

**GLYPHOSATE-RESISTANT GIANT RAGWEED CONTROL IN COTTON**

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**Abstract**

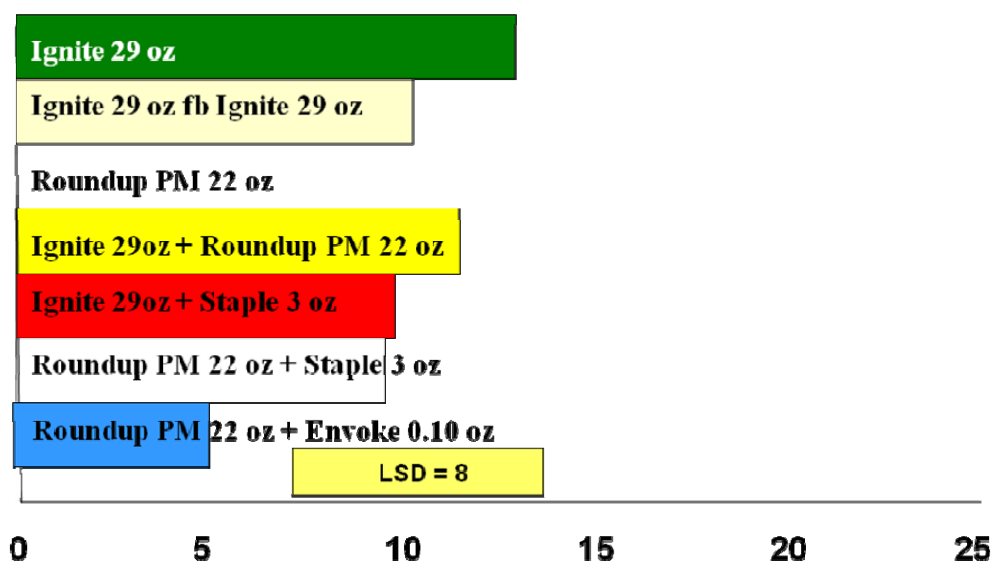
Giant ragweed is becoming a more prevalent problem in cotton fields in Tennessee. Historically, giant ragweed was mostly confined to field edges but in recent years has progressively spread into cotton fields. In just the last two years growers reported that glyphosate was not providing the same level of giant ragweed control as before (Norsworthy et al 2010). Field as well as greenhouse research has shown that giant ragweed populations in some Tennessee cotton fields is glyphosate resistant (GR). Research was conducted in 2009 looking at post control options for GR giant ragweed in PhytoGen Widestrike cotton. Ignite applied at the 2<sup>nd</sup> cotton node alone or tankmixed with 3 oz/A of Staple provided very good control of GR giant ragweed (>90%). Ignite tankmixed with glyphosate did not provide the same level of giant ragweed control (65%). Ignite and Ignite tankmixtures applied to widestrike cotton showed visual injury of 10 to 15%. Lint yield clearly showed that applying Ignite to Widestrike cotton provided the best yield in a field infested with GR giant ragweed.

**Methods**

The cotton variety planted was PHY 375. Herbicide applications were made with a backpack sprayer equipped with Flat Fan 800015VS nozzles under a pressure of 40 psi which provided an application volume of 10 gallons/acre. Applications were made on 2<sup>nd</sup> cotton leaf and 6 to 8" GR giant ragweed. The sequential application was made 3 weeks after the first treatment. The treatments evaluated were 29 oz/A Ignite, 29 oz/A Ignite fb 29 oz/A Ignite, 22 oz/A Roundup PM, 29 oz/A Ignite + 22 oz/A Roundup PM, 22 oz/A Roundup PM + 0.15 oz/A Envoke, 22 oz/A Roundup PM + 3 oz/A Staple LX. GR giant ragweed ratings were taken 7, 14, 21, 30 and 40 days after treatment (DAT).

