EFFECT OF FUNGICIDES ON EFFICACY OF GLYPHOSATE IN SUGAR BEET. Darren E. Robinson, and Rob Nurse, Assistant Professor, Department of Plant Agriculture, University of Guelph, Ridgetown, ON, N0P 2C0, and Research Scientist, Agriculture and Agri-Food Canada, Harrow, ON.

Trials were conducted at two locations in southwestern Ontario in 2006 and 2007 to compare the effect of tank-mixing various fungicides with glyphosate on weed control, sugar beet visual injury, and sugar beet yield. In each trial, one half of each plot was kept weed-free by handweeding to test for visual injury and sugar beet tolerance to herbicides alone. The other half of each plot was not hand-weeded to determine the level of weed control of each treatment, and the effect of competition on sugar beet yield. Treatments included pyraclostrobin (250 g a.i. ha^{-1}), mancozeb (1800 g a.i. ha^{-1}), thiophanate-methyl (392 g a.i. ha^{-1}), or azoxystrobin (250 g a.i. ha^{-1}) applied 7 days after or as a tank-mix with glyphosate (900 g a.i. ha^{-1}) and glyphosate alone (900 g a.i. ha^{-1}). Untreated weed-free and weedy checks were included for comparison. None of the fungicide-herbicide tank-mixes caused significant visual injury or yield loss in sugar beet. Adding pyraclostrobin, thiophante-methyl or azoxystrobin to glyphosate did not reduce weed control compared to glyphosate applied alone. However, the addition of mancozeb to glyphosate reduced control of common lamb's-quarters and sugar beet yield.

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