

**Hard red spring wheat and barley tolerance to postemergence herbicides at Rosemount, MN - 2007.** Durgan, Beverly R., Krishona Martinson, and Douglas 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 2006. In the spring of 2007, the area received 75 lbs/A N then was field cultivated twice. The HRSW varieties 'Ada', 'Banton', 'Freyr', 'Glenn', 'Howard', 'Kelby', 'Knudson', 'Oklee', 'Steele-ND', 'Traverse', and 'Ulen' and the spring barley varieties 'Lacey' and 'Stellar' were seeded on April 25 at 85 lb/A and 90 lbs/A for HRSW and spring barley, respectively. Bromoxynil & MCPA at 0.25 & 0.25 lb ai/A was applied postemergence on June 1 to control broadleaf weeds. 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. Herbicide treatments were applied May 28. 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** **May 28**

Temperature (°F)	
Air	80
Soil	71
Soil Moisture	moist
Wind (mph)	5-15 SSE
Sky	90% clouds
Rainfall before application	
Week 1 (inch)	1.95
Rainfall after application	
Week 1 (inch)	0.56
Week 2 (inch)	0.86

	<u>Height (inch)</u>	<u>Leaf Stage</u>	<u>Tiller #</u>
<b><u>Barley</u></b>			
Lacey	12-14	6.0	2
Stellar	9-11	6	1-2
<b><u>Wheat</u></b>			
Ada	9-11	5.75	3
Banton	9-11	5.5-6	2
Freyr	8-10	5	0-1
Glen	8-10	5.5	2-3
Howard	8-10	5.75	2-3
Kelby	8-10	6.5	2
Knudson	8-10	5.75	3
Oklee	8-10	5.5	2
Steele	8-11	6.5	3-4
Traverse	8-10	5.5-6	3-4
Ulen	10-12	6	2-3

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**Table 1.**

Treatment	Rate Product/A	Ada				Banton			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	0	0	29	37	3	3	31	38
Puma	1.34 pt	0	0	29	38	0	0	32	42
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	29	46	0	0	31	42
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	0	0	29	40	0	0	31	45
Discover NG	12.8 oz	0	0	29	40	0	0	29	41
Discover NG	25.6 oz	3	0	28	42	0	0	31	38
Silverado + Destiny	1.78 oz + 1.5 pt	0	0	28	39	0	0	31	46
Silverado + Destiny	3.56 oz + 1.5 pt	0	0	30	38	5	2	30	43
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	29	42	0	0	31	43
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	29	40	0	0	31	39
Rimfire	2.25 oz	0	0	29	47	0	0	31	38
Rimfire	4.5 oz	0	0	30	47	0	0	31	40
Untreated Check	--	0	0	31	42	0	0	33	41
LSD (0.05)		ns	ns	ns	ns	ns	ns	ns	ns

**Table 2.**

Treatment	Rate Product/A	Freyr				Glenn			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	0	0	30	50	0	0	33	50
Puma	1.34 pt	0	0	30	54	2	2	33	53
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	30	57	2	2	32	44
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	0	2	29	51	3	2	32	46
Discover NG	12.8 oz	0	0	31	53	2	2	33	51
Discover NG	25.6 oz	0	0	30	46	2	2	34	45
Silverado + Destiny	1.78 oz + 1.5 pt	7	2	29	50	5	3	33	48
Silverado + Destiny	3.56 oz + 1.5 pt	15	8	29	45	0	0	31	42
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	30	53	0	0	32	46
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	30	58	0	0	32	44
Rimfire	2.25 oz	3	0	30	50	0	0	32	45
Rimfire	4.5 oz	0	0	30	56	2	2	29	47
Untreated Check	--	0	0	30	50	0	0	34	46
LSD (0.05)		4	3	ns	ns	ns	ns	ns	ns

Puma 1EC = fenoxaprop and safener

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

N-Pak AMS = ammonium sulfate solution.

Preference = nonionic surfactant.

Discover NG 0.5 EC = clodinafop and cloquintocet (safener).

Silverado 2 WDG = mesosulfuron.

Destiny = methylated soybean oil and nonionic surfactant blend.

Axial 0.83 EC = pinoxaden.

Adigor Adjuvant = emulsifiable oil adjuvant.

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

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**Table 3.**

Treatment	Rate Product/A	Howard				Kelby			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	0	0	29	55	0	0	25	59
Puma	1.34 pt	0	0	30	58	0	0	25	61
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	29	51	0	0	26	58
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	3	0	29	51	2	0	25	60
Discover NG	12.8 oz	0	0	29	56	0	0	25	58
Discover NG	25.6 oz	0	0	29	49	0	0	26	64
Silverado + Destiny	1.78 oz + 1.5 pt	0	0	29	52	2	0	25	59
Silverado + Destiny	3.56 oz + 1.5 pt	3	2	28	46	7	3	25	49
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	31	54	0	0	26	59
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	28	46	0	0	26	56
Rimfire	2.25 oz	0	0	29	46	0	0	24	61
Rimfire	4.5 oz	0	0	27	48	3	0	25	60
Untreated Check	--	0	0	30	52	0	0	27	56
LSD (0.05)		ns	ns	ns	ns	ns	1	ns	ns

