

**REVISITING POTENTIAL USE OF PHEROMONE TRAPS TO HELP PREDICT ISSUES WITH
BOLLWORM IN THE FIELD**

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Abstract

The bollworm, *Helicoverpa zea*, puts intense, uniform pressure on cotton and is a major pest primarily controlled with Bt technology. As tolerance to Bt toxins and foliar insecticides increases, potential methods of predicting when the pest will be important in cotton should be fully explored. Pheromone trapping for the Heliothines (bollworm and tobacco budworm, *Heliothis virescens*) using the Hartstack design as the industry standard has been around for decades to show when moths are abundant in local areas. We propose to explore associations in data from an 11-year program of trapping bollworm moths and evaluating colonization and injury of cotton by the species to determine if trends in trapping data might predict field density of or damage by bollworm larvae in the crop. In 11 years (2007-2017), at least 526,392 male bollworm moths were caught in and counted from 10 pheromone traps sampled near Blackville, SC. Years with the highest trap captures (2009-2013) were also years with highest average injury to bolls. Peak trap capture was recorded near the end of August in 2010 when about 275 moths were caught per trap per day and totaled almost 91,000 moths for the season. The highest sustained injury to bolls was also observed in 2010. Analyses will continue to define any relationship between trap capture and in-field damage from bollworm that might prove useful for predicting when scouting and control efforts should be intensified. The greatest utility for this approach will likely be for predicting an initial period of susceptibility due to trap capture exceeding a threshold, with most predictive value eroded once females in the field compete with baited traps, as others have noted in previous research.