Carroll, Frederick, Howard, Montgomery), Northeast (Cecil, Harford, Baltimore), Southern (Anne Arundel, Prince George's, Calvert, Charles, St. Mary's), Upper Eastern Shore (Kent, Queen Anne's, Talbot, Caroline), Lower Eastern Shore (Dorchester, Wicomico, Worcester, Somerset).

Agriculture Weather Report

Adam Caskey, Meteorologist

Often this time of year I find myself talking about dry conditions or drought, but this year is an exception. Moisture has been

abundant pretty much all summer in Maryland, especially on the Eastern Shore. As a matter of fact, recent rainfall has been a

result of a weather pattern very similar to that of June '06 when portions of the Mid-Atlantic got record rainfall.



Guidance is now indicating a shift northward of the main storm track, but that doesn't mean the tap will turn off. As of now, it looks as though Maryland will still be close enough to that main storm track to be affected by disturbances/dips in the flow to

initiate a few periods of widespread rain through July 25th. In turn, the precipitation outlook through July 25th is above average. Ensemble guidance is in unusually good agreement in this flow pattern, so my confidence is above average.

As for temperatures, the aforementioned flow pattern should lead to slightly above average temperatures through July 25th, so several more 90 degree days are likely.

Announcements

2013 Pesticide Container Recycling Program from MDA



Maryland Department of Agriculture's Pesticide Container Recycling Program will be accepting clean, empty containers from June 4

through September 27, during normal business hours. Containers will be collected from their current owners, for safe disposal and recycling.

Containers must be cleaned (triple-rinsed or pressure-rinsed) according to label directions.

Please remember to remove lids and label booklets from the containers prior to drop-off. Call 410- 841-5710 for more details and drop-off instructions. Collection dates and venues can be found at this link, <http://mda.maryland.gov/plants-pests/Documents/recycle.pdf>

Upcoming Events

Maryland Commodity Classic, July 25, 2013

Mark your calendars and plan to attend the 14th annual Maryland Commodity Classic on July 25 at the Queen Anne's County 4-H Park. This all day event is sponsored by the Maryland Grain Producers Association, the Maryland Soybean Board, and the Mid-Atlantic Soybean Association. The program will begin at 10:00 am at the Queen Anne's County 4-H Park with an educational program that will highlight some grant recipients who will speak on pest management issues. Attending this educational program will allow attendees to receive Private Pesticide Applicator's recertification credit. Lunch and informational displays will be set up at 11 a.m. The business meeting begins at 1:00 p.m., followed by speakers highlighted by keynote speaker, Dr. Jay Lehr. The event concludes with the famed Crab Feast, Pork and Chicken Barbecue. Entry prior to 2:30 p.m. is \$10, and after 2:30 p.m. the entry fee is \$20. There is no entry after 3:30 p.m.

For ticket information regarding the Commodity Classic, contact the MGPA office at 410-956-5771. Maryland Grain Producers Association members receive a free ticket; call for membership information.

Fall Soil Nitrate Testing Workshop, July 26, 2013

The University of Maryland Extension (UME) Agricultural Nutrient Management Program will offer a workshop on fall soil nitrate testing (FSNT) on July 26, 2013 from 9:30 a.m. to 11:30 a.m. at the University of Maryland Wye Research and Education Center, Queenstown, Maryland.

Certified Nutrient Management Consultants or Certified Farm Operators will receive 2 hours of continuing education credits towards their nutrient management certification.

Pre-registration for the fall soil nitrate testing workshop is required to ensure there is enough equipment available for all

participants. Contact Paul Shipley to register (prs@umd.edu or 301-405-2563).

Mid-Season Aronia Twilight Tour

A mid-season Aronia Twilight Tour will be held at Wye Research and Education Center, 211 Farm Lane, Queenstown MD 21658 on Wednesday July 31st from 5:00 – 7:30 pm. This program will consist of a variety of information about Aronia culture and research program updates.



Please register with *Andrew Ristvey* NO LATER THAN July 26th, 2013 at 410-827-8056 x 113 *or* aristvey@umd.edu.

Cut Flower Tour August 6, 2013

University of Maryland Extension will host a Cut Flower Farm Tour on Tuesday August 6th from 8.00am to 4.00 pm. The event will



begin at the Long Season Statice Farm at Salisbury and will end at Seaberry Farm, near Federalsburg, MD.

During the tour, University of Maryland Extension Specialists will cover major disease, insect and weed identification and control for some of the major cut flower crops seen on the tour. For more information on the program: 301-596-9413.

