

Evaluation of Post-Harvest Weed Control with Prowl Applied in Winter Wheat

A field study was initiated at the High Plains Agricultural Laboratory near Sidney, NE to evaluate the efficacy of Prowl herbicide applied to winter wheat in the spring for weed control after winter wheat harvest. Winter wheat ('Millenium') was no-till seeded into pea stubble on September 20, 2006 at a rate of 55 pounds/acre. Herbicide treatments were applied with an ATV-mounted sprayer set to deliver 21 gallons/acre at 3 miles/hour and 20 psi. The study was located on an Alliance silt loam soil with an organic matter content of 2.6% and a pH of 6.8. Early POST treatments were applied on April 17, 2007 to winter wheat that had 1 to 3 tillers present and had not yet jointed. Weeds present at the time of the early POST treatments were Russian thistle and kochia. The weeds were ½- to 1-inch in height. The late POST treatment was applied on May 1, 2007 to winter wheat that was jointed. The second node was visible, approximately ½-inch above the ground surface, with the winter wheat having an 8- to 12-inch extended leaf height. The winter wheat was growing rapidly and the annual weeds were still small in size at this time. Kochia and Russian thistle plants were 1 to 2 inches in height.

Prowl applied to winter wheat in the spring did not appear to injure the crop. However, it did not appear to help with post-harvest weed control either. It appears that post-harvest weed control was primarily the result of in-crop weed control with 2,4-D. It was hot and dry for the first three weeks after harvest. On July 28, 1.32 inches of precipitation was received, but this did not result in a weed flush that was visible by August 6, the day of the last visual rating. This study will need to be repeated to see if Prowl can provide residual control of weeds emerging after wheat harvest in a wetter year.

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Treatment	Rate	Timing	Weed control				Yield bu/A
			July 6		August 6		
			Kochia	R. thistle	Kochia	R. thistle	
Prowl H ₂ O 2,4-D ester	2.5 pt/A 12 oz/A	Early POST	87	92	85	90	27
Prowl H ₂ O 2,4-D ester	2.5 pt/A 12 oz/A	Late POST	90	100	83	100	26
2,4-D ester	12 oz/A	Early POST	87	95	82	97	23
Check			0	0	0	0	28
LSD (5%)			7	10	11	12	4