

Foxtail control in spring wheat with two application times at Rosemount, MN - 2014. Durgan, Beverly R., Douglas W. Miller, and Bradley Kinkaid. This experiment was designed to evaluate foxtail control with several herbicides applied at two different foxtail stages. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil with pH 6.3 and 4.0% organic matter. Soil test for P and K were 18 lbs/A and 200 lbs/A, respectively. Following soybeans, the experimental area was fall chisel plowed. On May 5, the area was fertilized with 70 lbs/A N, 25 lbs/A P, and 50 lbs/A K and field cultivated twice. 'RB-07' hard red spring wheat was seeded with a 12 foot wide drill at 115 lbs/A on May 6. 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. Target application stages were 1-2 leaf and 4-5 leaf foxtail. 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	May 23	June 4
Foxtail (giant and yellow mix)		
Leaf stage	1 lf (80%) 2 lf (20%)	1 lf (9%), 2 lf (29%), 3 lf (33%), 4 lf (17%), 5-7 lf (12%)
height (inch)	0.25-0.75	0.25-4 (most 5.5 to 1.5)
density (#/ft ²)	49	139
Wheat stage	1.8 leaf (Zadoks Z12)	4.2-4.9 leaf (Zadoks Z14-15, Z21-23)
tillers	0	1-3
height (inch)	3-4	6-8
Air temperature (°F)	74	77
Relative humidity (%)	32	40
Dewpoint (°F)	43	51
Sky	clear	20% clouds
Wind	SE 2-4 mph	ENE 0-5 mph
Soil conditions	moist at 0.5"	moist at 0.25"
Soil temperature (°F)	84	78
Rainfall before Application		
Week 1 (inch)	1.61	2.44
Rainfall after Application		
Week 1 (inch)	0.54	1.22
Week 2 (inch)	2.44	3.10

Foxtail control was generally fair to good across all treatments. Axial XL provided the best overall control across the two application timings. Wolverine Advanced provided excellent control at the late application time only. GoldSky provided fair control by the August 3 rating date at both application timings. Within the early applied treatments, the lower rate of Everest 2.0 (0.75 oz/A) provided only fair control with the higher rates providing somewhat greater control in comparison by August 3. Within the later applied treatments, ARY-054-124 provided the least control. Little injury was observed at the July 3 rating date. Wheat yields were variable and no significant differences were detected.

Foxtail emergence was monitored in an adjacent border area and the results are presented in the chart. Foxtail density in the monitoring area was more than twice that of the plot area.

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Treatment	Rate (Product/A)	Foxtail Control		Wheat Injury		Wheat Yield (Bu/A)
		7/3 (%)	8/3 (%)	7/3 (%)	8/3 (%)	
Application #1 (May 23)						
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	85	88	0	0	46
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	0.75 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	77	77	0	0	47
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	87	85	0	0	46
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	80	78	0	0	44
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	87	85	0	0	40
Rimfire Max + Destiny HC	3 oz + 0.75 pt	82	82	0	0	42
Axial XL	16.4 oz	93	92	0	0	48
Wolverive Advanced	27.4 oz	87	85	0	0	44
Application #2 (June 4)						
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	88	87	0	0	44
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	0.75 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	92	90	0	0	48
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	92	90	0	0	45
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	88	83	2	0	45
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	93	91	3	2	41
Rimfire Max + Destiny HC	3 oz + 0.75 pt	80	85	0	0	39
Axial XL	16.4 oz	99	93	0	0	44
Wolverive Advanced	27.4 oz	99	95	0	0	48
ARY-0454-124 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	83	80	0	0	42
Huskie Complete	13.7 oz	88	87	0	0	45
Weedy Check	--	--	--	--	--	30
LSD (0.05)		8	10	ns	ns	ns

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

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

MCPA Ester 4E.

Preference = nonionic surfactant.

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

Audit 1:1 50WDG = thifensulfuron (25%) & tribenuron (25%).

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

Varro = thiencarbazone-methyl & safener.

