

**Broadleaf weed control and wheat tolerance at Crookston, MN - 1998.** Durgan, Beverly R. and Jim Cameron. This experiment was designed to evaluate broadleaf weed control and wheat injury with various tank mixes of Harmony Extra and Express with other broadleaf 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. '2375' hard red spring wheat was seeded on April 28 at 1.75 Bu/A. 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 randomized complete block with three replications and plot size was 10 by 24 ft. Application date and environmental conditions are listed below. Crop injury was visually rated on June 4, June 7, and June 29. Weed control ratings were taken on June 17 and June 29. Wheat yields were measured. All data are presented in the table below.

Treatment Date	May 26
Target weed or crop stage	3-4 leaf wheat
Soil Moisture	dry
Sky	clear
Wind (mph)	5 S
Temperature (°F)	77
Rainfall before Application	
Week 1 (inch)	0.00
Rainfall after Application	
Week 1 (inch)	0.29
Week 2 (inch)	0.00
Colq density (#/ft <sup>2</sup> )	3-8
Pesw density (#/ft <sup>2</sup> )	10-15
Wibu density (#/ft <sup>2</sup> )	3-4
Wimu density (#/ft <sup>2</sup> )	30-40

Weed control was good to excellent for all treatments except the fluroxypyr and bromoxynil treatments. Fluroxypyr provided only fair control of all species. Bromoxynil provided good control of common lambsquarters but only fair control of the other species.

All treatments resulted in some wheat injury with bromoxynil causing the least injury. No injury was observed at the last rating date.

Herbicide treatments resulted in wheat yields greater than the weedy check. The fluroxypyr treatment had the lowest yield within the herbicide treated plots, reflecting the poorer weed control.

**Table. Broadleaf weed control and wheat tolerance at Crookston, MN - 1998 (Durgan and Cameron).**

Treatment	Rate (lb ai/A)	Weed Control								Wheat			Yield Bu/A
		Colq		Pesw		Wibu		Wimu		Injury			
		6/17	6/29	6/17	6/29	6/17	6/29	6/17	6/29	6/4	6/17	6/29	
Thifensulfuron & tribenuron <sup>1</sup> + bromoxynil & MCPA ester <sup>2</sup> + NIS <sup>3</sup>	0.009 & 0.005 + 0.19 & 0.19 + 0.125%	97	98	85	96	87	96	88	92	13	7	0	45
Thifensulfuron & tribenuron + bromoxynil & MCPA ester + NIS	0.009 & 0.005 + 0.22 & 0.22 + 0.125%	100	100	100	99	100	98	100	99	13	3	0	54
Thifensulfuron & tribenuron + bromoxynil & MCPA ester + NIS	0.009 & 0.005 + 0.25 & 0.25 + 0.125%	100	100	100	100	100	100	100	100	10	7	0	58
Thifensulfuron & tribenuron + 2,4-D ester + dicamba + NIS	0.009 & 0.005 + 0.25 + 0.062 + 0.125%	100	100	100	96	100	98	99	99	12	12	0	54
Thifensulfuron & tribenuron + MCPA ester + dicamba + NIS	0.009 & 0.005 + 0.25 + 0.062 + 0.125%	100	100	100	99	98	99	100	94	15	17	0	63
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.375 + 0.125%	100	96	97	93	99	92	96	90	15	8	0	55
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.25 + 0.125%	100	100	99	99	96	97	100	99	17	12	0	54
Tribenuron + 2,4-D ester + dicamba + NIS	0.006 + 0.25 0.062 + 0.125%	100	100	97	100	93	94	99	92	17	12	0	59
Tribenuron + MCPA ester + dicamba + NIS	0.006 + 0.25 + 0.062 + 0.125%	100	100	99	100	98	95	97	96	15	12	0	56
Tribenuron + 2,4-D ester + NIS	0.008 + 0.375 + 0.125%	100	100	95	99	95	91	99	90	13	10	0	58
Tribenuron + 2,4-D ester + NIS	0.008 + 0.25 + 0.125%	100	100	91	90	94	92	100	92	18	12	0	50
2,4-D ester + dicamba	0.25 + 0.062	96	100	91	93	87	93	90	91	10	15	0	55
MCPA ester + dicamba	0.25 + 0.062	95	98	88	94	89	90	90	89	13	15	0	43
Bromoxynil & MCPA ester	0.25 & 0.25	100	100	98	98	98	97	98	98	5	0	0	60
Bromoxynil	0.25	93	96	90	86	87	88	78	87	8	0	0	54
Fluroxypyr + 2,4-D ester	0.125 + 0.25	95	100	89	97	89	96	88	97	13	13	0	53
Fluroxypyr	0.125	78	80	75	80	75	82	85	86	10	0	0	40
Fluroxypyr + thifensulfuron & tribenuron	0.125 + 0.006 & 0.003	100	100	92	100	92	99	92	97	17	10	0	51
Weedy check		--	--	--	--	--	--	--	--	0	0	0	34
LSD (P= .05)		4	4	6	5	7	5	5	8	6	6	0	15

1 Premix = Harmony Extra 75DF.

2 Premix = Bronate 4E.

3 NIS = Class Preference nonionic surfactant.