

ASSESSMENT OF BROWN MARMORATED STINK BUG, *HALYOMORPHA HALYS* (STÅL), DAMAGE TO COTTON**K. Kamminga****D.A. Herbert, Jr.****S. Malone****Virginia Tech****Suffolk, VA****M. Toews****University of Georgia****Tifton, GA****T. Kuhar****Virginia Tech****Blacksburg, VA****Abstract**

Most current extension recommendations suggest sampling quarter-sized (2.4-cm diameter) bolls to assess stink bug damage. More specifically, the 'Decision aid for stink bug thresholds in Southeast cotton' sampling card recommends sampling bolls in the range of 2.2 – 2.8 cm diameter. Current sampling procedures and thresholds pertain to native stink bug species. The brown marmorated stink bug (BMSB) (*Halyomorpha halys* Stål) is invasive to many states and is causing economic damage in many commodities including fruits, vegetables, corn and soybean. Its range is expanding and now includes areas (in Virginia) where cotton is grown. Two other habits that make BMSB a potential risk to cotton are its affinity for okra pods, a near relative species to cotton, and its ability to penetrate the trunks of mature fruit trees. In the event it becomes established in cotton production areas of the United States, we wanted to determine if BMSB would feed on cotton bolls, and if it had a boll size feeding preference that was different from native stink bug species. To investigate the boll size preferred by BMSB, we conducted choice and no-choice tests using cotton field cage studies in Virginia in 2011 and 2012. Small cages (no-choice tests) were used to confine single stink bugs on single different aged bolls (1.8, 2.8, and 3.2-cm diameter), and larger cages (choice tests) were used to confine 10 bugs on whole plants having a selection of small, medium and large-sized bolls. BMSB were allowed to feed for designated lengths of time, then bolls were removed to assess stink bug feeding injury (i.e., internal warts and stained lint). For comparison with native species, the green stink, *Chinavia hilaris* Say, was also evaluated in 2011. When possible, data from experiments were combined for regression analysis. Results indicated that BMSB is doing more piercing and creating more internal warts on, and has a preference for, larger bolls compared with the green stink bug. Also, BMSB appears to be doing more piercing on larger bolls compared to smaller bolls. If further evaluations confirm these results, and if BMSB ever becomes a common invader of cotton fields, these results suggest that sampling procedures and possibly thresholds would have to be developed specifically for this species.