THE DOUBLE EDGED SWORD OF PREEMERGENCE HERBICIDES
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Abstract

With the advent of glyphosate-resistant (GR) weeds farmers have had to change their weed management strategies. One of the major changes has been to once again rely on pre applied herbicides to manage weeds. Herbicides like Cotoran, Caparol, Reflex and Prowl are now used on virtually every cotton acre in the Mid-South (Norsworthy et al.). There are basically three outcomes to using a pre applied herbicide (personal experience). One result is what the producer wants that is a 0.5 to 1.5” precipitation activates the herbicide which allows the herbicide to provided 2 to 5 weeks of residual. Another result is that excessive rainfall typically coupled with cold temperatures causes the developing cotton seedling to become overly exposed to the herbicide causing injury. Moreover, excessive rainfall can greatly reduce the residual control sometimes shortening the time down to 10 days. Though these is not an ideal situation it is better than the 3rd outcome which is no activating rainfall occurs within 10 days of application and Palmer amaranth comes up in a heavy flush with the cotton.

Because these outcomes are unpredictable it is now necessary to have eyes on the field to evaluate how well the pre applied herbicide works. If it does not work than the grower has to be prepared to either spray glufosinate over the top of glufosinate-tolerant cotton or run directed applications in Roundup Ready Flex cotton.

Regardless if the cotton contains the Roundup Ready (RR) trait or is glufosinate tolerant trait it is absolutely necessary that a pre applied herbicide be used. Though pre applied herbicides can be inconsistent they are a key ingredient in a weed management system to manage GR Palmer amaranth. Moreover, they are absolutely necessary in glufosinate-tolerant cotton to provide an additional herbicide mode of action to help delay Palmer from becoming resistant to glufosinate on top of glyphosate resistant. In other words the pre applied herbicides are a big part of good weed control now and will be for the foreseeable future.

Acknowledgements

The authors wish to express their appreciation to Cotton Incorporated for their support of this research.