

Stink bug traps perform poorly during winter invasions

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Score one for the brown marmorated stink bug, again.

Since the pernicious pest arrived in the United States nearly 20 years ago, it has proven difficult to fend off, attacking crops in the summer and invading homes in the fall and winter. And, as a team of researchers has recently found, one of the leading monitoring methods for the stink bug may only be effective for half of the year.

A study set to be published next week in the Entomological Society of America's *Journal of Economic Entomology* shows that traps baited with the aggregation pheromone of the brown [marmorated stink bug](#) (*Halyomorpha halys*) are not reliable at attracting the insect during its overwintering period, from late fall to early spring.

"Just eight to 20 percent of the [stink bugs](#) we saw crawling around hallways were captured," says Rob Morrison, Ph.D., research entomologist at the United States Department of Agriculture's Agricultural Research Service (USDA-ARS) and lead author on the study, which tested the traps in infested homes in 2014 and 2016.

The reason, they found, is that the brown marmorated stink bug does not respond to its aggregation pheromone—a chemical signal that insects release into the air—until daylight lengthens to approximately 13.5 hours each day, roughly late April to early May in the United States. Thus, traps baited with the pheromone leave overwintering stink bugs largely unfazed.

Morrison and fellow entomologists at the USDA-ARS Appalachian Fruit Research Station, Virginia Tech University, and North Carolina State University deployed traps in both heated and unheated structures and outside in locations in Virginia, West Virginia, and North Carolina and monitored their performance with weekly counts of stink bugs both trapped and visible nearby. Not only did they find that the traps caught a small fraction of the stink bugs, but the minimal rate at which the insects were trapped was also not correlated with the overall ups and downs in their numbers at each location, meaning the traps aren't reliable for monitoring purposes either.

The results mean that, for homeowners trying to use traps to capture stink bugs in their homes, prevention is key, because once stink bugs are inside, pheromone [traps](#) likely won't be much help. "To prevent brown marmorated stink bugs from gaining access to your house, seal all holes and cracks, including where the roof meets the structure, and where the house meets the foundation," Morrison says.

The research team note in their study that their findings also raise concerns for preventing the further spread of the brown marmorated stink bug, which can hitch rides in shipments of produce around the world. The key question is whether a pheromone trap at a port in the southern hemisphere in summer, for instance, will intercept stink bugs that have just been shipped out of their overwintering period in the northern hemisphere.

While *Halyomorpha halys* may have won this round, Morrison says he and his colleagues will press on.

"The brown marmorated stink bug may rely on a yet-to-be-identified chemical stimulus or other communication method during the fall when they disperse to overwintering sites and when they emerge during the spring," says Morrison. "Both are areas of active research."

More information: William R. Morrison et al, Behavioral Response of the Brown Marmorated Stink Bug (Hemiptera: Pentatomidae) to Semiochemicals Deployed Inside and Outside Anthropogenic Structures During the Overwintering Period, *Journal of Economic Entomology* (2017). [DOI: 10.1093/jee/tox097](https://doi.org/10.1093/jee/tox097)

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