

MANAGEMENT OF VOLUNTEER GLYTOL®/LIBERTYLINK® COTTON

G. Henniger
Bayer CropScience
Lubbock, TX
J.W. Keeling
Texas AgriLife Research
Lubbock, TX

Abstract

Volunteer cotton can be an issue, particularly in no-till or minimum till production practices, but is not always problematic. If good winter moisture is received, there is very little to no volunteer cotton the following crop season. The cropping season following a dry winter is the scenario in which volunteer cotton is more likely to be an issue. Anticipating commercial launch of GlyTol® + LibertyLink® cotton in 2011, trials were conducted in 2010 to evaluate control of potential volunteers from this stacked herbicide tolerant cotton and determine if treatments from previous volunteer control trials would be applicable. Research was conducted in 2007 and 2008 on volunteer glyphosate-tolerant cotton control and the results of these trials were reported at the 2009 Beltwide Cotton Conference. The effective treatments from these trials along with some additional products, representing various herbicide chemistries, were evaluated in six locations across the US cotton belt. In five of the locations, the treatments were applied to 2-4 leaf cotton and in one location to 10-12 leaf cotton. Treatments were more effective when applied to the younger volunteer cotton, which corresponds to previous work that showed treatments would need to be applied no later than the 5-8 leaf cotton stage. The trials showed that there are products/chemistries that can effectively control volunteer GlyTol + LibertyLink stacked herbicide tolerant cotton. Buctril®, Aim®, ET, and Gramoxone, as observed in earlier work, all effectively controlled the volunteer cotton. Newly tested treatments; Sharpen™, Valor®, Laudis®, Huskie™, and Laudis + Atrazine also controlled the cotton when sprayed as volunteers.

A trial was also initiated to evaluate treatments applied via a hooded-sprayer for control of volunteer cotton in a cotton crop and for any damage or effects on the crop. Cultivation was a comparison treatment for use in cotton grown conventionally. Treatments were applied at two separate timings. One set of plots were treated when volunteers were 4-6 leaf in size and another set of plots treated when volunteers were 10-12 leaf growth stage. Gramoxone, Sharpen, and cultivation all provided excellent volunteer cotton control (>90%) at both application timings. Valor + Resource® at the 4-6 leaf stage and Buctril, Aim, and ET at the 10-12 leaf stage provided good volunteer control (>70%). Treatments were carefully applied through the hooded-sprayer with little to no crop damage resulting from treatments. The most damage to the cotton crop observed was from Gramoxone, at about 5%. Cotton yield was not affected by any treatment at either application timing.

These trials reinforce previous volunteer control work and demonstrate that there are effective products/chemistries that can be used for controlling volunteer cotton in various cropping or fallow situations. Hooded-sprayer application of treatments or cultivation in a cotton crop situation can be effective in controlling volunteer cotton. Volunteers from GlyTol + LibertyLink cotton would be no different than volunteers from other commercially available herbicide tolerant cotton or even conventional cotton, other than Ignite (glufosinate) herbicide could not be used to control volunteer glufosinate-resistant cotton.