

**FALL APPLICATIONS OF GLYPHOSATE CONTROL ALLIGATORWEED AND REDVINE.** A.B. Burns and B.J. Williams. LSU AgCenter, Baton Rouge, LA.

#### ABSTRACT

Perennial weeds such as alligatorweed (*Alternanthera philoxeroides* (Mart.) Griseb.) and redvine (*Brunnichia ovata* (Walt.) Shinn.) are becoming more problematic as Louisiana producers adopt conservation tillage practices. Studies were established in the fall of 2003 near Monroe, La to evaluate fall applications of herbicides for alligatorweed control. The field was planted to rice in 2002 and 2004 and fallowed in 2003 and 2005. During the fallow years the field was disked 2-3 times, leveled and cultivated. The field was not tilled during the cropping years. In the first study several phenoxy herbicides and glyphosate were applied on September 15, 2003. Alligatorweed control was evaluated monthly from March to October in 2004 and in April and September of 2005. In a second study the effect of glyphosate, glyphosate plus 2,4-D and glyphosate plus triclopyr application timing was evaluated. In the fall of 2002 a study was established near Crowville, La to evaluate fall applications of herbicides for redvine control. The field was planted to cotton in 2001 and 2003 and planted to corn in 2002 and 2004. The field was prepared for planting in the fall by clipping stalks and re-hipping within two weeks of harvest. Cotton was harvested early in 2003. As a result the field was prepared for planting by early September and presented an opportunity to investigate sequential fall programs. The plots from 2002 (12, 40-inch rows) were reduced to 4 row plots and treated with dicamba, glyphosate or not treated in late September of 2003. A second study was established in the fall of 2004 to evaluate the effect glyphosate application timing and rate on redvine control. Two replications were near Crowville, La and two replications were near Saint Joseph, La. Pictoram at 0.56 kg/ha and 1.12 kg/ha glyphosate resulted in the best alligatorweed control. Dicamba, 2,4-D, triclopyr and pictoram at 0.28 kg/ha resulted in 70% or lower alligatorweed control. Synergistic responses were not identified when glyphosate was tank mixed with dicamba, 2,4-D, triclopyr or pictoram. Glyphosate applied alone resulted in excellent alligatorweed control for as much as two years after application. Control was best from mid-September to early-October, and was considerably lower with mid-October application timings. Tank mixing glyphosate with either 2,4-D or triclopyr did not improve alligatorweed control. In many cases, especially with a mid-October application, alligatorweed control was reduced when glyphosate was mixed with 2,4-D or triclopyr compared to glyphosate alone. After 6 months, redvine control was similar for glyphosate at 2.24 and 4.48 and 2.24 kg/ha dicamba. Triclopyr resulted in the lowest redvine control. Glyphosate at 4.48 kg/ha, 2.24 kg/ha dicamba and 2.24 kg/ha glyphosate plus 1.12 kg/ha dicamba controlled redvine 95, 85 and 80% one year after application. The remaining treatments resulted in 50% or lower redvine control. Glyphosate at 2.24 kg/ha applied in late-September of 2002 and 2003 resulted in redvine control in 2004 equal to or better than single or multiple applications of 2.24 kg/ha dicamba or 4.48 kg/ha glyphosate. In April of 2005, 2.24, 3.36, and 4.48 kg/ha glyphosate applied September 15, 2004 resulted in similar levels of redvine control. The best control from 2.24 kg/ha from glyphosate was observed from mid-September to mid-October. Timing had little effect on redvine control with 4.48 kg/ha glyphosate. By September, treatments began to separate demonstrating the need for at least 3.36 kg/ha glyphosate. These results show that glyphosate at higher rates control redvine as well as 2.24 kg/ha dicamba. Glyphosate at 4.48 kg/ha resulted in the most consistent and long term redvine control from single applications. Still, 2.24 kg/ha applied each fall may be the best approach for managing redvine. Overall, fall applications of glyphosate appear to be very promising for controlling alligatorweed and redvine. Research suggests that glyphosate applications should be made between September 15 and October 15 when conditions are favorable for growth and enough regrowth has occurred for good coverage.