

Foxtail control in spring wheat with broadleaf herbicide tank mixes at Rosemount, MN – 2016. Durgan, Beverly R., Douglas W. Miller, Bradley Kinkaid, Rafael Pedroso da Silva, and Maria Karis. The objective of this experiment was to evaluate foxtail control and crop injury with Varro in tank mixes with broadleaf herbicides and other product tank mixes or pre-mixes. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil with pH 6.2 and 3.8% organic matter. Soil test for P and K were 22 lbs/A and 274 lbs/A, respectively. Following soybeans, the experimental area was fall chisel plowed. On April 11, the area was field cultivated. On April 13, the area was fertilized with 70 lbs/A N, 60 lbs/A P, and 60 lbs/A K and field cultivated a second time. 'Linkert' hard red spring wheat was seeded with a 12 foot wide drill at 115 lbs/A on April 14. Bromoxynil (0.31 lb ai/A) and MCPA (0.31 lb ai/A) were broadcast postemergence over the plot area on May 25 to control broadleaf weeds. The experimental design was a randomized complete block with three replications. Plot size was 10 by 24 ft. All herbicide treatments were applied to a 6 foot strip with a backpack type CO₂ powered sprayer delivering 10 gpa at 35 psi using 11001 flat fan nozzles with 18 inch spacing. Application data and environmental conditions are listed below. Weed control and wheat injury were visually rated. Yields were determined by harvesting a 5 X 24 foot strip in the treated area with a small plot combine. Data is summarized in the Table below.

Treatment Date	June 2
Foxtail (giant and yellow mix)	
stage	2 lf (13%), 3 lf (34%), 4 lf (42%), 5 lf (23%), 6 lf (7%)
height (inch)	1-6
density (#/ft ²)	126
Wheat	
stage (Haun)	6.3-6.8 leaf (Zadoks Z16-17, Z22-23)
tillers	2-3
height (inch)	12-15
Air temperature (°F)	69
Relative humidity (%)	45
Dewpoint (°F)	47
Sky	20% clouds
Wind	NW 2-6
Soil conditions	moist at 1"
Soil temperature (°F)	65
Rainfall before Application	
Week 1 (inch)	1.03
Rainfall after Application	
Week 1 (inch)	1.65
Week 2 (inch)	1.45

Results

Foxtail weed control did not differ among herbicide treatments. Slight wheat injury was observed with all herbicide treatments compared to the untreated check. Yields of most treatments did not differ significantly from the weedy check. Wolverine Advanced and GoldSky + Activator 90 + AMS had the greatest yields and the Varro treatments general had the lowest yields.

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Treatment	Rate (Product/A)	Foxtail Control			Wheat Injury		Wheat Yield (Bu/A)
		6/9 (%)	6/22 (%)	7/25 (%)	6/9 (%)	6/22 (%)	
Varro + Bison + AMS	6.85 oz + 1 pt + 1.18 pt	67	67	80	5	0	38
Varro + Weld + AMS	6.85 oz + 18 oz + 1.18 pt	78	82	82	5	0	33
Varro + Carnivore + AMS	6.85 oz + 1 pt + 1.18 pt	80	83	80	5	0	36
Varro + Widematch + 2,4-D ester LV4 + AMS	6.85 oz + 1 pt + 0.5 pt + 1.18 pt	72	75	78	5	0	37
Varro + Widematch + MCPA ester + AMS	6.85 oz + 1 pt + 0.5 pt + 1.18 pt	78	78	80	3	0	39
Varro + Widematch + Affinity Tankmix + AMS	6.85 oz + 1 pt + 0.6 oz + 1.18 pt	80	82	82	5	0	36
Huskie Complete	13.7 oz	85	85	82	5	0	42
Huskie Complete + N-Pak AMS	13.7 oz + 1.18 pt	82	83	85	5	0	43
Axial XL + Huskie	16.4 oz + 13.5 oz	85	85	85	7	2	42
Axial XL + Widematch + AMS	16.4 oz + 1 pt + 3.5 pt	85	82	83	8	3	37
Wolverine Advanced	27.4 oz	78	80	82	5	0	46
Everest 2.0 + Supremacy + Preference	0.75 oz + 4.5 oz + 3.2 oz	83	83	83	5	0	43
Everest 2.0 + Widematch + Activator 90 + AMS	0.75 oz + 1 pt + 3.2 oz + 3.5 pt	82	80	87	5	0	40
GoldSky + MCPA ester	1 pt + 0.5 pt	82	82	83	5	0	44
GoldSky + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	85	82	85	7	2	46
GoldSky + 2,4-D ester LV6 + AMS	1 pt + 7.26 oz + 3.5 pt	82	80	83	5	0	43
PerfectMatch + Preference	1 pt + 3.2 oz	82	77	83	5	0	40
PerfectMatch + 2,4-D ester LV4	1 pt + 0.5 pt	83	80	80	5	0	41
PerfectMatch + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	82	80	82	5	0	41
PerfectMatch + 2,4-D ester LV6 + AMS	1 pt + 7.26 oz + 3.5 pt	85	83	85	3	0	42
Weedy Check	--	--	--	--	0	0	40
LSD (0.05)		ns	ns	ns	2	ns	5

Varro 0.083L = thiencazone-methyl.

Bison 4E = bromoxynil (2 lb ai/gal) & MCPA (2 lb ae/gal).

N-Pak AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).

Weld 2.89E = clopyralid (0.50 lb ai/gal) & MCPA (1.75 lb ae/gal) & fluroxypyr (0.64 lb ae/gal).

Carnivore 4E = bromoxynil (1.67 lb ai/gal) & MCPA (1.67 lb ae/gal) & fluroxypyr (0.67 lb ae/gal).

Widematch 1.5E = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal).

2,4-D Ester LV4 (3.8 lb ae/gal).

MCPA Ester 4E.

Affinity Tankmix 50SG = thifensulfuron (40%) & tribenuron (10%).

Huskie Complete 1.76L = thiencazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).

Axial XL 0.42EC = pinoxaden and adigor adjuvant.

Huskie 2.08 EC = pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal) & safener.

Wolverine Advanced 1.58E = fenoxaprop-p-ethyl (0.40 lb ai/gal) & pyrasulfotole (0.13 lb ai/gal) & bromoxynil (1.05 lb ai/gal).

Everest 2.0 3.5SC = flucarbazone-sodium & cloquintacet (safener).

Supremacy 31WG = thifensulfuron (4.5%) & tribenuron 1.5%) & fluroxypyr (25% ae).

Preference = nonionic surfactant.

Activator 90 = nonionic surfactant.

GoldSky 0.84L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

2,4-D Ester LV6 (5.6 lb ae/gal).

PerfectMatch 1.61SE = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal) & pyroxsulam (0.11 lb ai/gal).

TeamMate 21.5WG = pyroxsulam