QUANTIFYING OVERWINTERING SITE SELECTION AND SURVIVAL OF REDBANDED STINK BUG, A PEST OF SOYBEAN

Thomas G. Paul
Angus Catchot
Samuel F. Ward
Priyadarshini C. Basu
Fred R. Musser
Mississippi State University
Mississippi State, MS

Abstract

The non-native redbanded stink bug (RBSB), *Piezodorus guildinii* (Westwood), (Hemiptera: Pentatomidae), first emerged as an economically important pest of soybean in Louisiana in 2000. This study aims to better understand aspects of the overwintering strategies and ecology of RBSB, as interannual fluctuations in the distribution of RBSB populations and the behavioral choices made by RBSB following soybean harvest are poorly understood. The redbanded stink bug is believed to overwinter in a variety of habitat types to survive colder winter temperatures, and this variation in overwintering microclimates arising from ground cover type could affect overwintering success. Using geospatial analysis of climate data and occurrences of RBSB across the southeast over the past two decades, our project aims to develop an overwintering distribution model for RBSB and determine the effects of intra- and inter-annual climate patterns on the occurrence of RBSB. Additionally, we will investigate potential influences of ground cover types on RBSB overwintering survival and whether food availability affects overwintering success. We ultimately hope to (i) develop a predictive model for RBSB and (ii) understand how potential overwintering sites adjacent to agricultural fields govern overwintering success of RBSB.