

Foxtail control in hard red spring wheat with reduced rates at Rosemount, MN - 2004. Durgan, Beverly R., and Douglas Miller. This experiment was designed to evaluate foxtail control with 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 Rosemount, MN on a Waukegon silt loam soil. Following soybeans, the experimental area was fall chisel plowed. In the spring, the area was fertilized with 50 lbs/A N and 70 lbs K. The field was disked once, field cultivated once, and harrowed twice. 'Alsen' hard red spring wheat was seeded on May 11 at 85 lbs/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 24 ft. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 35 psi using 11015 flat fan nozzles. Application data and environmental conditions are listed below. Crop injury and foxtail control were rated visually. Yields were measured. All data are presented in the table below.

<u>Treatment Date</u>	<u>June 3</u>	<u>June 14</u>
Foxtail		
stage	2-3 leaf	2-7 (most 5-6)
height (inch)	0.3 to 1	0.5 to 7 (most 2-5)
density (#/ft ²)	33	--
Wheat		
stage	3 leaf	late 5 to 6
tillers	1-2	2-3
height (inch)	4-5	7-10
Air temperature (°F)	68	73
Dewpoint (°F)	41	63
Relative humidity (%)	37	65
Sky	--	20% clouds
Wind	E 4-9	NW 5-10
Soil conditions	moist	moist
Soil temperature (°F)	67	70
Rainfall before Application		
Week 1 (inch)	2.48	2.23
Rainfall after Application		
Week 1 (inch)	1.77	0.01
Week 2 (inch)	0.47	0.21

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 application times at the first rating date and a significant difference between herbicide treatments at both rating dates. Due to later emerging foxtail, overall control was better at the later application timing. Although small, the difference was statistically significant at the first rating date. At the second rating date, the differences between application timing were more apparent but was not statistically significant due to some large variation between plots caused by heavy rains and some standing water. Puma and Discover provided better foxtail control than Everest or Silverado at both rating dates and at all rates. Analysis of variance of yield showed a significant difference between herbicide treatments but not application timing. Due to the rain and resulting variation between plots, yield differences may not reflect the degree of control provided by the herbicide treatments.

Table. Foxtail control in hard red spring wheat with reduced rates at Rosemount, MN - 2004 (Durgan and Miller).

Treatment	Rate (lb ai/A)	Wheat Injury		Foxtail Control		Wheat Yield (bu/A)
		7/8	7/14	7/8	7/14	
----- % -----						
Application Date #1 (June 3)						
Fenoxaprop & safener	0.084	0	0	92	76	50
Fenoxaprop & safener	0.063	0	0	95	80	48
Fenoxaprop & safener	0.041	0	0	95	90	48
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	0	0	72	58	45
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	3	0	68	65	45
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	0	0	65	59	46
Clodinafop & safener ³	0.05	0	0	92	85	50
Clodinafop & safener	0.0375	0	0	95	84	50
Clodinafop & safener	0.0250	0	0	88	84	52
AE F130060 + adjuvant ⁴	0.0156 + 1.9%	0	0	67	54	51
AE F130060 + adjuvant	0.0117 + 1.9%	0	0	63	61	49
AE F130060 + adjuvant	0.0078 + 1.9%	0	0	58	57	53
Untreated Check	--	0	0	--	--	44
Application Date #2 (June 14)						
Fenoxaprop & safener	0.084	0	0	98	98	55
Fenoxaprop & safener	0.063	0	0	99	97	54
Fenoxaprop & safener	0.041	0	0	99	99	52
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	3	0	70	67	49
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	3	0	65	70	50
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	3	0	68	67	52
Clodinafop & safener	0.05	0	0	98	98	54
Clodinafop & safener	0.0375	0	0	99	82	53
Clodinafop & safener	0.0250	0	0	98	90	53
AE F130060 + adjuvant	0.0156 + 1.9%	0	0	65	65	48
AE F130060 + adjuvant	0.0117 + 1.9%	0	0	68	78	51
AE F130060 + adjuvant	0.0078 + 1.9%	0	0	67	63	50
Untreated Check	--	0	0	--	--	47
LSD P=.05		ns	ns	6	19	7

¹ NIS = Class Preference nonionic surfactant.

² COC = Class Crop Oil Concentrate.

³ Discover NG 0.5E.

⁴ adjuvant = Destiny.