

SUGARBEET VARIETY TOLERANCE TO *S*-METOLACHLOR AND DIMETHENAMID-P.
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Previous research has shown that sugarbeet varieties vary in their response to preemergence and postemergence herbicide applications. Injury may reduce sugarbeet population, leaf area, yield, and sucrose content. A field trial was conducted in Saginaw, MI to evaluate the response of eleven sugarbeet varieties to *s*-metolachlor and dimethenamid-P at three application timings. *S*-metolachlor at 1.4 kg ha⁻¹ and dimethenamid-P at 0.84 kg ha⁻¹ were applied preemergence (PRE), and at 2-leaf, and 4-leaf sugarbeets. Sugarbeet injury (visual) and leaf area were recorded 14 days after the 4-leaf application. Sugarbeet varieties differed in their response to herbicide and application timing. All herbicide treatments resulted in at least 12% sugarbeet injury. Greatest crop injury occurred when *s*-metolachlor or dimethenamid-P was applied PRE. Injury from dimethenamid-P was greater than *s*-metolachlor at the PRE and 2-leaf applications. Sugarbeet injury from PRE *S*-metolachlor applications ranged from 21 to 67% compared with 45 to 75% injury from PRE applications of dimethenamid-P across all varieties. Reduction in sugarbeet leaf area was greatest from PRE applications of dimethenamid-P. Leaf area also was reduced from applications to 2-leaf and 4-leaf sugarbeets, however there were no differences observed between *S*-metolachlor and dimethenamid-P. Averaged across herbicide treatments, one of the eleven varieties was more tolerant, four were moderately susceptible, and six were highly susceptible to herbicide applications. The variety SX Prompt was the most tolerant variety to both *s*-metolachlor and dimethenamid-P at all application timings. Sugarbeet yield and recoverable white sugar was reduced by all herbicide applications, except dimethenamid-P at the 2-leaf application timing.