**Table 4.**

Treatment	Rate Product/A	Knudson				Oklee			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	3	2	28	59	0	0	31	58
Puma	1.34 pt	3	2	27	60	0	0	31	54
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	27	57	0	0	30	49
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	0	0	28	60	0	0	29	47
Discover NG	12.8 oz	0	0	27	52	0	0	30	51
Discover NG	25.6 oz	0	0	26	52	0	0	31	52
Silverado + Destiny	1.78 oz + 1.5 pt	5	2	26	60	0	0	31	54
Silverado + Destiny	3.56 oz + 1.5 pt	7	2	26	49	0	0	29	44
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	28	55	0	0	31	53
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	26	51	0	0	29	46
Rimfire	2.25 oz	0	0	28	54	0	0	30	52
Rimfire	4.5 oz	7	2	26	55	0	0	30	50
Untreated Check	--	0	0	28	50	0	0	31	53
LSD (0.05)		ns	ns	ns	ns	ns	ns	ns	6

Puma 1EC = fenoxaprop and safener

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

N-Pak AMS = ammomium sulfate solution.

Preference = nonionic surfactant.

Discover NG 0.5 EC = clodinafop and cloquintocet (safener).

Silverado 2 WDG = mesosulfuron.

Destiny = methylated soybean oil and nonionic surfactant blend.

Axial 0.83 EC = pinoxaden.

Adigor Adjuvant = emulsifiable oil adjuvant.

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**Table 5.**

Treatment	Rate Product/A	Steele				Traverse			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	0	2	32	46	7	3	32	49
Puma	1.34 pt	3	0	31	50	3	2	31	51
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	31	49	0	0	31	51
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	2	0	31	48	2	0	30	49
Discover NG	12.8 oz	0	0	31	51	3	2	32	53
Discover NG	25.6 oz	0	0	31	48	3	2	33	59
Silverado + Destiny	1.78 oz + 1.5 pt	2	0	30	49	2	0	31	52
Silverado + Destiny	3.56 oz + 1.5 pt	3	0	33	48	3	0	30	53
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	32	48	0	0	32	53
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	31	46	0	0	30	53
Rimfire	2.25 oz	3	0	31	47	0	0	31	53
Rimfire	4.5 oz	0	0	31	48	3	0	31	57
Untreated Check	--	0	0	32	46	0	0	32	55
LSD (0.05)		ns	ns	ns	ns	ns	ns	ns	ns

**Table 6.**

Treatment	Rate Product/A	Ulen			
		Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)		
Puma	0.67 pt	3	2	30	52
Puma	1.34 pt	3	2	30	51
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	0	0	30	54
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	0	0	29	55
Discover NG	12.8 oz	0	0	30	51
Discover NG	25.6 oz	3	0	30	52
Silverado + Destiny	1.78 oz + 1.5 pt	0	0	30	54
Silverado + Destiny	3.56 oz + 1.5 pt	0	0	30	50
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	3	0	31	51
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	31	51
Rimfire	2.25 oz	0	0	31	51
Rimfire	4.5 oz	0	0	28	53
Untreated Check	--	0	0	32	53
LSD (0.05)		ns	ns	ns	ns

Puma 1EC = fenoxaprop and safener

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

N-Pak AMS = ammomium sulfate solution.

Preference = nonionic surfactant.

Discover NG 0.5 EC = clodinafop and cloquintocet (safener).

Silverado 2 WDG = mesosulfuron.

Destiny = methylated soybean oil and nonionic surfactant blend.

Axial 0.83 EC = pinoxaden.

Adigor Adjuvant = emulsifiable oil adjuvant.

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

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**Table 7.**

Treatment	Rate Product/A	Lacey				Stellar			
		Injury		Height (inch)	Yield (Bu/A)	Injury		Height (inch)	Yield (Bu/A)
		6/9 (%)	7/15 (%)			6/9 (%)	7/15 (%)		
Puma	0.67 pt	7	5	26	68	3	2	30	57
Puma	1.34 pt	0	0	27	67	10	3	30	56
Huskie + N-Pak AMS + Preference	13.5 oz + 1.2 pt + 3.26 oz	3	0	26	75	5	0	29	57
Huskie + N-Pak AMS + Preference	27 oz + 1.2 pt + 3.26 oz	7	5	28	74	7	5	30	56
Discover NG	12.8 oz	60	47	26	57	60	47	28	41
Discover NG	25.6 oz	60	47	27	57	60	47	28	41
Silverado + Destiny	1.78 oz + 1.5 pt	7	5	25	67	28	17	28	53
Silverado + Destiny	3.56 oz + 1.5 pt	20	17	27	69	47	23	27	50
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	3	2	25	66	5	3	31	56
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	27	70	5	2	30	57
Rimfire	2.25 oz	25	20	25	66	50	38	26	48
Rimfire	4.5 oz	40	25	26	68	50	37	26	40
Untreated Check	--	0	0	28	72	0	0	32	60
LSD (0.05)		9	8	ns	9	12	14	3	7

Puma 1EC = fenoxaprop and safener

Huskie 2.08 EC = pyrasulfotole & bromoxynil & safener.

N-Pak AMS = ammonium sulfate solution.

Preference = nonionic surfactant.

Discover NG 0.5 EC = clodinafop and cloquintocet (safener).

Silverado 2 WDG = mesosulfuron.

Destiny = methylated soybean oil and nonionic surfactant blend.

Axial 0.83 EC = pinoxaden.

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