Foxtail control in spring wheat with reduced herbicide rates of Puma, Axial XL, Wolverine, and GoldSky at Rosemount, MN - 2009. Durgan, Beverly R. and Douglas W. Miller. This experiment was designed to evaluate foxtail control with Puma (fenoxaprop & safener), Axial XL (pinoxaden & adjuvant), Wolverine (fenoxaprop & pyrasulfotole & bromoxynil) and GoldSky (pyroxsulam & fluroxypyr & florasulam) 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 75 lbs K. The field was disked once and field cultivated twice. 'Freyr' hard red spring wheat was seeded on May 4 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 11001 flat fan nozzles. A broadcast application of Buctril (bromoxynil) at 1.5 pt/A (0.375 lb ai/A) was applied on June 2 to control broadleaf weeds. 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.

Treatment Date	**May 29**	**June 11**
Foxtail		
stage	2-5 leaf (majority 2-4 leaf)	1-8 leaf (majority 4-6 leaf)
height (inch)	0.25-2 (majority 0.75 to 1.5)	0.25-6 (majority 2-5)
density (#/ft^2)	13	19
Wheat		
stage	4.5 leaf	6.75-7 leaf and jointing (Zadoks Z17, 22-23, 31)
tillers	0-2	2-3
height (inch)	6-8	10-12
Air temperature (°F)	62	70
Relative humidity	40%	30 %
Sky	Clear	50% clouds
Wind	N 4-7	N 0-5
Soil conditions	dry	moist
Rainfall before Application		
Week 1 (inch)	0.39	2.11
Rainfall after Application		
Week 1 (inch)	0.12	0.63
Week 2 (inch)	2.11	0.59

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		Foxtail Control				Wheat Injury				Wheat
Treatment	Rate	6/24	7/5	7/26	8/18	6/15	6/24	7/5	7/26	Yield
	Product/A	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Application #1 (May 29)										
Puma	0.4 pt	90	96	96	95	0	0	0	0	64
Puma	0.3 pt	90	92	99	90	0	0	0	0	67
Puma	0.2 pt	83	85	93	83	0	0	0	0	61
Axial XL	16.2 oz	83	87	92	83	0	0	0	0	57
Axial XL	12.2 oz	83	82	88	82	0	0	0	0	62
Axial XL	8.1 oz	80	82	89	83	0	0	0	0	61
Wolverine	24.7 oz	95	95	96	93	0	0	0	0	60
Wolverine	20.5 oz	90	92	95	92	0	0	0	0	62
Wolverine	13.7 oz	85	88	98	87	0	0	0	0	63
GoldSky + Preference	16 oz + 3.2	70	84	88	80	0	0	0	0	66
GoldSky + Preference	12 oz + 3.2	55	72	67	68	0	0	0	0	69
GoldSky + Preference	8 oz + 3.2	53	50	60	50	0	0	0	0	62
Weedy Check	--	--	--	--	--	0	0	0	0	57
Application #2 (June 11)										
Puma	0.4 pt	96	99	99	90	0	0	0	0	58
Puma	0.3 pt	95	96	99	93	0	0	0	0	63
Puma	0.2 pt	87	87	98	83	0	0	0	0	54
Axial XL	16.2 oz	88	90	95	87	0	0	0	0	53
Axial XL	12.2 oz	92	83	94	85	0	0	0	0	59
Axial XL	8.1 oz	85	80	92	82	0	0	0	0	58
Wolverine	24.7 oz	91	98	98	92	0	0	0	0	63
Wolverine	20.5 oz	88	91	95	90	0	0	0	0	61
Wolverine	13.7 oz	90	83	91	83	0	0	0	0	60
GoldSky + Preference	16 oz + 3.2	90	92	92	90	15	10	0	0	63
GoldSky + Preference	12 oz + 3.2	90	90	92	90	13	10	0	0	67
GoldSky + Preference	8 oz + 3.2	82	83	82	82	13	7	0	0	63
Weedy Check	--	--	--	--	--	0	0	0	0	56
LSD (0.05)		14	6	9	9	1	2	ns	ns	ns

Puma 1EC = fenoxaprop and safener.

Axial XL 0.42 EC = pinoxaden and adigor adjuvant.

Wolverine 1.38E = fenoxaprop-p-ethyl (0.38 lb ai/gal) & pyrasulfotole (0.17 lb ai/gal) & bromoxynil octanoate (0.41 lb ai/gal) & bromoxynil heptanoate (0.42 lb ai/gal).

GoldSky 1.53L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

Preference = nonionic surfactant.