

Volunteer corn reduces yield in sugarbeet

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Glyphosate-resistant volunteer corn continues to be a problem in glyphosate-resistant sugarbeet. While there are effective strategies to help manage this problem, many growers do not understand the effects volunteer corn has on sugarbeet yield and sucrose quality. Therefore, they do not implement these strategies. Field trials were conducted in 2012 at the Michigan State University Agronomy Farm in East Lansing and at the Saginaw Valley Research and Extension Center near Richville, Michigan. The objectives of this research were to: 1) quantify the effects of volunteer glyphosate-resistant corn on glyphosate-resistant sugarbeet yield and sucrose quality, and 2) determine the effects of row-width on volunteer corn interference in sugarbeet. Glyphosate-resistant ‘HM 9173 RR’ was planted at 124,000 plants ha⁻¹ in 38- and 76-cm rows. At the time of planting, F2 glyphosate-resistant corn seed was planted approximately 5-cm off the sugarbeet row at populations of 0; 1,080; 2,150; 4,310; 8,610; and 17,220 plants ha⁻¹. Sugarbeet canopy closure in the 38- and 76-cm row widths was evaluated throughout the season. At the end of the season, volunteer corn biomass was harvested and weighed. Sugarbeet were harvested to determine yield, sucrose content, and quality. The sugarbeet canopy developed quicker in 38- than in 76-cm rows. Sugarbeet in 38-cm rows were also able to compete more effectively with volunteer corn than sugarbeet planted in 76-cm rows. This year under drought conditions, it appeared that sugarbeet was able to compete more effectively with volunteer corn and was able to withstand volunteer corn populations up to 4,310 plants ha⁻¹. This may not always be the case under different environmental conditions where moisture may be more available. This research will be repeated in 2013.

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