

Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2004. Durgan, Beverly R., Jochum Wiersma, Jim Cameron, and Douglas W. Miller. This experiment was designed to evaluate wild oat control with Assert (imazamethabenz), Discover (clodinaop and safener), Everest (flucarbazone), Puma (fenoxaprop & safener), and Silverado (AE F130060) 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 27 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 28	June 8
Wioa stage	2 leaf	4.5 leaf
Wheat stage	2 leaf	4.5 leaf
Air temperature (°F)	60	60
Relative humidity (%)	35	59
Soil conditions	moist	moist, 60°
Soil temperature (°F)	--	60
Rainfall before Application		
Week 1 (inch)	0.53	0.53
Rainfall after Application		
Week 1 (inch)	2.93	0.37
Week 2 (inch)	0.63	0.25

Analysis of variance of the injury ratings showed that there were no significant treatment differences or interactions.

Analysis of variance of the control ratings showed a significant difference between herbicide treatments at each rating date and a significant application date x herbicide treatment interaction for the 7/8 and 7/14 rating dates.

Table. Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2004 (Durgan, Wiersma, Cameron, and Miller).

Treatment	Rate (lb ai/A)	Wheat Injury					AVEFA Control			Wheat Yield (bu/A)
		6/10	6/17	6/24	7/8	7/14	6/24	7/8	7/14	
Application Date #1 (May 28)										
Imazamethabenz + NIS ¹ + COC ²	0.31 + 0.25% + 0.5%	0	0	3	0	0	82	77	77	58
Imazamethabenz + NIS + COC	0.23 + 0.25% + 0.5%	0	2	0	0	0	78	73	77	65
Imazamethabenz + NIS + COC	0.155 + 0.25% + 0.5%	0	0	0	0	0	72	77	70	66
Fenoxaprop & safener	0.084	0	0	0	0	0	87	90	93	79
Fenoxaprop & safener	0.063	0	2	0	0	0	88	90	80	79
Fenoxaprop & safener	0.041	0	0	0	0	0	83	85	70	65
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	0	2	0	0	3	85	83	85	58
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	0	0	0	0	3	77	73	83	51
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	0	0	3	0	0	77	75	72	60
Clodinafop & safener ³	0.05	0	0	0	0	0	90	89	90	84
Clodinafop & safener	0.0375	0	0	0	0	0	85	90	91	75
Clodinafop & safener	0.0250	0	0	0	0	0	87	87	90	71
AE F130060 + adjuvant ⁴	0.0156 + 1.9%	0	3	0	0	0	85	82	75	61
AE F130060 + adjuvant	0.0117 + 1.9%	0	0	0	0	0	78	83	81	67
AE F130060 + adjuvant	0.0078 + 1.9%	0	0	3	0	0	85	78	73	58
Untreated Check	--	0	0	0	0	0	--	--	--	23
Application Date #2 (June 8)										
Imazamethabenz + NIS ¹ + COC ²	0.31 + 0.25% + 0.5%	--	2	0	0	0	65	55	67	54
Imazamethabenz + NIS + COC	0.23 + 0.25% + 0.5%	--	0	0	0	0	63	50	62	48
Imazamethabenz + NIS + COC	0.155 + 0.25% + 0.5%	--	2	0	0	0	65	53	62	41
Fenoxaprop & safener	0.084	--	7	0	0	0	87	99	99	69
Fenoxaprop & safener	0.063	--	10	0	0	0	85	98	98	69
Fenoxaprop & safener	0.041	--	5	0	0	0	85	99	96	70
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	--	10	3	0	0	73	83	82	67
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	--	2	0	0	0	73	67	72	59
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	--	0	0	0	0	68	60	72	53
Clodinafop & safener ³	0.05	--	3	0	0	0	87	99	99	71
Clodinafop & safener	0.0375	--	3	0	0	0	85	99	99	73
Clodinafop & safener	0.025	--	5	0	0	0	82	96	96	69
AE F130060 + adjuvant ⁴	0.0156 + 1.9%	--	8	0	0	0	75	75	75	59
AE F130060 + adjuvant	0.0117 + 1.9%	--	2	0	0	0	73	62	70	56
AE F130060 + adjuvant	0.0078 + 1.9%	--	0	0	0	0	65	72	65	61
Untreated Check	--	--	0	0	0	0	--	--	--	16
LSD P=.05		ns	ns	ns	ns	ns	15	14	15	14

¹ NIS = Class Preference nonionic surfactant.

² COC = Class Crop Oil Concentrate.

³ Discover NG 0.5E.

⁴ adjuvant = Destiny.