

Wild oat control in spring wheat with three application times at Crookston, MN - 2018. Durgan, Beverly R., Jochum Wiersma, Jim Cameron, Houston Lindell, 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, 149 lbs/A N and 52 lbs/A P was applied and the area was chisel plowed in the fall of 2017. In the spring of 2018, a seedbed was prepared using a field cultivator with rolling baskets. 'Linkert' hard red spring wheat was seeded on April 30 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 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.

Treatment Date	May 15	May 21	May 31
Target wild oat stage	1 leaf	3-4 leaf	5-6 leaf
Air temperature (°F)	68	68	64
Soil temperature (°F)	58	60	65
Relative humidity (%)	26	18	82
Wind	S 3-5 mph	S 3-6 mph	NW 4 mph
Sky	clear	clear	cloudy
Rainfall before Application			
Week 1 (inch)	0.00	0.40	0.28
Rainfall after Application			
Week 1 (inch)	0.40	0.23	1.75
Week 2 (inch)	0.23	1.72	2.75

Results

Wild oat control did not differ significantly between herbicide treatments applied May 15 (Application #1) at the later rating dates. Wolverine Advanced, Axial XL, and Rimfire Max treatments provided the best wild oat control at Application #2. Wolverine Advanced and Axial XL provided the best wild oat control at Application #3.

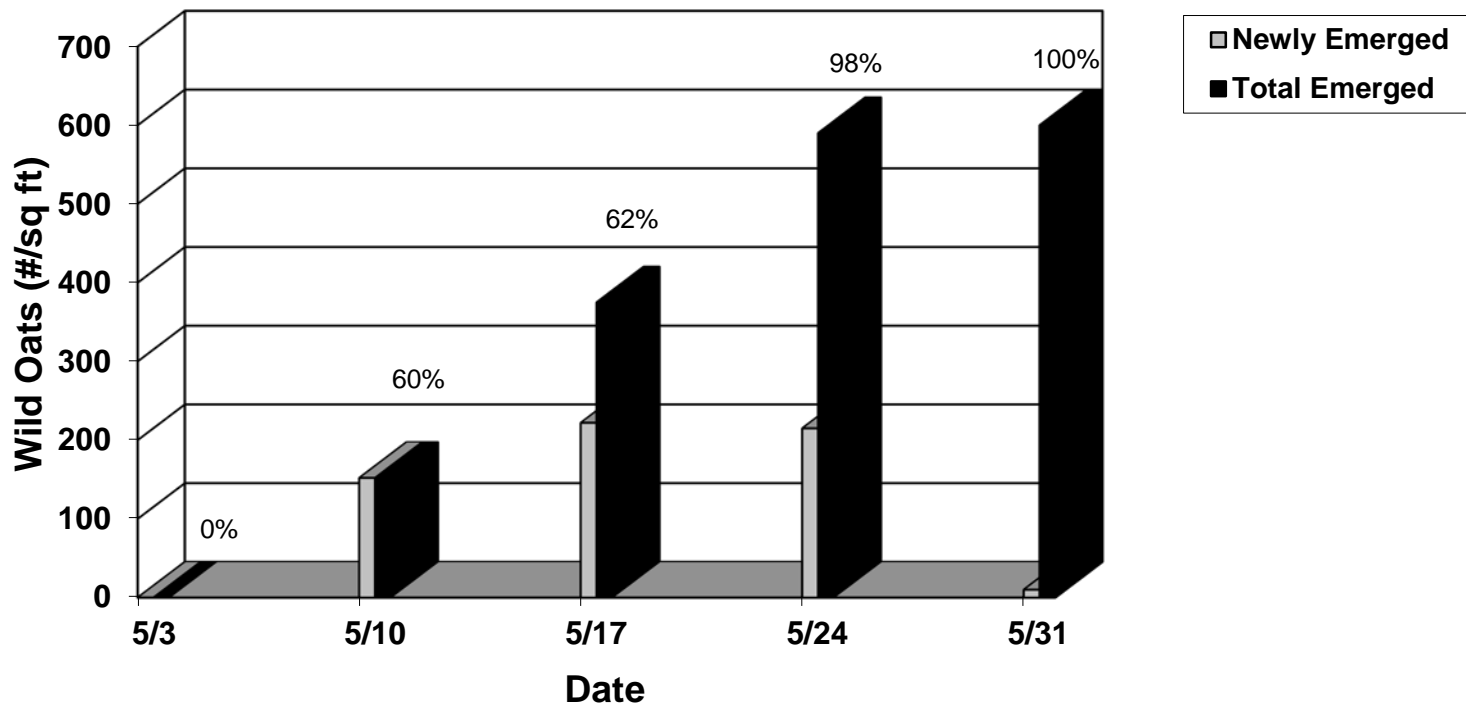
Visual injury symptoms were generally slight with no lasting effects. Wheat yields were general highest with treatments applied at Application #1 and lowest at Application #3. Axial XL resulted in the greatest wheat yield at Application #1. Wolverine Advanced resulted in the greatest wheat yield at Application #2 and #3.

