

Hard red spring wheat and barley tolerance to postemergence herbicides at Rosemount, MN - 2009. Durgan, Beverly R. and Douglas W. Miller. This experiment was designed to evaluate the tolerance of selected Hard Red Spring Wheat (HRSW) and barley varieties to various postemergence herbicides. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil. Following soybeans, the experimental area was chisel plowed in the fall of 2008. In the spring of 2009, the area received 50 lbs/A N and 75 lbs K. The field was then field cultivated twice. The HRSW varieties 'Albany', 'Faller', 'Glenn', 'Hat Trick', 'Howard', 'Jenna', 'Kelby', 'Knudson', 'Kuntz', 'RB-07', 'Sabin', and 'Tom', and the spring barley varieties "M122" and 'Rasmusson' were seeded on April 23 at 85 lb/A and 90 lbs/A for HRSW and spring barley, respectively. Herbicide treatments were applied to a 7.5 ft strip with a tractor mounted sprayer delivering 10 gpa at 35 psi using 11001 flat-fan nozzles. The experimental design was a strip plot with three replications. Varieties were seeded in strips randomized within each replication. Herbicide treatments were applied across all varieties. Each herbicide x variety plot was 12 feet wide by 12 feet long. Buctril (bromoxynil) at 1 pt/A (0.25 lb ai/A) was broadcast on May 22 to control broadleaf weeds. Herbicide treatments were applied June 3. Environmental conditions at application are listed below. Crop injury was visually rated. Crop height and yields were measured. Data is summarized by variety and is presented in Tables 1 to 7.

Treatment Date	June 3
Temperature (°F)	
Air	65-68
Relative Humidity (%)	17
Soil Moisture	moist at 2"
Wind (mph)	0-2 ESE
Sky	20% clouds
Rainfall before application	
Week 1 (inch)	0.13
Rainfall after application	
Week 1 (inch)	2.02
Week 2 (inch)	0.16

	<u>Height (inch)</u>	<u>Stage</u>	Zadoks Code
<u>Barley</u>			
M122	15-17	flag leaf visible	Z37
Rasmusson	13-15	flag leaf visible	Z37
<u>Wheat</u>			
Albany	9-10	2 nodes detected	Z32
Faller	10-12	2 nodes detected	Z32
Glenn	11-15	2 nodes detected	Z32
Hat Trick	9-11	1 nodes detected	Z31
Howard	9-12	2 nodes detected	Z32
Jenna	12-14	2 nodes detected	Z32
Kelby	14-17	2 nodes detected	Z32
Knudson	11-14	2 nodes detected	Z32
Kuntz	11-13	2 nodes detected to flag leaf visible	Z32-Z37
RB-07	10-13	2 nodes detected	Z32
Sabin	11-14	1-2 nodes detected	Z31-Z32
Tom	12-15	2 nodes detected	Z32

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Table 1.

Treatment	Rate	Albany						Faller					
		Injury				Height	Yield	Injury				Height	Yield
		6/15	6/24	7/5	7/26			6/15	6/24	7/5	7/26		
Product/A	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	
Wolverine	27.4 oz	2	3	3	2	31	64	2	3	3	2	34	53
Wolverine	54.8 oz	2	3	2	0	31	60	2	3	2	0	34	51
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	31	62	5	7	7	5	33	42
GoldSky + Preference	2 pt + 3.2 oz	7	8	13	10	30	62	7	12	13	8	32	48
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	8	8	8	30	76	10	10	10	7	31	46
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	8	8	7	30	65	12	8	8	7	31	44
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	29	62	8	7	7	5	32	49
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	8	12	10	29	58	18	12	12	10	31	46
Everest + Preference	0.62 oz + 3.2 oz	20	8	7	13	29	55	20	13	12	15	28	37
Everest + Preference	1.23 oz + 3.2 oz	20	15	15	15	28	56	30	15	17	17	30	37
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 Oz	0	0	0	0	30	57	0	0	0	0	33	41
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	31	62	0	0	0	0	34	47
Untreated Check	--	0	0	0	0	31	55	0	0	0	0	34	41
LSD (0.05)		8	5	4	4	1	ns	11	6	5	6	2	ns

Table 2.

Treatment	Rate	Glenn						Hat Trick					
		Injury				Height	Yield	Injury				Height	Yield
		6/15	6/24	7/5	7/26			6/15	6/24	7/5	7/26		
Product/A	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	(%)	(%)	(%)	(%)	(inch)	(Bu/A)	
Wolverine	27.4 oz	2	3	3	2	34	46	2	3	3	2	30	47
Wolverine	54.8 oz	2	3	2	0	33	45	2	3	2	0	30	42
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	33	41	5	7	7	5	29	42
GoldSky + Preference	2 pt + 3.2 oz	7	10	13	10	32	42	7	10	13	8	29	46
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	7	7	8	33	42	10	8	10	8	29	50
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	8	8	7	32	37	12	8	8	7	29	47
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	32	43	8	7	7	5	29	47
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	12	12	12	30	38	18	12	12	12	29	45
Everest + Preference	0.62 oz + 3.2 oz	20	13	12	15	32	40	30	13	13	12	28	44
Everest + Preference	1.23 oz + 3.2 oz	23	13	17	17	32	37	32	15	18	18	28	37
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 Oz	0	0	0	0	35	39	0	0	0	0	31	39
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	34	42	0	0	0	0	31	44
Untreated Check	--	0	0	0	0	36	36	0	0	0	0	31	42
LSD (0.05)		8	6	4	6	2	ns	13	6	5	5	2	ns

Wolverine 1.38E = fenoxaprop-p-ethyl (0.38 lb ai/gal) & pyrasulfotole (0.17 lb ai/gal) & bromoxynil octanoate (0.41 lb ai/gal) & bromoxynil heptanoate (0.42 lb ai/gal).