Rimfire Max 6.67WDG = propoxycarbazone-sodium (4.76%) & mesosulfuron-methyl (1.91%).

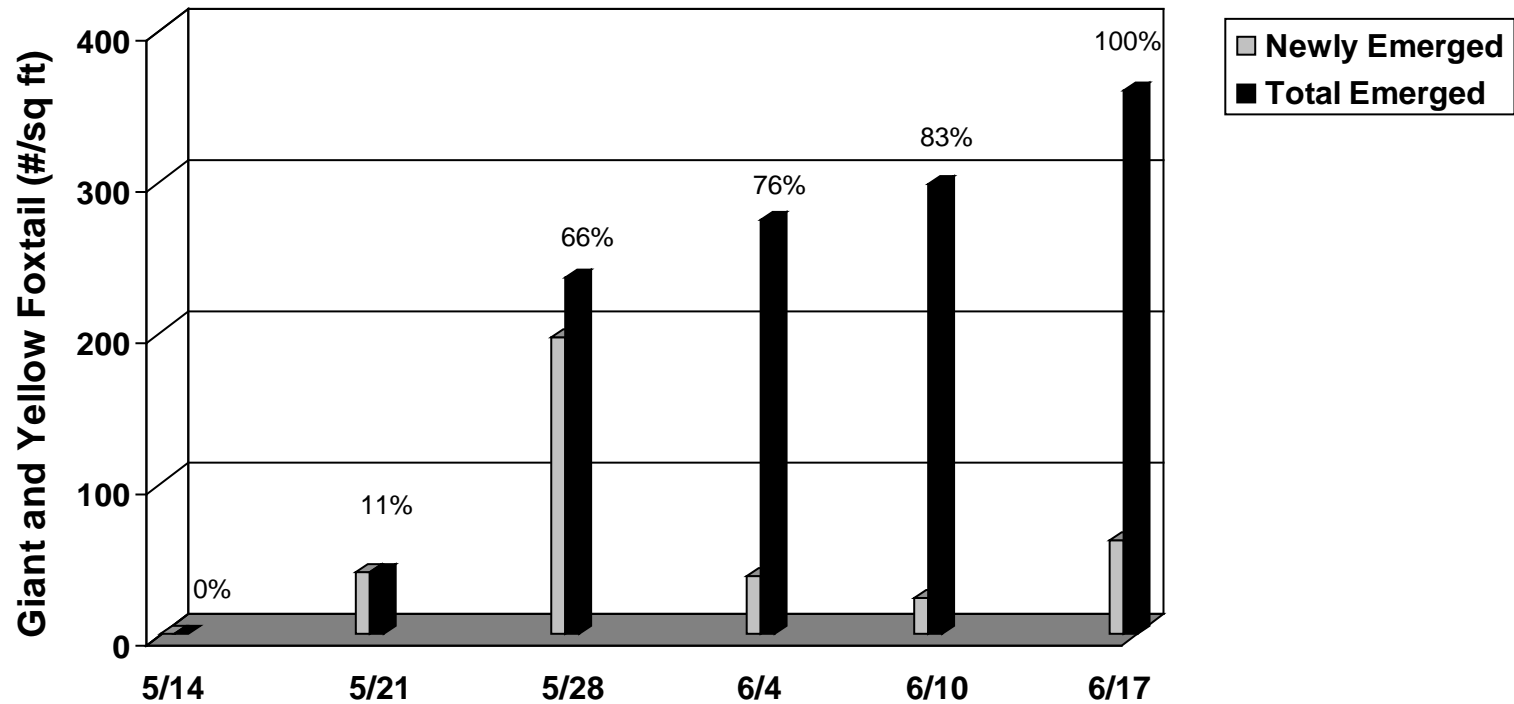
Destiny HC = methylated soybean oil, high fructose corn syrup, sorbitan fatty acid esters.

Axial XL 0.42EC = pinoxaden and adigor adjuvant.

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

ARY-0454-124 3.5Sc = experimental from Arysta LifeScience.

2014 Foxtail Emergence at Rosemount, MN



Average Total Population = 359/sq ft