

Study Name: Prickly lettuce control with various glyphosate rates compared to paraquat

Study Number:0552

Objectives:

Results:

Spring wheat was seeded May 2 near Beach, ND. Preplant (PP) treatments were applied April 21 with air temp 61F, soil temp 46F, RH 58%, and moist soil. Preemergence (PRE) treatments were applied May 4 with air temperature 71F, soil temp 51F, RH 27%, and dry soil. Prickly lettuce, which is a winter annual, was in the rosette stage at the PP or PRE application (about 1-4" diameter, 10-20 per sq ft). Individual plots were 10 x 30 ft and replicated three times.

Glyphosate provided greater than 93% prickly lettuce control at any rate applied PP or PRE. Paraquat applied PP on April 21 provided about 83% prickly lettuce control, but provided only 49% control when applied PRE on May 4. We had speculated that colder temperatures in April might result in less Paraquat control than with the May application, but that did not occur. We believe the May 4 paraquat application may have been less effective due to larger prickly lettuce plants, which resulted in partial kill only. We observed that the growing point on many plants survived and plants were able to continue growing.

Table. Prickly lettuce control with various glyphosate rates compared to paraquat.

Treatment ^a	Rate	Timing	Prickly lettuce
			Jun 16 % control
Glyphosate	0.375 lb ae	PP	93
Glyphosate	0.56 lb ae	PP	94
Glyphosate	0.75 lb ae	PP	95
Glyphosate	1.5 lb ae	PP	97
Glyphosate	3 lb ae	PP	98
Paraquat	1.3 pt	PP	83
Glyphosate	0.375 lb ae	PRE	96
Glyphosate	0.56 lb ae	PRE	97
Glyphosate	0.75 lb ae	PRE	98
Glyphosate	1.5 lb ae	PRE	99
Glyphosate	3 lb ae	PRE	99
Paraquat	1.3 pt	PRE	49
Glyphosate + Express + NIS	0.75 lb ae + 0.1 oz + 0.125% v/v	PRE	98
Glyphosate + Express + NIS	0.75 lb ae + 0.167 oz + 0.125% v/v	PRE	98
Untreated			0
LSD (0.05)			12
CV			8

^aGlyphosate treatments were applied with AMS at 2.5 gal/100 gal. Paraquat treatments were applied with NIS at 0.25% v/v.