WILSON, ROBERT G., University of Nebraska, 4502 Avenue I, Scottsbluff, NE 69361. Glyphosate and glufosinate for weed control in herbicide tolerant sugarbeet.

Experiments were initiated near Scottsbluff, NE in 1997 and 1998 to evaluate the sucrose yield of glyphosate and glufosinate tolerant sugarbeet varieties and to examine the efficacy of both herbicides for selective weed control in the crop. In 1997 two sugarbeet varieties tolerant to glufosinate and one variety tolerant to glyphosate were compared to the same varieties without the herbicide tolerant gene and three standard varieties at two locations. In 1998 four sugarbeet varieties tolerant to glufosinate and three varieties tolerant to glyphosate were compared to varieties without the herbicide tolerant gene and three standard varieties at two locations. Sucrose yields were similar between varieties with or without herbicide tolerance and standard varieties. Two applications of glyphosate at 0.84 kg/ha or two applications of glufosinate at 0.3 kg/ha applied when the crop was in the 2 to 4-leaf growth stage and again 10 to 14 days later controlled 99% of the weed population. Both glyphosate and glufosinate provided similar weed control and less early season crop injury than a conventional weed program which consisted of phenmedipham plus desmedipham plus triflusulfuron.

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