

Wild oat control in hard red spring wheat with reduced rates of Puma, Axial, Discover, and Rimfire at Crookston, MN - 2007. Durgan, Beverly R., Jochum Wiersma, Jim Cameron, and Douglas W. Miller. This experiment was designed to evaluate wild oat control with Puma (fenoxaprop & safener), Axial (pinoxaden), Discover (clodinaop and cloquintocet), and Rimfire (propoxycarbazone & mesosulfuron) applied at the labeled rate and at two reduced rates and at two application times. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, the experimental area received 100 lb/A of N and was plowed in the fall. In the spring of the following year, the experimental area was disked and harrowed. 'Alsen' hard red spring wheat was seeded on April 25 at 1.5 Bu/A. The experimental design was a randomized complete block with treatments in a split plot arrangement with three replications. Application date comprised whole plots and herbicide treatments, subplots. Subplot size was 10 by 16 ft. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. Application data and environmental conditions are listed below. Crop injury and wild oat control were rated visually. Yields were measured. All data are presented in the table below.

Treatment Date	May 18	May 25
Wheat stage	2.5 - 3 leaf	4 leaf
Wild oat stage	3 leaf	4.5 leaf
Air temperature (°F)	57	50
Relative humidity (%)	56	40
Soil temperature (°F)	56	50
Sky	overcast	sunny
Wind	S 0-7 mph	W 0-1 mph
Rainfall before Application		
Week 1 (inch)	0	0.48
Rainfall after Application		
Week 1 (inch)	0.48	1.18
Week 2 (inch)	1.18	1.47

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Treatment	Rate	Wild Oat Control			Wheat Injury			Wheat
		6/8	6/28	7/5	6/8	6/28	7/5	Yield
	Product/A	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Application #1 (May 18)								
Puma	0.67 pt	92	99	98	0	0	0	61
Puma	0.5 pt	92	98	97	0	0	0	63
Puma	0.33 pt	91	98	93	0	0	0	58
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	93	99	98	0	0	0	64
Axial + Adigor Adjuvant	6.2 oz + 9.6 oz	95	98	95	0	0	0	62
Axial + Adigor Adjuvant	4.1 oz + 9.6 oz	92	97	94	0	0	0	62
Discover NG	12.8 oz	92	98	96	0	0	0	65
Discover NG	9.6 oz	92	96	94	0	0	0	59
Discover NG	6.4 oz	95	93	93	0	0	0	59
Rimfire + Destiny	1.75 oz + 1.5 pt	77	85	81	0	0	0	50
Rimfire + Destiny	1.31 oz + 1.5 pt	74	90	85	0	0	0	54
Rimfire + Destiny	0.88 oz + 1.5 pt	77	88	89	0	0	0	47
Weedy Check	--	--	--	--	0	0	0	3
Application #2 (May 25)								
Puma	0.67 pt	--	99	99	0	0	0	58
Puma	0.5 pt	--	98	97	0	0	0	55
Puma	0.33 pt	--	88	87	0	0	0	49
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	--	99	97	0	0	0	60
Axial + Adigor Adjuvant	6.2 oz + 9.6 oz	--	99	99	0	0	0	61
Axial + Adigor Adjuvant	4.1 oz + 9.6 oz	--	99	98	0	0	0	60
Discover NG	12.8 oz	--	99	99	0	0	0	61
Discover NG	9.6 oz	--	99	99	0	0	0	62
Discover NG	6.4 oz	--	99	97	0	0	0	61
Rimfire + Destiny	1.75 oz + 1.5 pt	--	80	74	0	0	0	47
Rimfire + Destiny	1.31 oz + 1.5 pt	--	84	80	0	0	0	47
Rimfire + Destiny	0.88 oz + 1.5 pt	--	88	88	0	0	0	55
Weedy Check	--	--	--	--	0	0	0	3
LSD (0.05)		14	8	14	ns	ns	ns	9

Puma 1EC = fenoxaprop and safener

Axial 0.83 EC = pinoxaden.

Adigor Adjuvant = emulsifiable oil adjuvant from Syngenta.

Discover NG 0.5 EC = clodinafop and cloquintocet (safener).

Rimfire 10.2 WDG = propoxycarbazone (8.14%) & mesosulfuron (2.03%).

Destiny = methylated soybean oil and nonionic surfactant blend.