HOST RANGE OF THE EXOTIC BROWN MARMORATED STINK BUG, *HALYOMORPHA HALYS*, (HEMIPTERA: PENTATOMIDAE), IMPLICATIONS FOR FUTURE DISTRIBUTION

Gary Bernon[1], Karen M. Bernhard[2], Anne L. Nielsen[3], James F. Stimmel[4], E. Richard Hoebeke[5] and Maureen E. Carter[5]

[1]USDA APHIS Pest Survey, Detection, and Exclusion Lab., Otis ANGB, MA 02542
[2]Cooperative Extension, Lehigh County Agricultural Center, Allentown, PA 18104
[3]Department of Entomology, Rutgers University, New Brunswick, NJ 08901
[4]Pennsylvania Department of Agriculture, Harrisburg, PA 17110
[5]Department of Entomology, Cornell University, Ithaca, NY 14853

ABSTRACT

Halyomorpha halys, (Hemiptera: Pentatomidae), is a pest in eastern Asia on soybeans and woody plants, including broadleaved trees and fruit trees. A population was discovered in Allentown, PA in 2001. *H. halys* is also a nuisance pest as it overwinters in homes and other buildings. Based on earlier reports to the Lehigh County Extension in Allentown, the sting bug had been established since at least 1996.

H. halys is now reported throughout Pennsylvania and New Jersey; in 2003 a population was discovered in Hagerstown, MD. Specimens were found in 2004 in Delaware, West Virginia, and Virginia. An isolated population was reported in 2004 in Portland, OR, and four ornamental host plants were verified in 2005. Preliminary analysis of mitochondrial DNA suggested only one maternal haplotype in the United States. However, analysis of specimens from potential source populations in Asia as well as from isolated populations in the United States will have to be completed to show a conclusive pattern (Carter, unpublished data).

Host plant surveys indicated that *H. halys* is polyphagous with patchy and sometimes dense populations, but limited to landscaped urban areas. Damage to fruit trees and feeding on vegetables was observed in gardens. Until populations reach commercial growers, population dynamics in agro-ecosystems will not be apparent. Woody plants including ornamentals and trees are primary hosts in urban landscaped areas. However, in Pennsylvania, a population was observed in 2005 to invade a soybean field, and as host range expands south, pest populations on soybeans and fruit trees are likely to occur. Also, populations were univoltine in Pennsylvania, however that is likely to change with southern range expansion, increasing the potential for crop damage.