**Results**

Ignite applied at the 2<sup>nd</sup> cotton node alone or tankmixed with 3 oz/A of Staple provided very good control of GR giant ragweed (>90%). Ignite tankmixed with glyphosate did not provide the same level of giant ragweed control (65%). Ignite and Ignite tankmixtures applied to widestrike cotton showed visual injury of 10 to 15% (Figure 1). Lint yield clearly showed that applying Ignite to Widestrike cotton provided the best yield in a field infested with GR giant ragweed (Figure 2). This 1 year of research clearly showed that growers are better off causing some injury of Widestrike cotton with Ignite over the top than allowing GR giant ragweed to totally devastate the cotton crop.



% Injury 10 DAA

Figure 1. Cotton Visual Injury 10 DAA

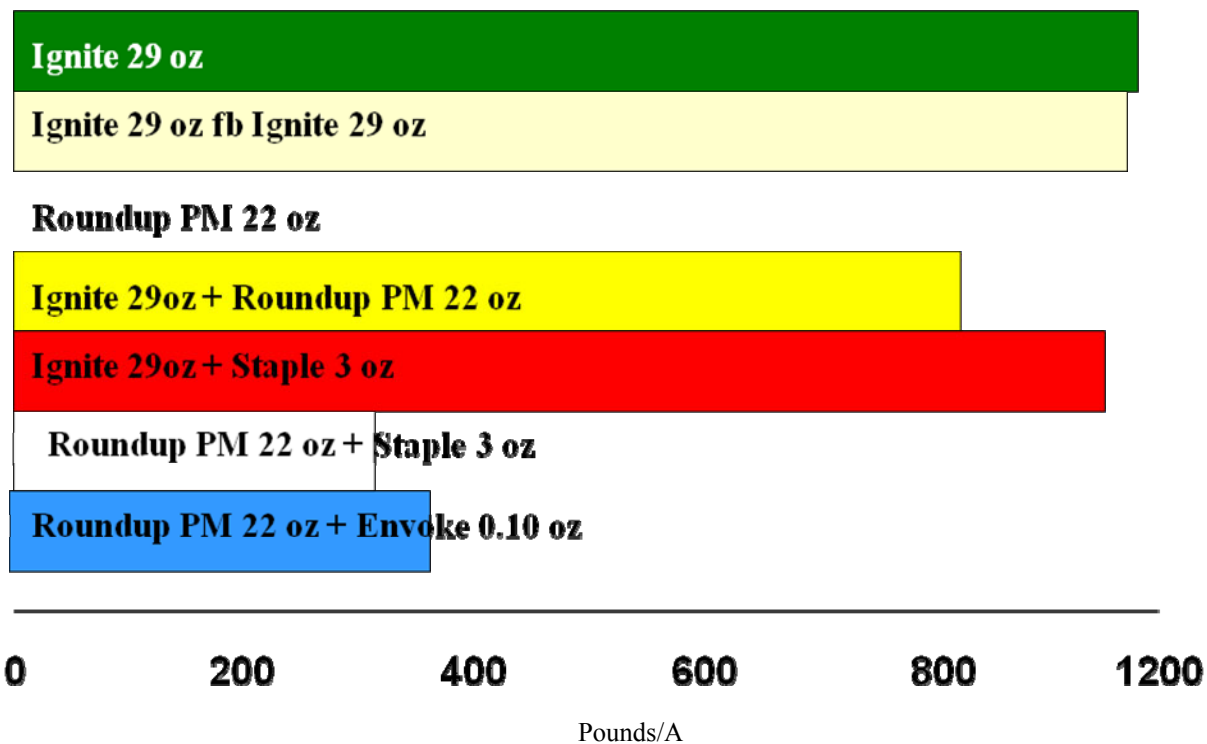


Figure 2. Cotton Lint Yield

### References

Norsworthy, J. K., P. Jha, L. E. Steckel and R. C. Scott. 2010. Confirmation and control of glyphosate-resistant giant ragweed in Tennessee. *Weed Technol. (In Press)*.