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**Glyphosate-resistant weed issues in Michigan and potential management options in sugarbeet**

The evolution of glyphosate-resistant and multiple-resistant weeds continue to threaten U.S. growers, especially as they move into the sugarbeet production regions of the U.S. Currently, there are three different weed species, horseweed (marestail), waterhemp, and Palmer amaranth that have been identified as resistant to glyphosate in Michigan. In fact, some of these populations are also resistant to the ALS-inhibiting herbicides, making them even more difficult to manage. Field trials were conducted on two different growers' fields with confirmed cases of glyphosate-resistant horseweed and Palmer amaranth. Several different herbicide tank-mixtures and application timings were evaluated for control of these weeds. The same trials were duplicated at the Saginaw Valley Research and Extension Center near Richville, Michigan to examine what effects the different weed control programs had on sugarbeet yield and quality under weed-free conditions. Control of glyphosate-resistant horseweed was dependent on clopyralid rate and the number of applications. Clopyralid applied three times at 56 g ai $ha^{-1}$ followed by 105 g ai $ha^{-1}$ followed by 105 g ai $ha^{-1}$ provided the greatest season-long control glyphosate-resistant horseweed. To manage glyphosate-resistant Palmer amaranth, phenmedipham plus desmedipham applications were needed at least two times at a minimum rate of 0.56 kg ai $ha^{-1}$ with the inclusion of an acetanilide herbicide like acetochlor. The various treatments examined for control of glyphosate-resistant horseweed or Palmer amaranth did not reduce yield in any of the yield studies compared with the glyphosate alone treatments.