

Are my wheat fields susceptible to Brown Marmorated Stink Bug (BMSB)?

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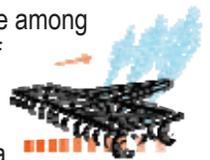
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There is limited information available on the BMSB with respect to its management. That has left us scratching our heads with respect to providing surefire control tactics. Questions such as what are the thresholds, which insecticides work best, are we going to have a population explosion similar to 2010 and will they invade my wheat fields have arisen. Although the BMSB probably will rarely occur in Maryland wheat fields, there are some stink bug species that are known to build up on wheat before moving to more susceptible and spring planted crops. Presently, there are no established guide lines for managing the BMSB in wheat and other agronomic cropping systems. And, as has been witnessed in fruit crops, the use of insecticides can have very short-lived effect. Instances where insecticides were effective in introducing BMSB to their final resting place, repopulation of the pest occurred through migration from non-treated areas. The BMSB has taste buds for a wide variety of plant species, reportedly feeding on over 300 hosts. It is this diverse diet that makes managing it so challenging. As such, even if we “shock and awe” them on the crop production battle field using our best chemical weapons, there is a good chance they will regroup and be able to timely repopulate that battle field. The BMSB, like other stink bugs, are very mobile and can decamp one site and quickly enter another. This rapid movement from one species to another may be in response to their current preferred host changing from a favorable feeding stage, such as fruit or pod formation, to senescence. Furthermore, some insecticides that have been shown to effectively stop BMSB in their tracks, inadvertently cause injury or death to their natural enemies. Unfortunately these natural enemies are our allies and have been doing a good job maintaining other insect pests in check prior to BMSB hitch hiking from Asia to the United States.



Although wheat has been reported to be a BMSB host, it doesn't appear to be among their favorite foods. A student assistant and I have witnessed the presence of BMSB egg masses in a wheat plot in Beltsville, MD on two occasions earlier this spring but didn't encounter any nymph or adult stages. Although, not reported to be a significant problem in Maryland, wheat can be colonized by a variety of stink bug species. In some states, some stink bug species have been reported to surge into heading wheat fields.



At what stage would wheat be most vulnerable to BMSB injury

The most susceptible growth stages of wheat to stink bugs are the milk and soft dough stages. Earlier (vegetative growth) and later (hard dough) stages are likely



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immune from damage. More importantly, infestations in wheat likely will lead to stink bug problems in other crops (e.g., corn, soybeans). Some may argue that it would be a good thing if the BMSB invaded wheat fields. Now, before you start thinking someone with this mind set is under the influence of alcohol or drugs, let's think about this. If the BMSB colonized wheat fields, they would be easier to treat with an insecticide, then many of the remaining 299 + host plants many of which are forest species. Under this scenario, populations of the pest could be easily knocked back prior to the establishment of crops such as corn, which during its later growth stages may be a difficult crop to treat with ground equipment. However, this strategy of spraying wheat to protect future crops may not win you points as a good IPM practitioner unless the BMSB has reached threshold levels in wheat. Treating one crop to protect a future crop would require some research to determine its practicality and economic feasibility,

Stink bug threshold in wheat



There is no established threshold for BMSB in wheat. However, current thresholds for stink bugs in general for wheat, according to a Mississippi State University specialist, is 1 stinkbug/5-10 heads in the milk and soft dough growth stages. The milk stage of development is susceptible to damage from stink bugs because infestations at this stage can cause reductions in grain weight and future germination if the wheat is for seed. A study was conducted in Louisiana in the early 1980s in which the objective was to evaluate the effects of southern green stink bug and rice stink bug on wheat kernel quality and weight. The researchers concluded that control measures are warranted only for milk stage infestation. Additionally, these researchers reported it takes "choke" numbers of stink bugs to cause significant economic damage to

