

EFFECT OF DRIFT-REDUCING NOZZLES ON HERBICIDE EFFICACY IN SUGARBEET (*BETA VULGARIS* L.). Kevin R. Jacobson and Alan G. Dexter, Graduate Research Assistant, Plant Sciences Department, North Dakota State University, Fargo, ND 58105 and Professor, Plant Sciences Department, North Dakota State University and University of Minnesota, Fargo, ND 58105.

Field experiments were conducted to determine the influence of nozzle type and travel speed on herbicide efficacy. Venturi and pre-orifice type nozzles were compared to the standard Spraying Systems XR TeeJet fan nozzle (XR). Venturi nozzles were Spraying Systems AI TeeJet and Greenleaf Technologies Air Mix (AM). Pre-orifice nozzles were Spraying Systems Turbo TeeJet (TT), Wilger Industries Combo-Jet DR (DR), and Hypro Corp Ultra Low Drift (ULD). Desmedipham and phenmedipham at 90 g/ha plus triflurosulfuron at 4.5 g/ha plus clopyralid at 34 g/ha plus clethodim at 34 g/ha plus methylated seed oil adjuvant at 1.5% v/v was the postemergence micro-rate treatment applied two times at a seven-day interval. The postemergence micro-rate was applied to sugarbeet, durum wheat, oat, foxtail millet, corn, flax, canola, amaranth, and flax using all nozzle types at two travel speeds. Increasing travel speed from 4.8 km/h to 7.2 km/h reduced amaranth and flax control with all nozzle types using either 7.6 L/min or 15.1 L/min nozzle size. The 15.1 L/min nozzle size gave less control compared to 7.6 L/min nozzles at the 7.2 km/h travel speed for all nozzle types. ULD and AI were less effective than the standard XR in control of flax and canola. DR, AM, and TT nozzles were as effective as XR in control of all species studied.