Hard red spring wheat and barley tolerance to postemergence herbicides at Crookston, MN - 2002. Durgan, Beverly R., James Cameron, Douglas W. Miller, and Krishona Martinson. This experiment was designed to evaluate wheat and barley tolerance to various postemergence herbicides. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, the experimental area received 100 lb/A of N and was fall plowed. In the spring the experimental area was disked and harrowed. 'Alsen', 'Dandy', 'Granite', 'Hanna', 'HJ98', 'Knutson', 'NorPro', 'Parshall', 'Reeder', 'Walworth', and '2375'' hard red spring wheat varieties, plus 'Lacey' and 'Robust' barley varieties were seeded on April 30 at 1.75 Bu/A and 2 Bu/A for wheat and barley, respectively. 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 split block 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 8 by 8 ft. Herbicide treatments were applied June 4. Environmental conditions are listed below. Crop injury was rated visually on June 18. Injury ratings were based on height reduction only as wet conditions caused chlorosis on the entire study, masking the typical herbicide injury symptoms normally expected. Weather conditions resulted in crop loss after that date and no further data were collected. Injury ratings are summarized by variety and are presented in the tables below.

Treatment Date	June 4
crop stage	3.5-4 leaf
Air Temperature (°F)	68
Wind (mph)	2 NE
Sky	Clear
Soil	Dry
Rainfall before Application	
Week 1 (inch)	0.05
Rainfall after Application	
Week 1 (inch)	3.60
Week 2 (inch)	0.43

Table 1. Hard red spring wheat and barley tolerance to postemergence herbicides at Crookston, MN -2002 (Durgan, Cameron, Miller, and Martinson).

Treatment	Rate	Injury (6/18) Alsen	Dandy	Granite	Hanna	HJ98	Knutson	NorPro
	(lb/A)	(%)						
Fenoxaprop & safener	0.084	0	2	0	2	0	0	0
Fenoxaprop & safener	0.167	2	0	3	0	0	0	0
Flucarbazone + 2,4-D ester + NIS[1]	0.027 + 0.5 + 0.25%	10	0	0	2	5	3	2
Flucarbazone + 2,4-D ester + NIS	0.054 + 0.5 + 0.25%	10	3	5	8	10	0	5
Flucarbazone + fenoxaprop & safener + NIS	0.027 + 0.041 + 0.25%	0	0	7	0	0	0	0
Flucarbazone + fenoxaprop & safener + NIS	0.027 + 0.063 + 0.25%	0	2	0	0	0	0	0
Clodinafop & safener + adjuvant[2]	0.05 + 0.8%	0	2	3	0	0	2	2
Clodinafop & safener + adjuvant[2]	0.1 + 0.8%	0	0	0	0	0	0	0
AE F130060 + AW F107892 + adjuvant[3]	0.00225 + 0.0134 + 2.5%	3	2	6	0	0	2	0
AE F130060 + AW F107892 + adjuvant[3]	0.0045 + 0.0268 + 2.5%	2	0	0	0	10	8	2
Check		2	0	0	0	0	0	2
LSD (P=.05)		4	ns	ns	2	5	4	ns

[1] NIS = Class Preference nonionic surfactant.
[2] adjuvant = DSV adjuvant.
[3] adjuvant = Destiny.

Table 2. Hard red spring wheat and barley tolerance to postemergence herbicides at Crookston, MN -2002 (Durgan, Cameron, Miller, and Martinson).

Treatment	Rate	Injury (6/18) Parshall	Reeder	Walworth	2375	Lacey	Robust
	(lb/A)	(%)					
Fenoxaprop & safener	0.084	0	0	5	0	0	0
Fenoxaprop & safener	0.167	0	0	0	2	0	0
Flucarbazone + 2,4-D ester + NIS[1]	0.027 + 0.5 + 0.25%	0	2	0	7	2	7
Flucarbazone + 2,4-D ester + NIS	0.054 + 0.5 + 0.25%	3	7	2	3	13	17
Flucarbazone + fenoxaprop & safener + NIS	0.027 + 0.041 + 0.25%	2	0	2	0	3	3
Flucarbazone + fenoxaprop & safener + NIS	0.027 + 0.063 + 0.25%	0	0	0	0	7	13
Clodinafop & safener + adjuvant[2]	0.05 + 0.8%	0	0	0	0	5	10
Clodinafop & safener + adjuvant[2]	0.1 + 0.8%	2	0	2	0	33	33
AE F130060 + AW F107892 + adjuvant[3]	0.00225 + 0.0134 + 2.5%	2	0	0	0	0	2
AE F130060 + AW F107892 + adjuvant[3]	0.0045 + 0.0268 + 2.5%	3	3	2	3	5	8
Check		2	0	0	0	0	0
LSD (P=.05)		ns	3	ns	ns	9	10

[1] NIS = Class Preference nonionic surfactant.
[2] adjuvant = DSV adjuvant.
[3] adjuvant = Destiny.