

### **Wild oat control in spring wheat with three application times at Crookston, MN - 2015.**

Durgan, Beverly R., Jochum Wiersma, Jim Cameron, and Douglas Miller. This experiment was designed to evaluate wild oat control with several herbicides applied at three different wild oat stages. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, the standing residue was shredded and, after receiving 100 lbs/A as urea, was chisel plowed. In the spring of the following year, a seedbed was prepared using a field cultivator with rolling baskets. 'Linkert' hard red spring wheat was seeded on April 17 at 1.8 bu/a. The experimental design was a randomized complete block with three replications. Plot size was 10 by 16 ft. Target application stages were 1 leaf, 3-4 leaf and 5-6 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. Wild oat emergence was monitored weekly and data are presented in the chart below.

<b>Treatment Date</b>	<b>May 1</b>	<b>May 22</b>	<b>May 31</b>
Wild oat stage	1 leaf	3-4 leaf	5-6 leaf
Air temperature (°F)	72	65	65
Soil temperature (°F)	58	59	60
Relative humidity (%)	50	28	30
Wind	2 mph	3-5 mph	4 mph
Sky	clear	--	--
Rainfall before Application			
Week 1 (inch)	0.15	0.68	0.31
Rainfall after Application			
Week 1 (inch)	0.12	0.31	2.96
Week 2 (inch)	1.40	1.98	0.16

### **Results**

Wild oat populations averaged 543/ft<sup>2</sup>. Approximately 15% of wild oat had emerged one day prior to the first application date (May 1). About 90 % had emerged one day prior to the second application date (May 22) and over 97% by the late application date (May 31).

The Everest treatments provided the best control at the early application date followed by GoldSky. Both products provided some residual control of later germinating wild oat resulting in wheat yields in the high range of all treatments in the trial. The other treatments at the early timing resulted in poor overall weed control due to the later emerging weeds and these treatments had significantly lower wheat yields.

All treatments applied on May 22 to 3-4 leaf wild oat provided good to excellent wild oat control. All treatments resulted in wheat yields in the high range of all treatments in the trial.

Wild oat control at the late (5-6 leaf wild oat) application was greatest with Axial XL and Wolverine Advanced (excellent control) and lowest with Varro and Huskie Complete (fair control). Yields of all treatments at the late application date were significantly less than those treatments noted above in the high range of wheat yields. This was the case even where wild oat control was excellent, suggesting that early weed competition had already affected potential wheat yield.

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Treatment	Rate (Product/A)	Wild Oat Control			Wheat Injury			Wheat Yield (Bu/A)
		6/16 (%)	6/30 (%)	7/10 (%)	6/4 (%)	6/16 (%)	6/30 (%)	
<b>Application #1 (May 1)</b>								
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	86	91	82	0	0	0	63
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	89	83	75	0	0	0	56
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	85	83	60	0	0	0	55
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	33	13	20	0	0	0	32
Rimfire Max + Destiny HC	3 oz + 0.75 pt	37	20	33	0	0	0	33
Axial XL	16.4 oz	27	20	30	0	0	0	40
Wolverine Advanced	27.4 oz	30	20	30	0	0	0	25
Huskie Complete	13.7 oz	37	20	30	0	0	0	34
<b>Application #2 May 22)</b>								
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	93	98	96	0	0	0	67
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	96	99	95	0	0	0	62
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	96	99	99	0	0	0	66
Rimfire Max + Destiny HC	3 oz + 0.75 pt	98	99	96	0	0	0	67
Axial XL	16.4 oz	99	99	99	0	0	0	69
Wolverine Advanced	27.4 oz	99	96	93	0	0	0	67
Huskie Complete	13.7 oz	93	99	94	0	0	0	58
<b>Application #3 (May 31)</b>								
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	68	92	92	0	0	0	25
Everest 2.0 + Widematch + Audit 1:1 + Preference + AMS	1 oz + 1 pt + 0.4 oz + 3.2 oz + 2.35 pt	70	93	90	0	0	0	31
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	80	95	91	0	0	0	39
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	70	88	85	0	0	0	34
Rimfire Max + Destiny HC	3 oz + 0.75 pt	75	95	95	0	0	0	28
Axial XL	16.4 oz	93	99	99	0	0	0	38
Wolverine Advanced	27.4 oz	93	99	98	0	0	0	42
Huskie Complete	13.7 oz	67	85	86	0	0	0	27
Weedy Check	--	--	--	--	0	0	0	7
LSD (0.05)		21	8	9	ns	ns	ns	13

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 = thiencazabone-methyl & safener.

