

Broadleaf weed control in 2 to 4 leaf spring wheat at Crookston, MN - 2014. Durgan, Beverly R., Jochum J. Wiersma, Jim Cameron, Matthew Green, and Douglas Miller. This experiment was designed to evaluate broadleaf weed control and wheat injury with broadleaf herbicides applied at the 2 to 4 leaf wheat stage. 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 a seed bed was prepared using a field cultivar with rolling baskets. 'RB07' hard red spring wheat was seeded on May 17 at 1.8 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.

Treatment Date	June 9
<u>Weed Density (#/ft²)</u>	
- Common Lambsquarters	5
- Common Mallow	21
- Nightflowering Catchfly	2
- Redroot Pigweed	15
- Wild buckwheat	10
- Wild Mustard	10
Wheat Stage	2-4 leaf
Weed Stage	2-4 inch
Air temperature (°F)	65
Soil temperature (°F)	65
Relative humidity (%)	45
Wind	S 3 mph
Sky	overcast
Rainfall before Application	
Week 1 (inch)	0.70
Rainfall after Application	
Week 1 (inch)	2.69
Week 2 (inch)	1.82

Control of all weed species was delayed with Affinity Tankmix + Starane Ultra, Widematch + MCPA, and Starane Flex (50% to 62% on June 13 but improving to >90% by June 27). At the July 30 rating, the Widematch + MCPA and Starane Flex treatments had significantly lower control ratings than the other treatments, however control with these two treatments remained at greater than 90% across all broadleaf species. Wheat injury observed on June 13 was greatest with Huskie at the 13.5 oz/A rate, Huskie Complete, Affinity Tankmix + Starane Ultra, and A20916 + A19278 treatments. Significant injury symptoms were observed at each subsequent rating date for Affinity Tankmix + Starane Ultra and to a lesser extent, Huskie Complete. No injury was observed past the initial rating date for the other treatments. Yields did not significantly differ.

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Treatment	Rate	Weed Control																								Wheat Injury				Wheat Yield (Bu/A)				
		Common Lambsquarters				Common Mallow				Wild Mustard				Nightflowering Catchfly				Redroot Pigweed				Wild Buckwheat												
		6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30	6/13	6/27	7/10	7/30					
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
Huskie + N-Pak AMS	11 oz + 1.18 pt	99	99	99	99	96	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	3	0	0	0	80
Huskie + N-Pak AMS	13.5 oz + 1.18 pt	99	99	99	99	94	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	10	0	0	0	77
Huskie + N-Pak AMS	15 oz + 1.18 pt	100	99	99	99	97	99	99	99	100	99	99	99	100	99	99	99	100	99	99	99	100	99	99	99	100	99	99	99	11	0	0	0	77
Huskie + N-Pak AMS + Preference	13.5 oz + 1.18 pt + 3.2 oz	99	99	99	99	92	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	10	0	0	0	77
Huskie + N-Pak AMS + Induce	11 oz + 2.35 pt + 6.4 oz	99	99	99	99	94	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	7	0	2	2	78
Huskie Complete + N-Pak AMS	13.7 oz + 1.18 pt	99	99	99	99	96	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	15	5	7	5	72
Widematch + MCPA Ester	1 pt + 0.5 pt	60	99	99	96	50	96	93	96	60	99	99	96	60	98	93	93	62	98	95	93	62	99	98	96	62	99	98	96	3	0	0	0	76
Affinity Tankmix + Starane Ultra + Preference	0.6 oz + 4.2 oz + 3.2 oz	50	99	99	99	50	99	99	99	50	99	99	99	50	99	99	99	50	99	99	99	50	99	99	99	50	99	99	99	13	20	12	10	74
Wolverine Advanced	27.4 oz	99	99	99	99	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	6	0	0	0	81
A20916 + A19278 + Agri-Dex	2.52 oz + 13.7 oz + 12.8 oz	96	99	99	99	90	99	99	99	96	99	99	99	96	99	99	99	98	99	99	99	96	99	99	99	96	99	99	99	8	0	0	0	74
A20916 + A19278 + Agri-Dex	2.52 oz + 16 oz + 12.8 oz	99	99	99	99	94	99	99	99	99	99	99	99	99	99	99	99	98	99	99	99	99	99	99	99	99	99	99	99	7	0	0	0	78
A20916 + A19278 + Agri-Dex	2.52 oz + 18.2 oz + 12.8 oz	99	99	99	99	87	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	13	0	0	0	77
Starane Flex	13.5 oz	50	95	92	90	50	93	93	92	50	98	98	93	50	98	95	92	50	98	92	92	50	93	90	91	50	93	90	91	2	0	0	0	78
Weedy Check	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	76
LSD (0.05)		9	2	1	1	10	3	4	2	9	ns	ns	2	9	ns	3	3	10	ns	2	3	10	2	1	1	7	1	2	1					ns

Huskie 2.08 EC = pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal) & safener.
N-Pak AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).
Preference = nonionic surfactant.
Induce = nonionic surfactant.
Huskie Complete 1.76L = thiencazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).
Widematch 1.5E = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal).
MCPA Ester 4E.
Affinity Tankmix 50SG = thifensulfuron (40%) & tribenuron (10%).
Starane Ultra 2.8E = fluroxypyr.
Wolverine Advanced = fenoxaprop-p-ethyl & pyrasulfotole & bromoxynil .
A20916 = experimental from Syngenta.
A19278 = experimental from Syngenta.
Agri-Dex = crop oil concentrate.
Starane Flex 0.875E = fluroxypyr (0.833 lbs ae/gal) & florasulam (0.042 lbs/gal).