

**Wild oat control in spring wheat with Varro FX at Crookston, MN - 2021.** Durgan, Beverly R., Jochum Wiersma, Jim Cameron, and Houston Lindell. This experiment was designed to evaluate wild oat control with Varro FX alone and in several tank mixes. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, the area was chisel plowed in the fall of 2020. In the spring of 2021, 149 lbs/A N and 52 lbs/A P was applied, and a seedbed was prepared using a field cultivator with rolling baskets. 'Linkert' hard red spring wheat was seeded on April 19 at 1.75 bu/a. The experimental design was a randomized complete block with three replications. Plot size was 10 by 16 ft. Target application stage was 3-4 leaf wild oat. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. Application data and environmental conditions are listed below. Crop injury and wild oat control were rated visually. Yields were measured. All data are presented in the table below.

<b>Treatment Date</b>	<b>May 21</b>
Target Wild Oat Stage	3-4 leaf
Wild Oat Density	270 / ft <sup>2</sup>
Air temperature (°F)	74
Relative humidity (%)	84
Wind	S 6 mph
Soil temperature (under sod) (°F)	58
Rainfall before Application	
Week 1 (inch)	0.18
Rainfall after Application	
Week 1 (inch)	0.51
Week 2 (inch)	0.09

## **Results**

Wild oat control with Varro FX was good to excellent and did not differ significantly from most of the other treatments at each of the rating dates. Wild oat control with Varro FX + Bison was significantly lower than Varro FX at the early (June 24) rating date. Everest 3,0 + Huskie FX generally had the lowest wild oat control across all rating dates compared to the other herbicide treatments.

Crop injury was insignificant for all herbicide treatments.

Crop yields were highly variable, most likely the result of low precipitation over the growing season. Varro FX + Bison, Everest 3.0 + Huskie FX and Varro + Huskie FX were the lowest yielding treatments. All other treatments had yields significantly greater than the weedy check.

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Treatment	Rate (Product/A)	Wild Oat Control			Wheat Injury			Wheat Yield (Bu/A)
		6/24 (%)	7/2 (%)	7/22 (%)	5/28 (%)	6/4 (%)	6/12 (%)	
Varro FX	13.69 oz	90	92	96	0	0	0	39
Varro FX + Huskie	13.69 oz + 12.8 oz	85	87	99	3	0	0	33
Varro FX + Bison	13.69 oz + 1 pt	80	88	95	3	0	3	29
Varro FX + 2,4-D Ester LV6	13.69 oz + 5.4 oz	90	93	99	3	2	0	41
Varro FX + Quelex + NIS	13.69 oz + 0.75 oz + 3.2 oz	90	95	98	2	0	0	39
Varro FX + Affinity Broad Spec + MCPA Ester	13.69 oz + 0.4 oz + 0.5 pt	92	95	99	3	0	0	40
Varro	6.84 oz	90	93	99	2	0	0	41
Varro + Huskie FX	6.84 oz + 15.5 oz	88	88	91	3	0	2	32
PerfectMatch + 2,4-D Ester LV6 + AMS	1 pt + 5.4 oz + 3.5 pt	90	95	99	3	0	2	41
OpenSky + 2,4-D Ester LV6 + NIS	1 pt + 5.4 oz + 3.2 oz	88	95	98	3	0	0	43
Everest 3.0 + Huskie FX	1 oz + 15.5 oz	73	87	87	0	0	2	30
Axial XL + WideMatch + MCPA Ester	16.4 oz + 1 pt + 0.5 pt	95	95	99	0	0	0	39
Untreated Check	--	--	--	--	0	0	0	20
LSD (0.05)		5.4	5.7	6.1	ns	ns	ns	12.1

Varro FX 1.7OD = thiencazone-methyl & fluroxypyr & safener.

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

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

2,4-D ester LV6 5.8E.

Quelex 20SG = halauxifen-methyl (10%) & flurasulam (10%).

NIS = Preference nonionic surfactant.

Affinity BroadSpec 50SG = thifensulfuron (25%) & tribenuron (25%).

MCPA Ester 4E.

Varro 0.083OD = thiencazone-methyl & safener.

Huskie FX 2.3 EC = pyrasulfotole (0.26 lb ai/gal) & fluroxypyr (0.60 lb ai/gal) & bromoxynil (1.44 lb ai/gal) & safener.

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

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

OpenSky 1.057L = pyroxsulam (0.107 lb ai/gal) & fluroxypyr (0.95 lb ae/gal).

Everest 3.0 1.75SC = flucarbazone-sodium & cloquintacet (safener).

Axial XL 0.42EC = pinoxaden and adigor adjuvant.

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