

## Evaluation of Express Efficacy in Express-Tolerant Sunflower

A field study was initiated at the High Plains Agricultural Laboratory near Sidney, NE to evaluate the efficacy of Express herbicide in Express-tolerant sunflower. The experimental design was a randomized complete block with three replications. Plots were 10 feet wide by 30 feet long. Herbicide treatments were applied with an ATV-mounted sprayer set to deliver 16 gallons/acre at three miles/hour and 30 psi. Express-tolerant sunflower cultivar 'Pioneer 63N82' was no-till seeded into winter wheat residue on May 30, 2008 at the rate of 15,000 seeds per acre. Preemergence (PRE) treatments were applied on May 31, 2008. Postemergence (POST) treatments were applied on July 2, 2008 when sunflowers were in the V-8 growth stage. The weeds at time of POST applications were Russian thistle, redroot pigweed and a few grassy weeds. The study was located on an Duroc loam soil with 4.0% organic matter content and a pH of 6.8.

No significant crop injury was observed in this study. Some slight leaf necrosis was observed early in treatments receiving Spartan PRE. Spartan herbicide provided excellent control of Russian thistle and redroot pigweed throughout the course of this study. The application of Express herbicide in treatments receiving Spartan herbicide PRE was probably unnecessary. However, Prowl H<sub>2</sub>O provided poor weed control. In these treatments, the POST application of Express provided excellent control of redroot pigweed, but only poor to fair control of Russian thistle. Sulfonylurea-resistant Russian thistle is present at this site and may explain the poor control with Express herbicide. Express herbicide applied PRE also provided excellent control of redroot pigweed, but very poor control of Russian thistle. No seed yields were significantly different than the nontreated check.



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Treatment	Rate oz ai/A	Timing	Visual weed control				Yield lb/A
			July 29		August 26		
			Russian thistle	Redroot pigweed	Russian thistle	Redroot pigweed	
			% —————				
Spartan Express Assure II COC	4.5 oz pr/A 0.125 0.88 1.5 pt pr/A	PRE POST	100	100	100	100	1312
Spartan Express Assure II COC	4.5 oz pr/A 0.25 0.88 1.5 pt pr/A	PRE POST	100	97	100	100	1669
Prowl H <sub>2</sub> O Express Assure II COC	3 pt pr/A 0.125 0.88 1.5 pt pr/A	PRE POST	47	93	40	97	1825
Prowl H <sub>2</sub> O Express Assure II COC	3 pt pr/A 0.25 0.88 1.5 pt pr/A	PRE POST	67	98	77	97	1928
Express	0.25	PRE	42	93	40	97	1771
Nontreated Check			0	0	0	0	1593
LSD (5%)			46	10	49	8	541