GoldSky 1.53L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

Preference = nonionic surfactant.

Rimfire 10.2 WDG = propoxycarbazone (8.14%) & mesosulfuron (2.03%).

Quad 7 = ammonium salt, buffering agent, and surfactant blend.

Rimfire Max = [SP102000020887 (experimental from Bayer Crop Science)] and [pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal] & safener].

Everest 70 WG = flucarbazone.

Axial TBC 0.838 EC = pinoxaden (0.774 lb ai/gal) & florasulam (0.0645 lb ai/gal) & safener.

Adigor Adjuvant = emulsifiable oil adjuvant.

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Table 3.

Treatment	Rate Product/A	Howard						Jenna					
		Injury				Height (inch)	Yield (Bu/A)	Injury				Height (inch)	Yield (Bu/A)
		6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)			6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)		
Wolverine	27.4 oz	2	3	3	2	34	53	2	3	3	2	31	68
Wolverine	54.8 oz	2	3	2	0	35	53	2	3	2	0	31	65
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	34	56	5	7	7	5	30	68
GoldSky + Preference	2 pt + 3.2 oz	7	10	12	8	33	52	7	10	13	10	30	63
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	7	7	8	34	59	10	8	8	8	30	66
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	8	8	7	33	56	12	8	8	7	30	62
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	33	54	8	7	7	5	30	65
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	10	10	10	34	55	18	12	12	10	28	64
Everest + Preference	0.62 oz + 3.2 oz	20	10	13	13	34	51	20	12	13	13	30	59
Everest + Preference	1.23 oz + 3.2 oz	23	15	17	15	32	47	20	15	13	18	30	56
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 Oz	0	0	0	0	34	50	0	0	0	0	31	59
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	34	51	0	0	0	0	30	57
Untreated Check	--	0	0	0	0	36	55	0	0	0	0	32	59
LSD (0.05)		8	4	5	4	1	ns	8	5	5	5	2	ns

Table 4.

Treatment	Rate Product/A	Kelby						Knudson					
		Injury				Height (inch)	Yield (Bu/A)	Injury				Height (inch)	Yield (Bu/A)
		6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)			6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)		
Wolverine	27.4 oz	2	3	3	2	30	67	2	3	3	2	33	56
Wolverine	54.8 oz	2	3	2	0	30	62	2	3	2	0	32	54
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	29	63	5	7	7	5	30	50
GoldSky + Preference	2 pt + 3.2 oz	7	13	13	10	28	62	7	10	12	10	30	51
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	8	8	8	29	66	10	8	10	8	31	57
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	10	10	8	28	62	12	8	8	7	30	50
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	29	59	8	7	7	5	31	53
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	12	12	10	27	62	18	10	10	12	30	51
Everest + Preference	0.62 oz + 3.2 oz	20	12	13	15	28	56	20	13	13	12	28	45
Everest + Preference	1.23 oz + 3.2 oz	20	15	13	18	27	56	27	15	17	17	28	47
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 Oz	0	0	0	0	30	61	0	0	0	0	32	52
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	29	60	0	0	0	0	32	52
Untreated Check	--	0	0	0	0	31	66	0	0	0	0	33	55
LSD (0.05)		8	6	5	6	1	5	8	6	5	5	2	ns

Wolverine 1.38E = fenoxaprop-p-ethyl (0.38 lb ai/gal) & pyrasulfotole (0.17 lb ai/gal) & bromoxynil octanoate (0.41 lb ai/gal) & bromoxynil heptanoate (0.42 lb ai/gal).

GoldSky 1.53L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

Preference = nonionic surfactant.

Rimfire 10.2 WDG = propoxycarbazone (8.14%) & mesosulfuron (2.03%).

Quad 7 = ammonium salt, buffering agent, and surfactant blend.

Rimfire Max = [SP102000020887 (experimental from Bayer Crop Science)] and [pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal] & safener].

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Table 5.