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

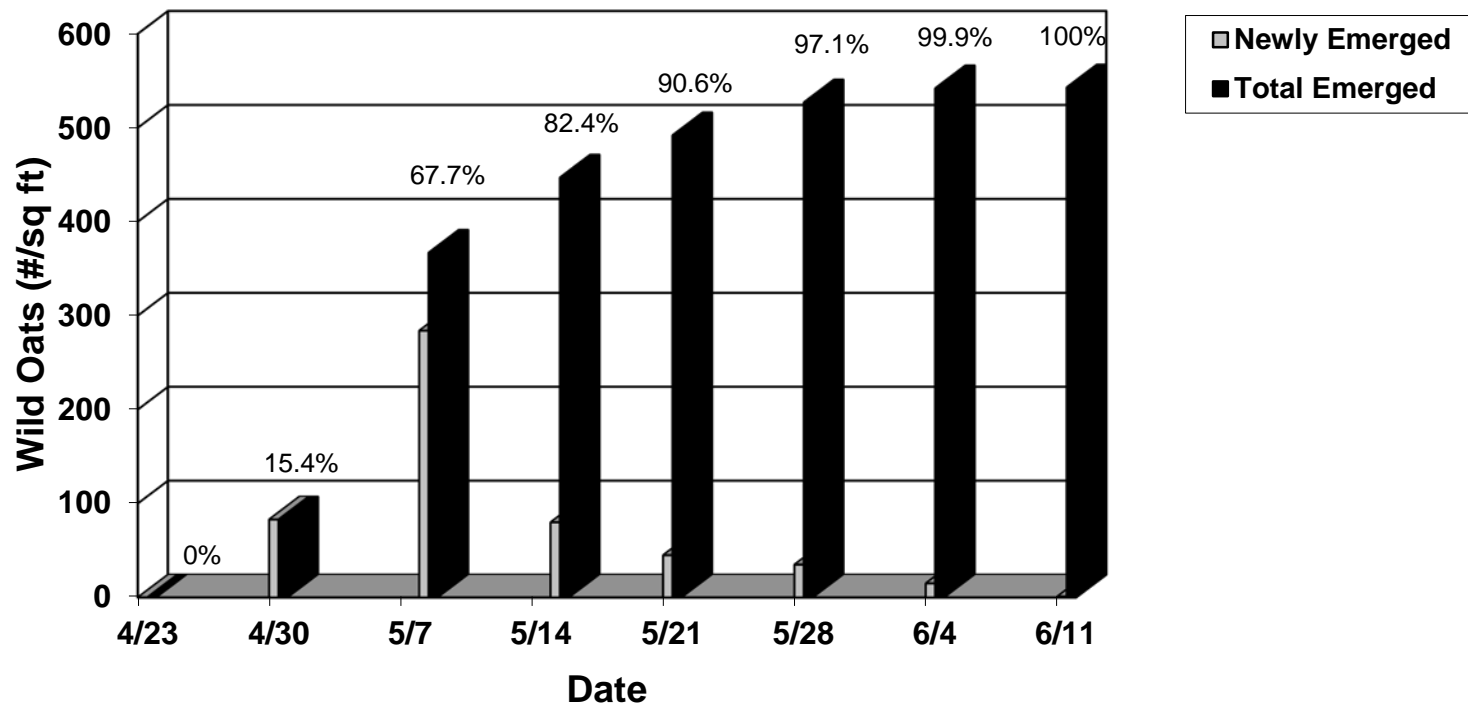
Destiny HC = methylated soybean oil, high fructose corn syrup, sorbitan fatty acid esters.

Axial XL 0.42EC = pinoxaden and adigor adjuvant.

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

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

# 2015 Wild Oat Emergence at Crookston, MN



Average Total Population = 543/sq ft