The Economic Benefits of TSA Biological Control

N. Divate¹ and M. Thomas²

¹Office of International Agricultural Programs, College of Engineering Sciences, Technology and Agriculture, Florida A&M University, Tallahassee, FL 32307  nandkumar.divate@famu.edu
²Agribusiness Program, College of Engineering Sciences, Technology and Agriculture, Florida A&M University, Tallahassee, FL 32307  michael.thomas@famu.edu

Abstract

Tropical Soda Apple (Solanum viarum Dunal) (TSA) is an invasive exotic plant from South America that has become a weedy pest, choking pastures and afflicting Florida’s beef producers. In 2007, state-wide economic losses were documented to range from $6.5 million to $16 million annually. In 2008, efforts to control TSA resulted in the release of the green tortoise beetle (Gratiana boliviana Spaeth) (GTB) across central and southern portions of the state. Also a native of South America, the GTB is particularly fond of TSA foliage with no alternative native hosts. Initial results indicate the beetle is spreading rapidly and significantly reducing TSA density in many areas of the state. During the summer of 2010, a survey of Florida’s cattle producers was conducted to evaluate the impact of the recent TSA biological control efforts (Gratiana boliviana Spaeth) in central and southern Florida. A survey was mailed statewide to 3,500 members of the Florida Cattlemen’s Association. The survey asked participants to identify their type of cattle operation, the distribution of TSA in their pastures and their assessment of TSA density and the effort required to control this plant. Slightly more than 30% of those surveyed responded. When compared to 2007, preliminary results indicate significant declines in both TSA density and control efforts across central and southern Florida. On the other hand, northern Florida has experienced an increase in TSA density and control effort. These preliminary results support the hypothesis that the GTB has reduced TSA density and lowered control costs to cattle producers.