

What Research Has Discovered About BROWN MARMORATED STINK BUG



Stanton Gill

The brown marmorated stink bug had its peak “hay-day” in 2010 and the early part of 2011. In the late summer of 2011 the population appeared to collapse. There is much speculation on why this collapse occurred. We suffered through two tropical storms with a lot of rainfall in late summer just when the major-

ity of the brown marmorated stink bugs (BMSB) were in the nymphal stage and were likely susceptible to the impact of the tropical storms. Some researchers noted the populations of BMSB actually started to decline two weeks before the tropical storms arrived. Whether it was weather or some other factor to cause the sudden decline is still being discussed among researchers from the states where BMSB has been most troublesome. The past is prolog. In the fall of 2012 we observed an increasing population of BMSB activity and greater numbers of overwintering adult BMSB. Most experts are predicting a bounce back population of BMSB in 2013. Not as high as the 2010 population but an increase over what we saw in the spring of 2012. This bug will not just go quietly into the night. This is why the research continues on this bug.

Meanwhile the BMSB population continues to spread outwardly, with 38 states reporting activity and areas of

infestation continuing to spread and increase in Canada. While I was visiting Germany and Holland this summer the people of these two countries were afraid of this bug making its way into their countries. They repeatedly asked me about our new “American bug.” “Don’t worry”, I corrected them that it was an Asian import and not “American.” Still, they read the press and internet releases and see it as our problem and they don’t want it. Meanwhile, it has successfully hitched a ride into Switzerland.

Scientists at the USDA Beltsville lab were successful in developing the pheromone produced by BMSB and put it into trapping system that could be field tested in 2012. The USDA team of entomologists Tracy Leskey, Starker Wright, and Doo Yung has been working with several state specialist and orchards in testing out the new pheromone to detect populations of BMSB in fruit orchards. This pheromone is still experimental and not yet on the commercial market. The pheromone that has been on the market for the last two years is actually a pheromone (2E,4E,6Z=10:COOMe) for another stink bug species called *Plautia stali*. It acts as an attractant for the brown marmorated stink bug. Tracy, Doo Yung and Starker are finding that each pheromone has its benefit but at different times of the summer season. It may turn out that one type should be used in May and June and the other in mid to late summer.

How Far Do They Fly?

Work done by Doo Yung and Starker Wright of the USDA found that the adults will fly up to at least 1 kilometer in flight lab test in which adults are tethered to a strobe machine that measures flight distance and speed. It is also recorded that they fly at about 1- 3 meters per second. They also charted the likelihood of sustained flight and found that as the temperature gets cooler, the bugs do not fly very far. When the temperature rises to 80 – 90 F, sustained flight activity increases dramatically.



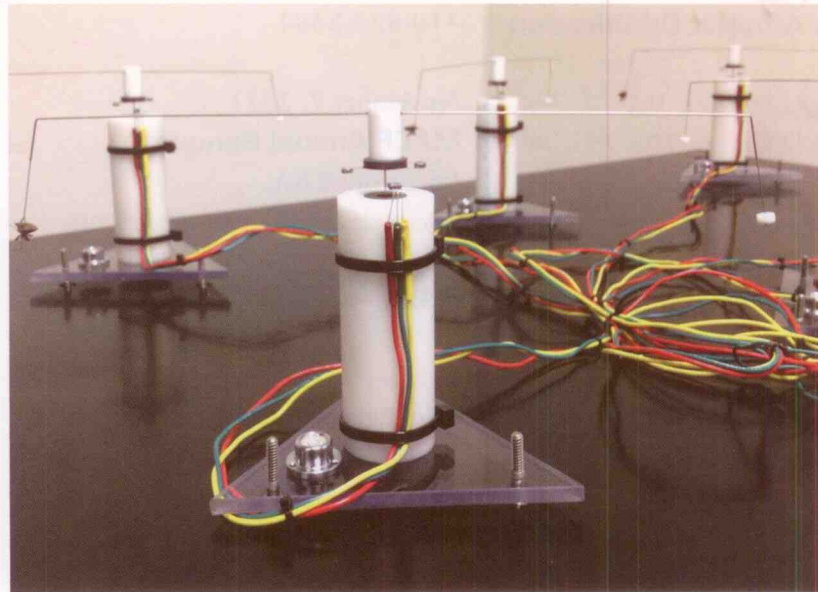
Princesstree
Paulownia tomentosa

Light Attractants

Starker Wright and Tracy Leskey tested out green, blue, white, and black light traps to see which is the most effective in capturing BMSB. The white light performed the best, followed by black lights, then blue lights.

Woody Plants That Are Highly Attractive to BMSB

Researchers have found that *Ailanthus altissima* and *Paulownia* species are highly attractive to BMSB. Eggs, nymphs and adults can all be found feeding on these tree species during the growing season. Researchers are investigating if this tree can be used as a trap tree. There is work on injecting these trap trees with systemic insecticides, such as formulations of acephate (AceCap), to kill BMSB feeding on these highly attractive host trees.



Herbaceous plants that are highly attractive to brown marmorated stink bug include sunflowers and amaranth.

Do BMSB Feed on Herbaceous Annuals and Perennials?

We have been conducting field research in Maryland and cooperating with Brian Kunkel at Delaware State Extension to record BMSB feedings on herbaceous plant material. Herbaceous plants that are highly attractive to BMSB include sunflowers and amaranth. The BMSB feeds on the flower of sunflowers feeding on the front and back of the flowers and will feed on the seeds. The BMSB will feed on the foliage of amaranth but are highly attracted to the plant when it is in flower. Brian and I are developing a fact sheet on feeding preferences of BMSB on annuals and perennials and this should be ready in early 2013. 🌻

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▲ Flight Mill

▼ Radar on a Brown Marmorated Stink Bug