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Treatment	Rate (Product/A)	Wild Oat Control				Wheat Injury			Wheat
		6/8	6/22	7/6	7/22	5/24	6/8	6/22	Yield
		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Application #1 (May 15)									
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	83	80	80	75	2	0	0	31
GoldSky + Widematch + MCPA ester + Preference + AMS	1 pt + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	83	75	75	75	5	0	0	31
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	85	75	68	72	10	0	0	32
Rimfire Max + Widematch + MCPA ester+ Destiny HC	3 oz + 1 pt + 0.5 pt + 0.75 pt	90	77	75	78	8	0	0	33
Axial XL+ Widematch + MCPA ester	16.4 oz+ 1 pt + 0.5 pt	95	87	75	82	7	0	0	42
Wolverive Advanced	27.4 oz	93	67	70	72	8	0	0	30
Huskie Complete	13.7 oz	78	75	68	77	5	0	0	23
PerfectMatch + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	90	80	77	78	10	0	0	35
Application #2 (May 21)									
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	75	72	67	72	--	0	0	24
GoldSky + Widematch + MCPA ester + Preference + AMS	1 pt + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	77	68	60	68	--	0	0	22
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	78	73	73	72	--	0	0	27
Rimfire Max + Widematch + MCPA ester+ Destiny HC	3 oz + 1 pt + 0.5 pt + 0.75 pt	78	87	80	82	--	0	0	31
Axial XL+ Widematch + MCPA ester	16.4 oz+ 1 pt + 0.5 pt	95	87	80	83	--	0	0	33
Wolverive Advanced	27.4 oz	93	92	88	88	--	0	0	37
Huskie Complete	13.7 oz	70	73	77	77	--	0	0	27
PerfectMatch + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	73	75	73	72	--	0	0	25
Application #3 (May 31)									
Everest 2.0 + Widematch + MCPA ester + Preference + AMS	1 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	--	73	63	68	--	--	0	17
GoldSky + Widematch + MCPA ester + Preference + AMS	1 pt + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	--	78	67	73	--	--	0	19
Varro + Widematch + MCPA ester + Preference + AMS	6.85 oz + 1 pt + 0.5 pt + 3.2 oz + 2.35 pt	--	77	65	73	--	--	0	20
Rimfire Max + Widematch + MCPA ester+ Destiny HC	3 oz + 1 pt + 0.5 pt + 0.75 pt	--	78	77	75	--	--	0	17
Axial XL+ Widematch + MCPA ester	16.4 oz+ 1 pt + 0.5 pt	--	93	90	90	--	--	0	22
Wolverive Advanced	27.4 oz	--	92	90	87	--	--	0	31
Huskie Complete	13.7 oz	--	75	68	67	--	--	0	20
PerfectMatch + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	--	82	63	72	--	--	0	20
Weedy Check	--	--	--	--	--	0	0	0	5
LSD (0.05)		7.2	10.4	12.5	11.6	4.6	ns	ns	6.6

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).
GoldSky 0.84L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).
Varro 0.083OD = thienincarbazone-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 = thienincarbazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).
PerfectMatch 1.61SE = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal) & pyroxsulam (0.11 lb ai/gal).
Activator 90 = nonionic surfactant.

2018 Wild Oat Emergence at Crookston, MN



Average Total Population = 600/sq ft