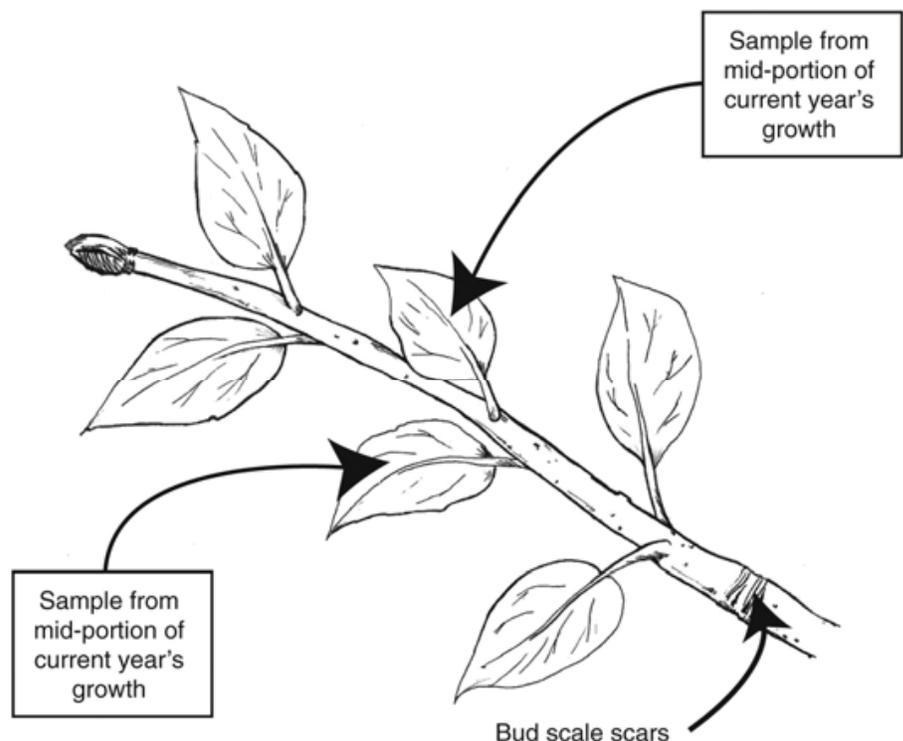
heading wheat. When wheat reaches hard dough growth stage, the likelihood of significant damage greatly declines. With this in mind, seeing high numbers of stink bugs while walking a wheat field may make you panic, but take a deep breath and then say to yourself "wheat requires a lot of stink bugs to cause economic damage". You can relax knowing that there is a high probability that your wheat does not need chemical intervention. Keep in mind, insecticide applications are rarely needed for stink bugs on wheat in the United States because densities are typically below economic thresholds.



Stink bug on corn

Diagnosing Plant Tissue Analysis

Plant tissue analysis is a laboratory determination of the total elemental content of plants or of certain plant parts. It is used for a variety of purposes including monitoring the nutrient status of crops and troubleshooting problem areas. It also serves as the basis for nutrient recommendations for perennial fruit crops. Plant tissue analysis should not be confused with tissue testing. Tissue testing typically refers to a field test that involves taking sap samples from fresh plant tissue and analyzing the samples on site. Plant tissue analysis is performed on dried plant tissue that has been processed in a laboratory. Please review the University of Maryland Extension, Plant Tissue Analysis publication at this link <http://anmp.umd.edu/files/PL-1.pdf>





Crop Reports

Western

In Garrett County, the hot humid weather and scattered thunderstorms have had farmers struggling to make first cutting hay. To date, they have completed about 40% of the first crop. Corn planting is nearly complete with the last corn going in following first cutting hay harvest. Earlier planted corn is doing well with most in the 3-5 leaf stage. Majority of the soybeans are planted and most are up and looking great. Washington County has been experiencing some very hot weather and we have been dry for nearly 10 days. This has allowed many to finish up planting corn as well as get over 60% of the full season soybeans in the ground. Grass hay is being baled at breakneck speed as is second cutting alfalfa. The first barley is just starting to come off. Wheat is showing about 10% scab. We will have to wait and see what the verdict is at harvest. Wheat yields look impressive from the edge of the field. We will be keeping an eye on the sky as this is the time of year when heavy thunderstorms can bring hail damage to fruit and lay cereal grains on the ground.

Central

The last two weeks have provided the much needed dry spell to allow catch up planting with spring crops. Full season corn and soybeans are planted. Emergence has been very good with the exception of just a few fields. First cutting of grass hay is nearly complete and second cutting alfalfa will begin within the week. Barley harvest has begun and wheat is beginning to turn. Some scab in wheat has been reported. Brown Marmorated Stink Bugs are active across the region, with reports of damaged peaches already. Other fruit and vegetable crops are in good to excellent condition. Pastures are in excellent condition. Hot dry weather is expected for the next week with only a slight chance of

scattered thunderstorms. It will not be long until moisture will be needed to keep crops in excellent condition.

North East

It is hard to say this after the April and May we had, but the top soil is getting a little dry. With only a few spotty showers, the last two weeks have been good for field work; corn, soybean and other crop planting is caught up. Emergence and crop growth look good. A lot of hay was made and the quality is pretty good. Barley harvest is close at hand and wheat is beginning to turn.

Southern

Conditions are very dry throughout most of the region. There have been some showers in the northern part of Southern Maryland. Many areas to the south have not seen rain for 4 weeks. Corn is showing the stress from the hot and dry conditions. Most stands continue to hold on, but some fields are starting to lose plants, especially on sandier soils. Soybeans are in the same boat. Barley harvest has been underway since last week. Yields are fair to good. Wheat is drying down quickly. Some farmers are waiting for moisture before planting double crop beans or sidedressing N on corn. The second cutting of alfalfa is underway.