Treatment	Rate Product/A	Kuntz						RB07					
		Injury				Height (inch)	Yield (Bu/A)	Injury				Height (inch)	Yield (Bu/A)
		6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)			6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)		
Wolverine	27.4 oz	2	3	3	2	31	53	2	3	3	2	31	52
Wolverine	54.8 oz	2	3	2	0	31	61	2	3	2	0	31	45
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	31	58	5	7	7	5	31	52
GoldSky + Preference	2 pt + 3.2 oz	7	8	13	10	30	59	7	12	12	8	30	47
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	7	7	8	30	59	10	7	7	7	30	51
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	8	8	8	29	51	17	8	8	7	30	52
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	29	58	8	7	7	5	30	51
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	12	12	10	28	56	20	10	10	10	28	45
Everest + Preference	0.62 oz + 3.2 oz	20	10	12	12	29	54	28	10	15	15	28	43
Everest + Preference	1.23 oz + 3.2 oz	20	10	15	17	29	56	30	15	18	17	27	44
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 oz	0	0	0	0	30	54	0	0	0	0	31	51
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	30	61	0	0	0	0	31	46
Untreated Check	--	0	0	0	0	30	56	0	0	0	0	32	50
LSD (0.05)		8	4	4	6	1	ns	12	5	6	6	2	7

Table 6.

Treatment	Rate Product/A	Sabin						Tom					
		Injury				Height (inch)	Yield (Bu/A)	Injury				Height (inch)	Yield (Bu/A)
		6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)			6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)		
Wolverine	27.4 oz	2	3	3	2	32	53	2	3	3	2	35	52
Wolverine	54.8 oz	2	3	2	0	32	50	2	3	2	0	34	52
GoldSky + Preference	1 pt + 3.2 oz	5	7	7	5	31	51	5	7	7	5	32	50
GoldSky + Preference	2 pt + 3.2 oz	7	10	12	10	30	47	7	12	12	8	31	50
Rimfire + Quad 7	1.76 oz + 0.8 pt	10	7	7	8	31	57	10	7	7	7	33	51
Rimfire + Quad 7	3.52 oz + 0.8 pt	12	8	8	8	31	53	17	10	10	8	32	49
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	8	7	7	5	32	50	8	7	7	5	32	49
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	18	10	10	10	30	53	18	10	10	10	32	45
Everest + Preference	0.62 oz + 3.2 oz	30	13	13	13	28	45	28	12	15	13	30	46
Everest + Preference	1.23 oz + 3.2 oz	30	15	17	15	27	41	33	15	18	17	27	39
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 oz	0	0	0	0	31	48	0	0	0	0	34	47
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	32	47	0	0	0	0	34	47
Untreated Check	--	0	0	0	0	33	47	0	0	0	0	34	46
LSD (0.05)		13	6	5	5	2	ns	11	6	6	7	2	ns

Wolverine 1.38E = fenoxaprop-p-ethyl (0.38 lb ai/gal) & pyrasulfotole (0.17 lb ai/gal) & bromoxynil octanoate (0.41 lb ai/gal) & bromoxynil heptanoate (0.42 lb ai/gal).

GoldSky 1.53L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

Preference = nonionic surfactant.

Rimfire 10.2 WDG = propoxycarbazone (8.14%) & mesosulfuron (2.03%).

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Table 7.

Treatment	Rate Product/A	M122						Rasmusson					
		Injury				Height (inch)	Yield (Bu/A)	Injury				Height (inch)	Yield (Bu/A)
		6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)			6/15 (%)	6/24 (%)	7/5 (%)	7/26 (%)		
Wolverine	27.4 oz	2	3	3	2	36	73	2	3	3	2	35	87
Wolverine	54.8 oz	2	3	2	0	36	75	2	3	2	0	35	91
GoldSky + Preference	1 pt + 3.2 oz	10	10	12	12	34	61	10	10	12	12	35	94
GoldSky + Preference	2 pt + 3.2 oz	10	17	20	20	33	62	10	17	20	20	34	80
Rimfire + Quad 7	1.76 oz + 0.8 pt	18	25	30	38	29	52	18	27	30	38	29	71
Rimfire + Quad 7	3.52 oz + 0.8 pt	35	40	30	33	28	41	38	35	27	33	28	64
Rimfire Max + Quad 7	3 oz & 11 oz + 0.8 pt	20	15	23	18	31	61	17	13	23	18	30	70
Rimfire Max + Quad 7	6 oz & 22 oz + 0.8 pt	32	35	40	45	30	52	32	35	40	45	28	67
Everest + Preference	0.62 oz + 3.2 oz	43	65	62	62	25	35	43	67	62	62	25	58
Everest + Preference	1.23 oz + 3.2 oz	57	63	63	63	25	35	57	62	67	63	23	49
Axial TBC + Adigor Adjuvant	8.85 oz + 9.6 Oz	0	0	0	0	37	75	0	0	0	0	35	91
Axial TBC + Adigor Adjuvant	17.7 oz + 9.6 oz	0	0	0	0	36	69	0	0	0	0	35	83
Untreated Check	--	0	0	0	0	38	73	0	0	0	0	36	91
LSD (0.05)		16	8	15	18	2	18	17	11	13	18	3	21

Wolverine 1.38E = fenoxaprop-p-ethyl (0.38 lb ai/gal) & pyrasulfotole (0.17 lb ai/gal) & bromoxynil octanoate (0.41 lb ai/gal) & bromoxynil heptanoate (0.42 lb ai/gal).

GoldSky 1.53L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

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