



Mississippi Corn Promotion Board 2025 Progress Report



Project Title: Evaluation of Commercial Stink Bug Pheromones for Detecting Brown Stink Bug in Seedling Stage Field Corn

PI: Don Cook, Tyler Towles, and Whitney Crow

Department: DREC, ASPP

Project Summary (Issue/Response)

During the spring of 2025, traps were baited with pheromone for brown marmorated stink bug, consperse stink bug, or both pheromones were placed at the edges of 30 corn fields during early to late April. Traps were monitored for three to four weeks. Based on crop residue most of the fields sampled were planted to soybeans during 2024. Estimates of the number of stink bug damaged corn plants near trap locations were determined at each sampling date.

Project Results/Outcomes

Brown stink bug adults were captured in traps baited with different stinkbug pheromones. Traps baited with both brown marmorated, and consperse stink bug pheromones captured more stink bugs than traps baited pheromone individually. The incidence of stink bug damaged plants was low and ranged from 0 to 4%. All but 2 fields had $\leq 1\%$ damaged plants. This could be due to rapid growth of corn plants observed in these fields. As during 2024 brown marmorated stink bugs (20 in total) were captured in traps near Leland, MS.

Project Results

Overall Progress

Percent damaged plants of 10% or greater can reduce yield.

Damage to individual plants can vary in severity, which can impact yield response.

Stink bugs are very difficult to detect in seedling corn before damage occurs.

Fields planted to soybeans the previous year or near fields planted to soybeans the previous year have higher risk of stink bug infestations. In these fields, areas near habitats that can serve as overwintering sites for stink bugs have increased risk of infestations. Plant residue on fields (ie soybean, corn, cotton residue) can increase risk of infestation.

Pheromone traps with brown marmorated stink bug and/or consperse stink bug pheromones can capture brown stink bugs.

Brown marmorated stink bugs are present around corn fields in at least the Leland-Arcola area, and their numbers appear to be increasing.

What remains to be worked on.

Relationship between trap captures of stink bugs and percent damaged plants. This is necessary to construct treatment threshold based on trap captures.

Number of traps per field to adequately estimate stink bug number for trap-based treatment threshold.

Project Impacts/Benefits

Preliminary results indicate that commercial stink bug pheromones may be able to attract/capture brown stink bug. This would provide an easier sampling procedure than is currently available.

Project Deliverables

Results have been presented at grower and consultant meetings.

Additional Questions

1. What value does this research give the grower? Describe any financial decision-making tools your project provides.

This project has yielded the following results, which provide growers information on levels of damage that can reduce yield. It has also identified factors that can increase risk of stink bug infestations. Additionally it has demonstrated that pheromone baited traps can capture brown stink bug indicating that they have potential as a monitoring tool. This project has also documented brown marmorated stink bug in and near corn fields and that their populations appear to be increasing in some areas.

What remains to be accomplished is to determine the relationship between trap captures of stink bugs and percent damaged plants. This is necessary to construct treatment threshold based on trap captures, and to determine the appropriate number of traps per field to adequately estimate stink bug number for trap-based treatment threshold.

3. List other sources of funding you have acquired over the past 2 calendar years.

Small amount of industry support. None related to this project.