Upper Eastern Shore

Barley harvest is almost complete in the southern part of the region and underway in the northern part of the region. Wheat harvest will begin in the southern part of the region by the time this is published. Barley test weights and yields have been variable. Scab is a factor in the differences being seen. Wheat looks good, but may have the same test weight variations as there is scab present across the region ranging from 0 - 25% infection. Most of the corn has been side dressed

and needs some moisture. Corn on the sandy soils in the southern part of the region has been drought stressed for over a week. The heavier northern soils are also showing drought stress symptoms. Full season beans are showing signs of feeding damage caused by bean leaf beetles, grasshoppers, and spider mites. The dry weather has been conducive for hay making. Quality of second cutting hay is excellent.

Lower Eastern Shore

The Lower Shore continues to be very dry. Corn is showing signs of stress. Barley harvest is nearing completion, and wheat harvest should be earlier than normal. Hay yields have been reduced by dry conditions. Pasture conditions are rated fair to poor. Disease and insect pressure is light at this time.

Timeline: This crop report is for the field observations from May 28 through June 8, 2011. 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)

Upcoming Events

Northeast Branch Agronomy, Crop and Soil Science Societies Annual Meeting

Dates: June 26 – 29

Host: University of Maryland

Location: Chesapeake Beach Resort and Spa, Chesapeake Beach, MD

Learn more at: <https://www.soils.org/membership/branches/northeastern> or contact Bob Kratochvil, rkratoch@umd.edu or 301 405-6241

2011 Chicken Flipping Fun Camp



Chicken Flipping Fun Camp, sponsored by the University of Maryland and the University of Delaware, is a great workshop experience for middle school students. The camp

allows us to educate students on agriculture, food, science and poultry and show how all of these components are connected and play an important role in our world. Pre-registration is required.

Registration form, waiver form, and camp fees are **due by June 29th, 2011**. The fee is \$5 per participant. For details contact Lisa Collins, University of Delaware, Carvel Research and Education Center 16483 County Seat Highway, Georgetown, DE. Phone: 302-856-2585 Extension 702. E-mail: llcollins@UDel.Edu

Maryland Commodity Classic

Hosts: Maryland Grain Producers Association and Maryland Soybean Board

Date: Thursday, July 28

Events: AM field research tour at Wye Research and Education Center; afternoon program at Queen Anne's 4-H Park.

Keynote speaker: Orion "The Big O" Samuelson, the best known agriculture broadcaster in the country Information: Contact Maryland Grain Producers Association or Maryland Soybean Board

Grain Marketing for Women on July 28th

Have you wondered where to get information about grain markets and what terms like options, futures and basis mean? This workshop will introduce grain marketing basics with topics such as finding grain marketing information, crop budgeting, and pricing tools. We will then use a hands-on-approach in writing and implementing a grain marketing plan.

Cost: \$10 per person and includes breakfast and materials

Date: Thursday, July 28th 8:30 am.– Noon
Chesapeake College, Wye Mills, MD
Economic Development Center - Room 27
To register contact 410-758-0166 or email at jrhodes@umd.edu

Farm Estate Planning Workshop on September 7th

This workshop is for farmers and owners of rural land. In addition, individuals involved in farm estate planning, businesses that provide services to farmers, and state and local government employees will all find this workshop helpful.

Cost: \$10 per person (includes lunch and materials)

Date: Wednesday, September 7
8:30 am Registration

9 am - 1 pm Workshop
Chesapeake College, Wye Mills, MD

Higher Education Center - Room 110
To register contact 410-758-0166 or email jrhodes@umd.edu

2011 Horse Pasture Walk Series

Visit the Equine Rotational Grazing Demonstration site at Central Maryland Research and Education Center for a tour of the pastures and an explanation of current management practices. Each pasture walk will feature a special presentation on a different pasture management issue of interest. These events are free, but advanced registration is requested. Educational materials will be provided, and refreshments will be served. All events are rain or shine.



June 23, 2011 6:00 pm—8:00 pm
Best Management Practices for Healthy Pastures

Knowing how and when to rotate, mow, harrow, and over-seed pastures can be tricky. Experts will discuss tips for keeping your pastures in top condition.

July 21, 2011 6:00 pm—8:00 pm
Weed Identification and Control
What weeds are common in horse pastures and how can you control them? Develop your skills in weed identification and learn which weeds are toxic.

Registration Information
To register for horse pasture walks simply RSVP to Jennifer Reynolds at jenreyn@umd.edu.

A Big Thank You!!

Maryland Grain Producers' Utilization Board and Maryland Soybean Board are both recognized for their financial contributions that support the publication and distribution of this newsletter. This is another example of the "checkoff dollars" at work.





Did You Know

Maryland has the greatest ratio of farmland preserved to total land area of any state in the nation.

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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 2011.

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