

## Abstract

# Monitoring and Management Strategies for *Halyomorpha halys* (Hemiptera: Pentatomidae) a Newly Invaded Insect Pest of Specialty Crops in Florida <sup>†</sup>

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**Abstract:** *Halyomorpha halys* (Hemiptera: Pentatomidae) also known as the brown marmorated stink bug (BMSB) is an invasive insect pest new to Florida from the Southeast Asia. In Florida, detection, monitoring and management of the BMSB started in Leon and Gadsden Counties in early June of 2020. The 4-foot yellow pyramid traps embedded with pheromone and lures were installed in persimmon, chestnuts, blueberries, and muscadine grapes (Leon Co.) and olives (Gadsden Co.) to monitor BMSB and its natural enemies. Weekly survey data on the BMSB and its natural enemies is being collected. No BMSBs were collected in the Gadsden County. The presence of the BMSB is concerning for farmers because it feeds on numerous high value food crops. In this study, we detected and monitored the BMSBs successfully in open fields. Traps collected adults (both male and female) BMSBs (99%) and 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> instars (1%). We have recorded eggs (ca. 30%) of a parasitic tachinid fly, *Trichopoda pennipes* (Diptera: Tachinidae) on the body of the adult BMSBs. The fly oviposits on the dorsal and ventral side of the BMSB body. Other potential egg parasitoids include *Trissolcus basalis* (Hymenoptera: Scelionidae), *Telenomus podisi* (Hymenoptera: Scelionidae) and *Anastatus* spp. (Hymenoptera: Eupelmidae). Also, several predators including *Harmonia axyridis* (Coleoptera: Coccinellidae), *Orius insidiosus* (Hemiptera: Anthocoridae), *Geocoris* spp. (Geocoridae), *Podisus maculiventris* (Hemiptera: Pentatomidae) and *Euthyrhynchus floridanus* (Hemiptera: Pentatomidae) are being collected and observed. Integration of biological control agents with the possible IPM strategies suitable for Florida's environmental conditions for the specialty crops will be discussed.

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This is a new study being conducted since the summer 2020 on a newly invaded pest insect of specialty crops in Florida. Several graduate students and scientists are conducting this study.

**Keywords:** Invasive Pest, Biological Control, Specialty Crops, IPM.