Foxtail control in spring wheat with Luxxur at Rosemount, MN – 2020. Durgan, Beverly R., Douglas W. Miller and Ryan Mentz. The objective of this trial was to evaluate foxtail control and wheat injury with Luxxur B plus Luxxur A and in tank mixes with other herbicides. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil (15% sand, 50% silt, 35% clay) with pH 5.9 and 4.5% organic matter. Soil test for P and K were 34 lbs/A and 250 lbs/A, respectively. Following soybeans, the experimental area was fall chisel plowed. On April 6, the area was tilled with a soil finisher. On April 9, the area was fertilized with 70 lbs/A N, 60 lbs/A P, and 120 lbs/A K and field cultivated. The area was field cultivated again on April 22 and 'Linkert' hard red spring wheat was seeded with a 12 foot wide drill at 120 lbs/A. Broadleaf weeds were controlled with an application of bromoxynil + MCPA ester (0.375 lb ai/A + 0.375 lb ae/A) on May 21. 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 wide strip with a backpack type CO_2 powered sprayer delivering 10 gpa at 35 psi using 11001 flat fan nozzles with 18 inch spacing. Target application stage was 3-4 leaf foxtail. Application data and environmental conditions are listed below. Weed control and wheat injury were visually rated. Yields were determined by harvesting a 5.74 X 24 foot strip in the treated area with a small plot combine. Data are summarized in the Table below.

Treatment Date	**May 29**
Foxtail (giant 85% and yellow 15%)	
stage	10%-1 lf, 25%-2 lf, 20%-3 lf, 20%-4 lf 20%-4 lf, 20%-5 lf, 5%-6 lf
height (inch)	0.5-8
density (#/ft^2)	74
Wheat	
stage (Haun)	5.5-5.8 leaf (Zadoks Z16, Z22-23,Z31-32)
tillers	2-3
height (inch)	10-12
Air temperature (°F)	60
Relative humidity (%)	55
Dew point (°F)	43
Sky	50% clouds
Wind	NNE 7-11
Soil conditions	moist
Soil temperature (°F)	59
Rainfall before Application	
Week 1 (inch)	2.30
Rainfall after Application	
Week 1 (inch)	0.71
Week 2 (inch)	1.52

Results

Rain and/or wind delayed the treatment application beyond our target stage of 3-4 leaf foxtail. Final foxtail densities averaged 74/ft^2 as no foxtail emerged after the May 29 application date.

All herbicide treatments resulted in good to excellent foxtail control, The Axial Bold tank mix had slightly lower control compared to the other treatments at the initial rating date on June 11. There were no significant differences in foxtail control between herbicide treatments at the later three rating dates.

All Luxxur treatments caused moderate injury as noted at the early rating date June 11. Injury symptoms included stunting, fewer tillers, and a delay in heading. Visible injury symptoms (height reduction) were slight at the later rating dates.

Wheat yields within the Luxxur treatments trended slightly lower compared to Huskie Complete, Wolverine Advanced, and the Axial Bold treatments. Luxxur + Starane Flex + 2,4-D had the lowest yield within those treatments. Wolverine Advanced resulted in the highest yield overall. All herbicide treatments resulted in significantly greater wheat yields than the untreated check.

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		Foxtail Control				Wheat Injury				Wheat
Treatment	Rate	6/11	6/23	7/11	7/18	6/11	6/23	7/11	7/18	Yield
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Luxxur B + Luxxur A	6.85 oz + 0.214 oz	98	99	99	99	12	0	2	0	47
Luxxur B + Luxxur A + Starane Flex	6.85 oz + 0.214 oz + 13.5 oz	99	99	99	96	20	2	2	2	48
Luxxur B + Luxxur A + 2,4-D LV4	6.85 oz + 0.214 oz + 0.5 pt	98	99	99	99	18	0	0	0	48
Luxxur B + Luxxur A + Starane Flex + 2,4-D LV4	6.85 oz + 0.214 oz + 13.5 oz + 0.5 pt	96	99	99	99	20	3	2	3	45
Luxxur B + Luxxur A + Sentrallas	6.85 oz + 0.214 oz + 10 oz	96	98	99	96	20	3	0	3	46
Luxxur B + Luxxur A + Sentrallas + 2,4-D LV4	6.85 oz + 0.214 oz + 10 oz + 0.5 pt	98	99	99	99	13	5	2	5	48
Luxxur B + Luxxur A + Bison	6.85 oz + 0.214 oz + 1 pt	99	95	99	93	12	0	0	0	49
Luxxur B + Luxxur A + MCPA Ester	6.85 oz + 0.214 oz + 0.5 pt	99	99	99	97	10	0	0	0	47
Huskie Complete	13.7 oz	98	96	99	95	0	0	2	0	51
Wolverine Advanced	24.7 oz	95	93	99	93	0	2	0	2	55
Axial Bold+ Widematch + MCPA ester	15 oz+ 1 pt + 0.5 pt	91	95	99	96	0	0	2	0	50
Weedy Check	--	--	--	--	--	0	0	0	0	39
LSD (0.05)		3.9	ns	ns	ns	5.3	2.6	ns	2.6	4.1

Luxxur B 0.083L = thiencarbazone-methyl.
Luxxur A 50SG = tribenuron-methyl.
Starane Flex 0.875 E = florasulam (0.042 lb ai/gal) & fluroxypyr (0.833 lb ae/gal).
2,4-D LV4 3.8E.
Sentrallas 1.55E = thifensulfuron (0.25 lb ai/gal) & fluroxypyr (1.3 lb ae/gal).
Bison 4E = bromoxynil (2 lb ai/gal) & MCPA (2 lb ae/gal).
MCPA Ester 4E.
Huskie Complete 1.76L = thiencarbazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).
Wolverine Advanced 1.58E = fenoxaprop-p-ethyl (0.40 lb ai/gal) & pyrasulfotole (0.13 lb ai/gal) & bromoxynil (1.05 lb ai/gal).
Axial Bold 0.685EC = pinoxaden (0.457 lb/gal) and fenoxaprop-p-ethyl (0.228 lb/gal).
Widematch 1.5E = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal).