

EFFICACY OF SOLVINIX LC APPLICATION USING A WET-BLADE MOWER. B. A. Sellers*¹, R. Charudattan², J. Ferrell³, L. Wiggins⁴; ¹University of Florida, Ona, FL, ²BioProdex, Inc., Gainesville, FL, ³University of Florida, Gainesville, FL, ⁴University of Florida, Labelle, FL (143)

ABSTRACT

A conventional practice for tropical soda apple (TSA; *Solanum viarum*) control in pastures is mowing, although it may be necessary to mow up to three times in order to kill TSA roots and prevent regrowth. Application of an herbicide to cut plant surfaces while mowing with a “wet-blade” mower might eliminate the need for repeated mowing. Tobacco mild green mosaic tobamovirus (TMGMV), a common naturally occurring plant virus has been formulated into a bioherbicide (SolviNix LC). Cutting TSA stems with hand-held pruning shears dipped in SolviNix was shown to prevent regrowth. This wet-blade simulation made it feasible to test the application of SolviNix using a wet-blade mower under field conditions. SolviNix concentrations at 10 and 50 ug/ml were applied 9.4 and 18.8 L/ha; application rates on a per hectare basis were 0.24 g and 1.2 g for the 10 and 50 ug/ml concentrations applied at 9.4 L/ha and 0.47 and 2.3 g for the 10 and 50 ug/ml concentrations applied at 18.8 L/ha. Other treatments included aminopyralid at 88 g/ha and aminocyclopyrachlor at 561 g/ha applied at both 9.4 and 18.8 L/ha. Water was applied as the untreated control for both application volumes. The experiment was arranged in a randomized complete block design and was repeated at two locations in central and south Florida. Treatments were evaluated by counting plants in each 3 m by 60 m plot at 50 days after the wet-blade application. Control of TSA ranged from 57 to 59% with water alone at 9.4 and 18.8 L/ha, respectively. Aminopyralid resulted in 80% TSA control when applied at 9.4 L/ha, but increased to 92% when applied at 18.8 L/ha. Control of TSA with aminocyclopyrachlor was >95% regardless of application volume. SolviNix did not result in greater control than water alone at any application rate, suggesting that either the application volume or an increased concentration may be required to obtain similar results as those with synthetic herbicides. Since excellent control with SolviNix has previously been demonstrated with a simulated wet-blade application, future testing should examine the use of increased application volumes or increased solution concentrations of the bioherbicide using wet-blade equipment.