

**Hard red spring wheat and barley tolerance to postemergence herbicides at Rosemount, MN - 2006.** 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 and a plant growth regulator. 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 2005. In the spring of 2006, the area received 75 lbs/A N then was disked, field cultivated, and harrowed. The HRSW varieties 'Ada', 'Banton', 'Freyr', 'Glenn', 'Granger', 'HJ98', 'Knudson', 'Oklee', 'Steele-ND', 'Traverse', and 'Ulen' and the spring barley varieties 'Lacey' and 'Robust' were seeded on April 26 at 85 lb/A and 90 lbs/A for HRSW and spring barley, respectively. Bromoxynil at 0.38 lb ai/A was applied postemergence on June 13 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 29. 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.

<b>Treatment Date</b>	<b>May 29</b>
Temperature (°F)	
air	90
Relative Humidity (%)	42
Soil Moisture	dry to 1.0"
Wind (mph)	10-20 S
Sky	clear
Rainfall before application	
Week 1 (inch)	0.32
Rainfall after application	
Week 1 (inch)	0.13
Week 2 (inch)	0.5

### **Barley**

<b>Lacey</b>	
leaf no.	4.5 - 5
height (inch)	7 - 9
tillers	2 - 3
<b>Robust</b>	
leaf no.	5
height (inch)	7 - 9
tillers	2

### **Wheat**

<b>Ada</b>	
leaf no.	4.5 - 5
height (inch)	6 - 8
tillers	2 - 3
<b>Banton</b>	
leaf no.	4.5 - 5
height (inch)	10 - 13
tillers	1 - 2

**Wheat (cont.)**

Freyr	
leaf no.	4 – 4.5
height (inch)	7 - 9
tillers	2
Glenn	
leaf no.	4.5 - 5
height (inch)	7 - 9
tillers	1 - 2
Granger	
leaf no.	4.5 - 5
height (inch)	9 - 11
tillers	1 - 2
HJ98	
leaf no.	4.25 - 5
height (inch)	7 - 9
tillers	3 - 4
Knudson	
leaf no.	4.5 - 5
height (inch)	8 - 10
tillers	1 - 2
Oklee	
leaf no.	4 - 5
height (inch)	6 - 8
tillers	2 - 4
Steele-ND	
leaf no.	4 - 5
height (inch)	6 - 8
tillers	3 - 4
Traverse	
leaf no.	4.5 - 5
height (inch)	7 - 9
tillers	2 - 3
Ulen	
leaf no.	4 – 4.5
height (inch)	6 - 8
tillers	2 - 3

**Hard Red Spring Wheat and Barley Tolerance to Postemergence Herbicides at Rosemount, MN - 2006.**

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**Table 1.**

Treatment	Rate Product/A	Ada					Banton				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	0	0	2	27	56	0	0	0	27	42
Puma	1.34 pt	0	0	0	27	47	2	0	0	28	44
Palisade	6.85 oz	5	12	12	25	50	5	17	13	23	46
Palisade	13.7 oz	8	20	25	22	43	8	27	33	15	35
Discover NG	12.8 oz	0	0	0	28	50	0	0	0	25	37
Discover NG	25.6 oz	0	0	0	28	54	0	0	3	26	43
Silverado + Destiny	1.78 oz + 1.5 pt	2	0	0	27	45	8	0	2	23	37
Silverado + Destiny	3.56 oz + 1.5 pt	5	0	0	27	51	8	3	2	25	35
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	0	27	48	0	0	0	26	45
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	0	27	49	0	0	0	27	49
Rimfire	2.25 oz	0	0	0	27	45	0	0	2	27	38
Rimfire	4.5 oz	7	0	0	27	43	5	3	2	26	39
Weedy Check	--	0	0	0	27	46	0	0	0	28	49
LSD (0.05)		3	3	4	2	ns	5	5	5	4	ns

**Table 2.**

Treatment	Rate Product/A	Frevr					Glenn				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	2	0	0	29	50	0	0	0	28	52
Puma	1.34 pt	2	0	0	29	48	0	0	0	27	48
Palisade	6.85 oz	5	10	10	27	47	5	17	13	24	49
Palisade	13.7 oz	3	23	23	23	42	13	23	30	17	44
Discover NG	12.8 oz	0	0	0	28	55	2	2	0	28	46
Discover NG	25.6 oz	0	0	0	30	49	3	5	2	28	51
Silverado + Destiny	1.78 oz + 1.5 pt	3	0	2	28	45	7	0	0	27	55
Silverado + Destiny	3.56 oz + 1.5 pt	2	5	3	27	40	7	5	0	29	49
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	2	2	3	29	46	0	2	0	27	45
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	0	30	47	2	0	0	30	49
Rimfire	2.25 oz	2	0	3	28	40	0	0	0	28	50
Rimfire	4.5 oz	7	0	5	29	42	2	2	3	29	46
Weedy Check	--	0	0	0	30	52	0	0	0	29	50
LSD (0.05)		ns	4	5	3	ns	5	5	4	4	ns

Puma 1EC = fenoxaprop and safener

Palisade EC = trinexapac-ethyl (growth regulator).

