

RESPONSE OF VARIOUS MARKET CLASSES OF DRY BEANS TO HALOSULFURON. Nader Soltani, Christy Shropshire, and Peter H. Sikkema, Department of Plant Agriculture, University of Guelph Ridgetown Campus, Ridgetown, Ontario, Canada, N0P 2C0.

Four field trials were conducted over a two-year period (2006, 2007) in Ontario to evaluate the tolerance of black, cranberry, kidney, otebo, pink, pinto, small red Mexican (SRM), and white bean to halosulfuron applied preplant incorporated (PPI), preemergence (PRE), and postemergence (POST) at 35 and 70 g ai/ha. There was minimal visible injury (< 1%) in dry bean with halosulfuron applied PPI and PRE. Halosulfuron applied post at 35 and 70 g ai/ha caused 2.7 to 4.7% and 3.8 to 7.5% visible injury in dry bean, respectively at 1 week after application (WAA). The injury was transient with no significant injury at 2 and 4 WAA. Halosulfuron applied PPI, PRE, and POST at 35 and 70 g ai/ha caused no decrease in plant height of the different market classes of dry bean except for kidney bean which was reduced by 4% at 35 and 70 g ai/ha. Halosulfuron applied PPI, PRE, and POST at 35 and 70 g ai/ha caused no decrease in yield of various market classes of dry bean except for yield of kidney bean which was reduced 9% at 35 g ai/ha and 8% at 70 g ai/ha and yield of otebo bean which was reduced 3% at 70 g ai/ha. Based on these results, there is an adequate margin of crop safety for halosulfuron applied PPI, PRE and POST in black, cranberry, pink, pinto, SRM and white bean in Ontario. However, further research is required to ascertain the tolerance of kidney and otebo bean to halosulfuron especially when applied POST and further research is needed to determine the tolerance of varieties within market classes of dry bean to halosulfuron.