

Broadleaf weed control in spring wheat with Pixxaro EC and WideARmatch at Crookston, MN - 2020. Durgan, Beverly R., Jochum Wiersma, Houston Lindell, and Douglas Miller. This experiment was designed to evaluate broadleaf weed control and wheat injury with Pixxaro EC. 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 2019. In the spring of 2020, 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 May 18 at 1.75 bu/a. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. The experimental design was a randomized complete block with three replications and plot size was 10 by 24 ft. Application date and environmental conditions are listed below. Crop injury and weed control were visually rated and yields were measured. Data presented in the table below.

<u>Treatment Date</u>	<u>June 11</u>
Broadleaf weeds	3-6"
Air temperature (°F)	68
Relative humidity (%)	55
Wind	E 5 mph
Sky	0% clouds
Rainfall before Application	
Week 1 (inch)	2.13
Rainfall after Application	
Week 1 (inch)	0.40
Week 2 (inch)	1.79

<u>Weed Densities</u>	<u>(#/ft²)</u>
Common Lambquarters	14
Common Mallow	12
Redroot Pigweed	9
Wild Buckwheat	28
Wild Mustard	29

Results

The early control rating on June 19 was only 8 days after application and control was not yet complete. Weed control was excellent for all broadleaf species with no significant treatment differences at the three later rating dates.

OpenSky caused significantly more injury than the other treatments which showed little or no injury symptoms.

Wheat yields did not differ significantly between herbicide treatments but all herbicide treatments yielded significantly higher than the untreated check.

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Treatment	Rate	Weed Control																								Wheat Injury					Wheat Yield (Bu/A)	
		Common Lambsquarters					Common Mallow					Redroot Pigweed					Wild Buckwheat					Wild Mustard										
		6/19	6/26	7/10	7/17	8/7	6/19	6/26	7/10	7/17	8/7	6/19	6/26	7/10	7/17	8/7	6/19	6/26	7/10	7/17	8/7	6/19	6/26	7/10	7/17	8/7	6/19	6/26	7/10	7/17		8/7
Pixxaro EC + Activator 90	6 oz + 3.2 oz	86	99	99	99	99	83	90	98	99	99	86	96	99	99	96	83	91	98	96	99	86	99	99	99	99	2	0	0	0	0	54
Pixxaro EC + 2,4-D ester	6 oz + 8 oz	86	99	99	99	99	83	95	99	99	99	86	98	99	99	99	83	96	99	99	99	86	99	99	99	99	0	0	0	0	0	55
WideARmatch	14 oz	80	96	99	99	99	80	87	99	99	99	80	77	99	99	99	80	93	99	99	99	80	99	99	99	99	0	0	0	0	0	54
WideARmatch + 2,4-D ester	14 oz + 8 oz	80	99	99	99	99	80	95	99	99	99	80	95	99	99	99	82	96	99	99	98	80	99	99	99	99	2	0	0	0	0	54
WideMatch + Quelex + Activator 90	1 pt + 0.75 oz + 3.2 oz	83	98	99	99	98	83	92	99	99	98	83	92	99	99	98	83	93	99	99	99	86	99	99	99	99	0	0	0	0	0	56
OpenSky + Activator 90 + N-Pak AMS	1 pt + 6.4 oz + 20 oz	83	99	99	99	99	83	95	99	99	99	83	96	99	99	99	83	99	99	99	99	80	99	99	99	99	13	8	12	10	2	51
Huskie + N-Pak AMS	13.5 oz + 20 oz	99	98	99	99	99	93	98	99	99	99	99	99	99	99	99	93	99	99	99	99	99	99	99	99	99	3	0	3	0	0	50
Affinity Tankmix + Activator 90 + N-Pak AMS	0.6 oz + 6.4 oz + 20 oz	80	99	99	99	99	80	90	98	96	99	80	96	99	99	99	80	99	98	96	99	80	99	99	99	99	0	0	0	0	0	51
Bison	1 pt	93	99	98	96	99	83	90	96	93	99	90	95	99	99	99	91	98	68	93	99	93	99	98	96	99	2	0	0	0	0	53
Weedy check		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39
LSD (0.05)		9.2	ns	ns	ns	ns	ns	ns	ns	ns	ns	9.9	9.8	ns	ns	ns	8.0	ns	ns	ns	ns	9.8	ns	ns	ns	ns	3.7	1.6	3.6	ns	ns	8.1

Pixxaro 2.43EC = halauxifen-methyl (0.10 lbs ae/gal) plus fluroxypyr (2.33 lbs ae/gal).

Activator 90 = nonionic surfactant.

2,4-D ester LV6.

WideARmatch 1.88E = clopyralid (0.82 lb ae/gal) & halauxifen (0.04 lb ai/gal) & fluroxypyr (1.02 lb ae/gal).

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

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

OpenSky 1.057SE = fluroxypyr (0.95 lb/gal) + pyroxsulam (0.107 lb/gal).

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

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

Affinity Tankmix 50SG = thifensulfuron (40%) & tribenuron (10%).

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