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	Granger					HJ98				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	2	2	2	29	58	0	0	0	24	45
Puma	1.34 pt	2	0	3	26	49	0	0	0	26	43
Palisade	6.85 oz	8	17	17	24	60	3	8	8	24	45
Palisade	13.7 oz	15	27	37	20	48	5	20	20	21	40
Discover NG	12.8 oz	0	0	0	31	51	0	0	0	24	38
Discover NG	25.6 oz	0	2	0	30	52	0	0	5	26	45
Silverado + Destiny	1.78 oz + 1.5 pt	8	0	0	29	51	10	0	5	24	33
Silverado + Destiny	3.56 oz + 1.5 pt	13	3	2	28	50	10	8	5	23	32
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	0	29	51	0	0	0	26	42
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	2	0	0	30	49	2	0	0	25	42
Rimfire	2.25 oz	5	2	3	29	44	5	0	3	26	40
Rimfire	4.5 oz	10	5	5	30	48	13	8	8	23	35
Weedy Check	--	0	0	0	30	53	0	0	0	27	46
LSD (0.05)		6	6	6	3	8	5	5	4	3	ns

**Table 4.**

Treatment	Rate Product/A	Knudson					Oklee				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	0	0	0	27	50	0	0	2	27	47
Puma	1.34 pt	0	0	0	25	50	0	0	0	26	52
Palisade	6.85 oz	2	8	8	25	54	12	20	17	21	40
Palisade	13.7 oz	5	20	23	21	46	12	33	30	16	33
Discover NG	12.8 oz	0	0	0	26	49	0	0	0	27	48
Discover NG	25.6 oz	0	0	0	27	60	0	0	2	27	47
Silverado + Destiny	1.78 oz + 1.5 pt	7	2	2	24	49	0	0	0	26	40
Silverado + Destiny	3.56 oz + 1.5 pt	7	7	5	25	47	5	2	2	26	40
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	0	0	25	46	3	2	0	25	41
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	0	26	48	2	0	0	27	53
Rimfire	2.25 oz	3	0	2	26	41	3	0	0	27	45
Rimfire	4.5 oz	10	5	10	23	44	5	3	2	27	36
Weedy Check	--	0	0	0	26	51	0	0	0	28	45
LSD (0.05)		5	7	6	3	ns	5	6	6	3	ns

Puma 1EC = fenoxaprop and safener

Palisade EC = trinexapac-ethyl (growth regulator).

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 5.**

Treatment	Rate Product/A	Steele					Traverse				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	0	0	2	28	50	0	0	0	32	55
Puma	1.34 pt	2	0	2	29	48	0	0	0	29	50
Palisade	6.85 oz	3	10	10	27	55	8	17	17	25	60
Palisade	13.7 oz	2	20	20	22	46	10	27	33	19	52
Discover NG	12.8 oz	0	0	0	28	48	0	0	0	30	64
Discover NG	25.6 oz	0	2	0	28	51	2	0	2	31	62
Silverado + Destiny	1.78 oz + 1.5 pt	3	0	3	27	46	2	0	0	28	47
Silverado + Destiny	3.56 oz + 1.5 pt	3	2	0	27	46	3	3	2	27	51
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	2	0	0	28	48	2	0	0	30	50
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	0	0	0	29	51	3	0	0	30	49
Rimfire	2.25 oz	0	0	0	29	44	0	0	2	28	41
Rimfire	4.5 oz	3	2	3	28	47	8	2	2	28	41
Weedy Check	--	0	0	0	29	52	0	0	0	31	51
LSD (0.05)		ns	2	2	2	ns	3	4	6	4	11

**Table 6.**

Treatment	Rate Product/A	Ulen				
		Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	2	0	2	29	54
Puma	1.34 pt	3	0	0	27	47
Palisade	6.85 oz	7	13	10	24	50
Palisade	13.7 oz	10	20	23	19	44
Discover NG	12.8 oz	2	0	0	28	45
Discover NG	25.6 oz	2	0	0	30	49
Silverado + Destiny	1.78 oz + 1.5 pt	7	0	0	29	44
Silverado + Destiny	3.56 oz + 1.5 pt	7	2	0	28	45
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	0	3	0	28	46
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	2	0	0	30	56
Rimfire	2.25 oz	0	0	0	29	47
Rimfire	4.5 oz	7	3	0	29	49
Weedy Check	--	0	0	0	31	49
LSD (0.05)		4	3	3	3	ns

Puma 1EC = fenoxaprop and safener

Palisade EC = trinexapac-ethyl (growth regulator).

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					Robust				
		Injury			Height (inch)	Yield (Bu/A)	Injury			Height (inch)	Yield (Bu/A)
		6/8 (%)	6/16 (%)	6/23 (%)			6/8 (%)	6/16 (%)	6/23 (%)		
Puma	0.67 pt	0	3	2	25	62	2	2	0	27	58
Puma	1.34 pt	0	0	2	23	62	2	0	0	25	55
Palisade	6.85 oz	12	17	17	22	73	10	20	13	22	62
Palisade	13.7 oz	20	27	40	15	56	20	30	27	14	55
Discover NG	12.8 oz	23	17	3	23	60	25	13	7	23	47
Discover NG	25.6 oz	32	33	15	24	61	18	25	7	24	55
Silverado + Destiny	1.78 oz + 1.5 pt	10	8	3	25	60	10	7	2	25	50
Silverado + Destiny	3.56 oz + 1.5 pt	10	12	3	22	64	10	17	7	24	53
Axial + Adigor Adjuvant	8.2 oz + 9.6 oz	3	5	0	23	58	5	5	3	25	61
Axial + Adigor Adjuvant	16.4 oz + 9.6 oz	3	2	0	24	61	2	0	0	28	55
Rimfire	2.25 oz	20	23	13	19	53	20	23	22	21	48
Rimfire	4.5 oz	25	33	18	20	47	25	33	23	21	41
Weedy Check	--	0	0	0	24	66	0	0	0	27	58
LSD (0.05)		8	7	5	4	ns	10	11	10	4	ns

Puma 1EC = fenoxaprop and safener

Palisade EC = trinexapac-ethyl (growth regulator).

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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