Hard red spring wheat tolerance to postemergence herbicides at Crookston, MN - 2016. Durgan, Beverly R., Jochum J. Wiersma, James Cameron, and Douglas Miller. This experiment was designed to evaluate the tolerance of selected hard red spring wheat (HRSW) varieties to several postemergence herbicides. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam. Following soybeans, the experimental area was chisel plowed in the fall of 2015. In the spring of 2016, 115 lbs/A N and 52 lbs/A P were applied and the experimental area was tilled with a field cultivator with rolling baskets to prepare the seedbed. The HRSW varieties 'Bolles', 'Linkert', 'Shelly' and 'Valda' were seeded on April 12 at 1.8 bu/a Bu/A. All treatments were applied on May 24 with a CO_2 pressured backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat-fan nozzles. The experimental design was a strip plot with four replications. Varieties were seeded in strips randomized within each replication. Herbicide treatments were applied across all varieties. Each herbicide x variety plot was 8' wide by 16' long. Environmental conditions are listed below. Crop injury was rated visually. Plant heights and grain yield were measured. Data is summarized by variety and presented in Tables 1 and 2.

Treatment Date	**May 24**
Wheat stage	5-leaf
Air temperature (°F)	77
Soil temperature (°F)	70
Relative humidity (%)	41
Wind	W 7 mph
Sky	clear
Rainfall before Application	
Week 1 (inch)	1.35
Rainfall after Application	
Week 1 (inch)	5.24
Week 2 (inch)	0.79

Results

Greatest injury was observed with the PerfectMatch treatments and Everest WG and were similar among all varieties. PerfectMatch (1 pt/A) showed a lower height compared to the check with the variety Linkert. No significant yield differences were noted among treatments for each variety.

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Durgan, Wiersma, Cameron, and Miller.

Table 1.

		Bolles							Linkert						
		Injury							Injury						
Treatment	Rate	6/3	6/8	6/16	6/30	7/20	Height	Yield	6/3	6/8	6/16	6/30	7/20	Height	Yield
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	(%)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)
Everest WG + Preference + AMS	0.61 oz + 3.2 oz + 2.35 pt	11	16	13	9	6	31	74	18	15	14	8	8	31	71
Everest 2.0 + Preference + AMS	1 oz + 3.2 oz + 2.35 pt	6	5	6	5	5	31	71	5	4	5	5	5	32	68
AL-X1581ad + Preference + AMS	2 oz + 3.2 oz + 2.35 pt	3	8	6	3	3	31	71	4	8	5	3	3	32	64
AL-X1581ad + Audit 1:1 + Preference + AMS	2 oz + 0.4 oz + 3.2 oz + 2.35 pt	0	8	4	3	3	31	70	4	6	4	4	3	32	67
AL-X1780aa + Preference + AMS	16.8 oz + 3.2 oz + 2.35 pt	1	8	1	4	4	31	75	3	8	1	5	5	31	74
Varro + Preference + AMS	6.85 oz + 3.2 oz + 2.35 pt	4	9	1	3	3	31	73	8	8	1	1	3	32	71
Varro + Preference + AMS	10.27 oz + 3.2 oz + 2.35 pt	6	10	6	3	3	31	76	6	6	6	1	1	31	73
PerfectMatch + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	13	15	10	9	9	31	72	15	14	9	11	10	30	64
PerfectMatch + Preference + AMS	1.5 pt + 3.2 oz + 2.35 pt	13	21	11	9	8	31	70	15	16	11	9	6	31	69
Huskie Complete	13.7 oz	1	4	3	0	0	32	72	1	4	3	0	0	32	72
Untreated Check	--	0	0	0	0	0	32	69	0	0	0	0	0	33	67
LSD (0.05)		5	8	5	4	4	ns	ns	5	6	6	5	4	2	ns

Table 2.

		Shelly							Valda						
		Injury							Injury						
Treatment	Rate	6/3	6/8	6/16	6/30	7/20	Height	Yield	6/3	6/8	6/16	6/30	7/20	Height	Yield
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	(%)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)
Everest WG + Preference + AMS	0.61 oz + 3.2 oz + 2.35 pt	13	11	9	8	8	29	82	10	11	11	8	8	31	84
Everest 2.0 + Preference + AMS	1 oz + 3.2 oz + 2.35 pt	3	5	5	5	5	30	81	1	4	6	5	5	31	84
AL-X1581ad + Preference + AMS	2 oz + 3.2 oz + 2.35 pt	4	6	5	1	3	31	79	1	5	3	3	3	30	81
AL-X1581ad + Audit 1:1 + Preference + AMS	2 oz + 0.4 oz + 3.2 oz + 2.35 pt	3	6	4	1	3	31	81	3	6	4	4	3	31	84
AL-X1780aa + Preference + AMS	16.8 oz + 3.2 oz + 2.35 pt	3	10	1	4	3	31	83	1	8	1	3	3	31	86
Varro + Preference + AMS	6.85 oz + 3.2 oz + 2.35 pt	5	8	0	1	3	31	81	3	8	0	3	3	31	89
Varro + Preference + AMS	10.27 oz + 3.2 oz + 2.35 pt	4	8	6	3	3	30	83	6	8	8	4	3	30	89
PerfectMatch + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	15	18	11	8	8	30	82	15	13	10	9	9	30	83
PerfectMatch + Preference + AMS	1.5 pt + 3.2 oz + 2.35 pt	16	23	11	8	8	30	83	14	14	9	8	8	31	88
Huskie Complete	13.7 oz	1	4	1	0	0	32	85	0	3	3	0	0	32	89
Untreated Check	--	0	0	0	0	0	32	82	0	0	0	0	0	32	86
LSD (0.05)		4	6	5	4	4	ns	ns	4	5	4	5	4	ns	ns

Everest WG 70WG = flucarbazone-sodium & cloquintacet (safener).
Preference = nonionic surfactant.
N-Pak AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).
Everest 2.0 3.5SC = flucarbazone-sodium & cloquintacet (safener).
AL-X1581ad 1.75SC = experimental from Arysta.
Audit 1:1 50WDG = thifensulfuron (25%) & tribenuron (25%).
AL-X1780aa = experimental from Arysta.
Varro 0.083L = thiencarbazone-methyl.
PerfectMatch 1.61SE = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal) & pyroxsulam (0.11 lb ai/gal).
Huskie Complete 1.76L = thiencarbazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).