**Article**

**Responses of dry beans ( Phaseolus vulgaris L.) to sulfentrazone**

[Sharareh Hekmat](http://www.researchgate.net/researcher/247219_Sharareh_Hekmat/), [Christy Shropshire](http://www.researchgate.net/researcher/72189518_Christy_Shropshire/), [Nader Soltani](http://www.researchgate.net/researcher/72933861_Nader_Soltani/), [Peter H. Sikkema](http://www.researchgate.net/researcher/72620130_Peter_H_Sikkema/)

Crop Protection - CROP PROT 01/2007; 26(4):525-529. DOI:10.1016/j.cropro.2006.05.002

**ABSTRACT** There is little information on the sensitivity of dry beans to sulfentrazone. Tolerance of eight cultivars of dry beans representing eight market classes (black, brown, cranberry, kidney, otebo, pinto, white and yellow eye beans) to the pre-emergence (PRE) application of sulfentrazone at the dose of 420 and 840ga.i.ha−1 was studied at two locations (Exeter and Ridgetown, ON, Canada) in 2004 and 2005. Market classes of dry beans differed in their response to sulfentrazone. Sulfentrazone applied PRE at 420gha−1 caused 7–12% visual crop injury but there was no decrease in height, dry weight and yield of any market class of dry beans. Sulfentrazone applied PRE at 840gha−1 caused up to 30% visual crop injury and decreased dry weight 30–40% of all market classes of dry beans with the exception of brown and pinto beans. There was no decrease in height of dry beans due to the PRE application of sulfentrazone. Sulfentrazone at the high dose reduced the yield of black, cranberry, otebo and white beans by 47, 44, 26 and 52%, respectively. There was no decrease in yield of brown, kidney, pinto and yellow eye beans. Seed moisture content measured at harvest ranged from 18.1 to 22.7% for various market classes of dry beans and was not affected by the application of sulfentrazone. Based on these results, brown and pinto beans had the greatest tolerance to the PRE application of sulfentrazone.