Broadleaf weed control in spring wheat at Crookston, MN - 2017. Durgan, Beverly R., Jochum J. Wiersma, Jim Cameron, and Douglas Miller. This experiment was designed to evaluate broadleaf weed control and wheat injury with broadleaf herbicides applied at two application times. 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 115 lbs/A N and 52 lbs/A P, was chisel plowed in the fall of 2016. In the spring of 2017, a seed bed was prepared using a field cultivar with rolling baskets. 'Linkert' hard red spring wheat was seeded on May 2 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	**May 26**	**June 5**
Air temperature (°F)	68	74
Soil temperature (°F)	70	58
Relative humidity (%)	41	58
Wind	SW 8 mph	SSE 1 mph
Sky	partly cloudy	clear
Rainfall before Application		
Week 1 (inch)	0.50	0.52
Rainfall after Application		
Week 1 (inch)	0.75	0.40
Week 2 (inch)	0.40	0.97

Results

Treatment groups within each application date were analyzed separately. Weed control was excellent for all treatments. Yields of treatments with herbicides applied at application date #1 did not differ between treatments but were significantly greater than the weedy check. No significant yield differences were observed between treatments applied at the second application date and they did not differ significantly from the weedy check.

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		Weed Control													
		Common Lambsquarters			Wild Buckwheat			Wild Mustard			Wheat Injury				Wheat
Treatment	Rate	6/16	6/30	8/4	6/16	6/30	8/4	6/16	6/30	8/4	5/31	6/16	6/30	8/4	Yield
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Application #1 (May 26)															
Talinor + CoAct+ + COC	13.7 oz + 2.74 oz + 12.8 oz	100	99	99	92	99	96	100	99	99	0	0	3	0	75
Talinor + CoAct+ + COC	16 oz + 3.2 oz + 12.8 oz	100	99	99	95	99	99	100	99	99	2	0	3	0	82
Talinor + CoAct+ + COC	18.2 oz + 3.6 oz + 12.8 oz	100	99	99	92	99	99	100	99	99	3	0	3	0	81
Huskie + Preference	11 oz + 3.2 oz	100	99	99	96	99	96	100	99	99	0	0	2	0	81
Widematch	1 pt	97	99	99	93	99	99	100	99	99	0	0	3	0	81
Affinity Tankmix + WideMatch + Preference	0.6 oz + 1 pt + 3.2 oz	100	99	99	99	99	99	100	99	99	3	0	3	0	80
Affinity Tankmix + MCPA ester	0.6 oz + 0.75 pt	100	99	99	99	99	99	100	99	99	5	0	5	0	81
WideMatch + Quelex + Activator 90 + AMS	1 pt + 0.75 oz + 3.2 oz + 3.5 pt	100	99	99	99	99	99	100	99	99	2	0	3	0	76
Affinity Tankmix + WideMatch + Activator 90 + AMS	0.2 oz + 1 pt + 3.2 oz + 3.5 pt	100	99	99	98	99	99	100	99	99	3	0	3	0	79
Affinity BroadSpecx + WideMatch + Activator 90 + AMS	0.2 oz + 1 pt + 3.2 oz + 3.5 pt	100	99	99	99	99	99	100	99	99	5	0	5	0	76
Starane Flex	13.5 oz	83	93	99	99	99	99	100	99	99	0	2	0	0	75
Huskie + N-Pak AMS	13.5 oz + 3.5 pt	100	99	99	98	99	99	100	99	99	1	0	2	0	74
Hat Trick	1.5 pt	100	99	99	98	99	96	100	99	99	2	0	0	0	73
Weedy Check	--	--	--	--	--	--	--	--	--	--	0	0	0	0	61
LSD (0.05)		ns	ns	ns	4	ns	ns	ns	ns	ns	3	ns	ns	ns	10
Application #2 (June 5)															
AGH 15004	1 pt	100	99	99	98	99	99	100	99	99	--	12	3	2	71
AGH 15004 + AG 13064	1 pt + 3 oz	100	99	99	99	99	99	100	99	99	--	12	12	0	69
AGH 15004 + Preference + Interlock	1 pt + 3.2 oz + 4 oz	100	99	99	93	99	99	100	99	99	--	8	7	0	67
AGH 15004 + AG 8050	1 pt + 6.4 oz	100	99	99	99	99	99	100	99	99	--	8	5	0	61
AGH 15004 + AG 14039	1 pt + 8 oz	100	99	99	96	99	99	100	99	99	--	12	10	0	72
AGH 15004	1.5 pt	100	99	99	96	99	99	100	99	99	--	10	7	0	63
AGH 15004 + AG 13064	1 pt + 3 oz	100	99	99	98	99	99	100	99	99	--	10	10	3	66
AGH 15004 + Preference + Interlock	1.5 pt + 3.2 oz + 4 oz	100	99	99	99	99	99	100	99	99	--	12	8	0	65
AGH 15004 + AG 8050	1.5 pt + 6.4 oz	100	99	99	96	99	99	100	99	99	--	10	13	0	67
AGH 15004 + AG 14039	1.5 pt + 8 oz	100	99	99	98	99	99	100	99	99	--	13	13	5	72
Weedy Check	--	--	--	--	--	--	--	--	--	--	--	0	0	0	61
LSD (0.05)		ns	ns	ns	ns	ns	ns	ns	ns	ns	--	6	4	ns	ns

Talinor = bicyclopyrone & bromoxynil.
CoAct+ = adjuvant.
COC = crop oil concentrate.
Huskie 2.08 EC = pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal) & safener.
Preference = nonionic surfactant.
Widematch 1.5E = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal).
Affinity Tankmix 50SG = thifensulfuron (40%) & tribenuron (10%).
MCPA Ester 4E.
Quelex 20SG = halauxifen-methyl (10%l) & flurasulam (10%).
Activator 90 = nonionic surfactant.
N-Pak AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).
Affinity BroadSpec 50SG = thifensulfuron (25%) & tribenuron (25%).
Starane Flex 0.875EC = florasulam (0.042 lb ai/gal) & fluroxypyr (0.833 lb ae/gal).
Hat Trick 2.82SE= clopyralid (0.51 lb ae/gal) & fluroxypyr (0.51 lb ae/gal) & MCPA ester (1.8 lb ae/gal).
AGH 15004 = experimental from Winfield Solutions.
AGH 13064 = experimental from Winfield Solutions.
Interlock = drift control agent.
AGH 8050 = experimental from Winfield Solutions.
AGH 14039 = experimental from Winfield Solutions.