

POWELL, GARY E.* and CHRISTY L. SPRAGUE, Department of Crop and Soil Sciences, Michigan State University, Plant and Soil Sciences Building, East Lansing, MI 48824.
Volunteer glyphosate-resistant soybean management in glyphosate-resistant sugarbeet.

ABSTRACT

One of the greater weed challenges in glyphosate-resistant sugarbeet is management of other glyphosate-resistant crops. Glyphosate-resistant corn, canola, and even soybean can be found in glyphosate-resistant sugarbeet fields. A field trial was conducted in 2009 and 2010 to examine different management strategies for volunteer glyphosate-resistant soybean and what effect volunteer soybean may have on glyphosate-resistant sugarbeet yield. Fifteen different treatments examining application timing, clopyralid and triflurosulfuron application rates, and adjuvant systems were studied. The control treatment was two applications of glyphosate at 0.84 kg ae/ha plus ammonium sulfate (2% w/w) applied at 5-cm followed by 10-cm weeds. These application timings corresponded with V2 and V4 volunteer glyphosate-resistant soybean. Glyphosate was applied alone and in combination with the various treatments described above in either the first or second application timing. Volunteer glyphosate-resistant soybean reduced sugarbeet yield 30%. Results indicated that the greatest volunteer glyphosate-resistant soybean control that triflurosulfuron provided was less than 70%. This treatment included methylated seed oil (MSO) at 1% v/v. All treatments that contained clopyralid provided greater than 80% control of volunteer glyphosate-resistant soybean. Glyphosate tank-mixed with clopyralid at 8.6 or 17 g/ha, resulted in excellent soybean control and negligible sugarbeet injury.