Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2005. Durgan, Beverly R., Jochum Wiersma, Jim Cameron, and Douglas W. Miller. This experiment was designed to evaluate wild oat control with Discover (clodinaop and cloquintocet), Everest (flucarbazone), Puma (fenoxaprop & safener), and Silverado (mesosulfuron-methyl) 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 May 3 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. Wild oat population was 185/ft^2. Application data and environmental conditions are listed below. Crop injury and wild oat control were rated visually. Prior to harvest, wild oat population and wheat / wild oat biomass data were collected from a one ft^2 area. Yields were measured. Wild oat seed production was measured after harvest. All data are presented in the table below.

Treatment Date	June 4	June 9
Wheat stage	3.5 - 4 leaf	4 - 4.5 leaf
Air temperature (°F)	65	62
Relative humidity (%)	85	62
Soil conditions	moist	moist
Rainfall before Application		
Week 1 (inch)	0.47	1.47
Rainfall after Application		
Week 1 (inch)	1.40	2.39
Week 2 (inch)	2.39	0.00

Table. Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2005 (Durgan, Wiersma, Cameron, and Miller).

		AVEFA						Wheat		
		Control		Plant	Seed	Biomass		Injury		
Treatment	Rate	7/5	7/11	Population	Production	Wheat	AVEFA	6/9	7/5	Yield
	(lb ai/A)	----- (%) -----		---------- (#/ft^2) ----------		---------- (%) ----------				(bu/A)
Application Date #1 (June 4)										
Fenoxaprop & safener	0.084	99	99	1	0	99	1	8	0	63
Fenoxaprop & safener	0.063	99	99	0	0	100	0	5	0	62
Fenoxaprop & safener	0.041	99	99	0	0	100	0	5	0	64
Flucarbazone + 2,4-D Ester + NIS [1]	0.027 + 0.25 + 0.25%	87	87	17	46	95	5	7	0	46
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	82	85	19	84	78	22	7	0	43
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	72	65	22	64	79	21	5	0	45
Clodinafop & cloquintocet [2]	0.05	99	99	1	0	94	6	8	0	60
Clodinafop & cloquintocet	0.0375	99	99	0	0	100	0	8	0	64
Clodinafop & cloquintocet	0.0250	99	99	1	3	94	6	8	0	63
Mesosulfuron-methyl + adjuvant [3]	0.0156 + 1.9%	95	96	1	1	100	0	3	0	52
Mesosulfuron-methyl + adjuvant	0.0117 + 1.9%	88	92	1	2	94	6	8	0	54
Mesosulfuron-methyl + adjuvant	0.0078 + 1.9%	91	91	2	5	95	5	5	0	61
Untreated Check	--	–	–	109	1373	6	94	0	0	7
Application Date #2 (June 9)										
Fenoxaprop & safener	0.084	93	99	2	5	87	13	0	0	42
Fenoxaprop & safener	0.063	99	91	2	4	93	7	0	0	46
Fenoxaprop & safener	0.041	91	81	12	79	59	41	0	0	39
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	80	75	2	10	93	7	0	0	33
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	68	78	41	136	57	43	0	0	33
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	77	68	29	141	43	57	0	0	29
Clodinafop & cloquintocet	0.05	98	95	0	0	100	0	0	0	45
Clodinafop & cloquintocet	0.0375	96	98	0	0	100	0	0	0	48
Clodinafop & cloquintocet	0.025	99	96	0	0	100	0	0	0	45
Mesosulfuron-methyl + adjuvant[4]	0.0156 + 1.9%	77	70	9	27	68	32	0	0	35
Mesosulfuron-methyl + adjuvant	0.0117 + 1.9%	77	58	33	113	49	51	0	0	27
Mesosulfuron-methyl + adjuvant	0.0078 + 1.9%	78	70	53	237	39	61	0	0	33
Untreated Check	--	–	–	94	1269	26	74	0	0	17
LSD P=.05		13	23	31	506	29	29	5	ns	18

[1] NIS = Class Preference nonionic surfactant.
[2] Discover NG 0.5E.
[3] adjuvant = Destiny.