Third Annual Mid-Atlantic Precision Ag Equipment Day

Mid-Atlantic Precision Ag Equipment Day will be held on Wednesday, Aug. 7, 8:30am – 4.30 pm at Caroline County 4-H Park 8230 Detour Road, Denton, MD 21629



Farmers from around the region are invited to join us and learn how to make precision agriculture pay in their operation. Practical and informative advice will be given on sprayer and planter section control, variable rate seeding, economics and practical implementation of RTK and GPS, soil mapping, using technology for on-farm research and developing variable rate prescriptions, and much more. This free

event is hosted by Maryland, Delaware, Virginia, West Virginia, and Pennsylvania Extension. This event is free and open to the public. Lunch will be provided free of charge. DE and MD Nutrient Management Credits & CCA credits will be available.

For more details and registration please visit, <http://www.enst.umd.edu/news/events>

Western Horticulture Crops Twilight Meeting, Wednesday August 21st

The 2013 Horticulture Crops Twilight Meeting will be held Wednesday, August 21st, from 5:00-8:00 PM, at Western Maryland Research & Education Center, 18330 Keedysville Road, Keedysville, MD 21756

Learn the latest on the Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on vegetables and fruit, apple seedling evaluations, mobile and stationary high tunnels. Please RSVP to 410-386-2760/888-326-9645 or e-mail mabbott@umd.edu

WyeREC Horticulture Crops Twilight Meeting

This meeting will be on Wednesday, August 28, 2013, 5:00 pm – 7:30 pm at

Wye Research and Education Center, 211 Farm Lane, Queenstown MD 21658.

This educational meeting is intended to provide producers and the general public the opportunity to get a firsthand look at several of the ongoing Horticultural Crops projects at the University of Maryland's research facility in Queenstown.

Learn the latest on the Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on fruit and vegetables and updates on disease control in vegetable crops.

Tour of ongoing projects will include Pumpkin IPM Spray Trials, Asian Pear Variety Trial, NC140 Size-Controlling Rootstock Evaluation, Aronia Trials, and Impact of Buckwheat on the mortality of exotic and native Pentatomids in Organic Sweet Corn planting.

Sandwiches and refreshments will be provided. Registration is not required, but will help us to plan for handouts, food and drinks. Reply to: Debby Dant, 410-827-8056 X115, ddant@umd.edu or Michael Newell, 410-827-7388, mnewell@umd.edu



Did You Know

89% of America's corn crop is grown without irrigation.

SIGN-UP TO RECEIVE "AGRONOMY NEWS"

If you would like to receive this newsletter via email please contact Rhonda Barnhart at rbarnhar@umd.edu. The subject line should be: Subscribe Agronomy News 2013.

If you would like a hard copy please contact your local county extension office to sign-up for the mailing list. The list of local county offices can be found at www.extension.umd.edu.

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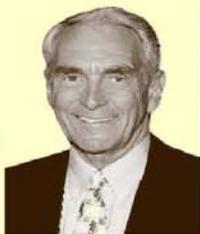
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Mid-Atlantic Soybean Association

**KEYNOTE SPEAKER
DR. JAY LEHR**



Dr. Lehr combines five decades of experience in ag economics, agronomy, environmental science and business with the most contagious enthusiasm for the future of the U.S. farmer as he presents the impact of advancing technologies on the local, national, and global economy. Known for his athletic interests, Lehr also plays hockey, skydives and competes in the Ironman Triathlon. Lehr works to educate people on today's hot ag topics with true science, such as when he took to the city streets of San Francisco to talk about fertilizer. Check it out on YouTube: Jay Lehr visits San Francisco.

15th Annual



**Thursday,
July 25, 2013**

Queen Anne's 4-H Park

Rt. 18 between
Queenstown & Centreville

10:00 a.m. to 5:30 p.m.

AGENDA

NEW! This year, the morning presentation of checkoff funded research projects will not be tours at the Wye, but instead discussed in an education forum at the 4-H Park where participants will receive full pesticide recertification for private applicators (and credits towards commercial recertification).

- 10:00 a.m. to noon Pesticide Recertification—presentation of grain & soybean checkoff funded research
- 11:00 a.m. 4-H Park, registration, commercial, checkoff funded & agency exhibits open
- 12:00 noon Lunch available from 4-H Club
- 1:00 p.m. Business Meeting & Program
Joanne Clendining—Emcee
Jay Lehr—Keynote Speaker
- 4:00 p.m. Crab Feast and Pork & Chicken BBO



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Host of the new
MPT Maryland
farm series
coming this fall!**



TICKETS

\$10 prior to 2:30 p.m.

\$20 after 2:30 p.m.

No entry after 3:30 p.m.

MGPA members receive complimentary tickets—contact MGPA to see if you qualify

**For tickets and more
information contact MGPA:**

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