Frost Influences Control of Tropical Soda Apple with Aminopyralid

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Tropical soda apple (Solanum viarum) is a perennial weed that has spread from Florida throughout the southeast USA since the late 1980s. Previous research showed that triclopyr, picloram, and glyphosate were the most effective herbicide options for S. viarum control (1,3). However, picloram is not registered for use in Florida and glyphosate is injurious to desirable forage grasses; triclopyr at 1.1 kg/ha was the standard herbicide recommendation for S. viarum control in Florida pastures. Triclopyr, however, did not provide adequate S. viarum control when plants were fruiting, making a mowing treatment necessary 60 days before triclopyr application. Additionally, triclopyr is rapidly degraded in the soil, allowing new seedlings to emerge within 60 days after application.

The registration of aminopyralid, a new pyridinecarboxylic acid, for use in pastures and rangeland allowed ranchers to apply an herbicide for S. viarum control at any developmental stage. In addition to the excellent postemergence control observed compared to triclopyr, aminopyralid has been shown to provide soil residual activity for at least 215 days after treatment (2). This high level of efficacy, coupled with its low use rate of 0.08 to 0.12 kg/ha, has made aminopyralid the standard herbicide for S. viarum control in pastures and rangeland in Florida.

Grower acceptance is often slow unless they have personally observed the results of a specific treatment. To increase grower awareness of the advantages of aminopyralid, several demonstration plots were established in north, central and south Florida in 2005 and 2006. These plots were established and treated with aminopyralid at different times of the year when a suitable patch of tropical soda apple was present. Aminopyralid was applied to different tropical soda apple patches approximately every two months in each region of the state. However, there were instances (June and August) when a suitable patch could not be located in each region. In general, demonstration plot size was 30 by 30 m with a 3 m buffer (untreated check). The untreated check was included to demonstrate the effects of aminopyralid on established S. viarum plants and residual seedling control. Aminopyralid was applied at 0.12 kg ai/ha with a spray boom calibrated to deliver 280 liter/ha.