

Broadleaf weed control and wheat tolerance at Rosemount, MN - 1999. Durgan, Beverly R. and Douglas Miller. 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 Rosemount, MN on a Waukegon silt loam soil. Following soybeans, the experimental area was fall chisel plowed. In the spring, the area was fertilized with 50 lbs/A N and 70 lbs K. The field was disked once, field cultivated once, and harrowed twice. 'Butte 86' hard red spring wheat was seeded on April 29 at 80 lbs/A. The experimental design was a randomized complete block with three replications and plot size was 10 by 25 ft. All herbicide treatments were applied to a 6 ft strip with a backpack type sprayer delivering 10 gpa at 35 psi using 11001 flat-fan nozzles. Visual weed control ratings, wheat injury ratings, and yields are presented in the tables. Environmental conditions and plant sizes are listed below.

Treatment Date	May 26
Target weed or crop stage	3-4 leaf wheat

Temperature (°F)	
air	70
soil (at 2")	66
Soil Moisture	moist at 0.5"
Wind (mph)	0-4 W
Relative Humidity (%)	31
Sky	clear
Rainfall before Application	
Week 1 (inch)	1.41
Rainfall after Application	
Week 1 (inch)	0.17
Week 2 (inch)	0.86

Wheat

leaf stage	3.75-4.5
tillers	1-2
height (inch)	4-6

Common lambsquarters

density (#/ft ²)	variable
leaf no.	cot-4
height (inch)	0.5-1.5

Common Ragweed

density (#/ft ²)	scattered
leaf no.	--
height (inch)	--

Eastern black nightshade

density (#/ft ²)	20
leaf no.	cot-3
height (inch)	0.25-1

Pennsylvania smartweed

density (#/ft ²)	32
leaf no.	1-3
height (inch)	0.75-1.5

Redroot pigweed

density (#/ft ²)	variable
leaf no.	cot-1
height (inch)	0.25-1

Wild Buckwheat

density (#/ft ²)	2
leaf no.	2-4
height (inch)	0.75-1.5

Wild Mustard

density (#/ft ²)	19
leaf no.	--
diameter (inch)	1-4

Table. Broadleaf weed control and wheat tolerance at Rosemount, MN - 1999 (Durgan and Miller).

Treatment	Rate (lb ai/A)	Weed Control				Wheat			Yield Bu/A
		Wimu		Pesw/Wibu		Injury			
		6/24	7/10	6/24	7/10	6/12	6/24	7/10	
Thifensulfuron & tribenuron ¹ + bromoxynil & MCPA ester ² + NIS ³	0.009 & 0.005 + 0.19 & 0.19 + 0.125%	99	98	98	96	0	12	10	29
Thifensulfuron & tribenuron + bromoxynil & MCPA ester + NIS	0.009 & 0.005 + 0.22 & 0.22 + 0.125%	96	95	96	95	0	10	10	28
Thifensulfuron & tribenuron + bromoxynil & MCPA ester + NIS	0.009 & 0.005 + 0.25 & 0.25 + 0.125%	96	95	93	95	0	17	10	30
Thifensulfuron & tribenuron + 2,4-D ester + dicamba + NIS	0.009 & 0.005 + 0.25 + 0.062 + 0.125%	99	96	96	96	0	22	13	28
Thifensulfuron & tribenuron + MCPA ester + dicamba + NIS	0.009 & 0.005 + 0.25 + 0.062 + 0.125%	99	96	99	96	0	7	7	33
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.375 + 0.125%	98	95	96	95	0	7	7	30
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.25 + 0.125%	98	96	96	96	0	10	10	33
Tribenuron + 2,4-D ester + dicamba + NIS	0.006 + 0.25 0.062 + 0.125%	99	98	96	98	10	18	13	29
Tribenuron + MCPA ester + dicamba + NIS	0.006 + 0.25 + 0.062 + 0.125%	96	96	93	93	38	22	13	31
Tribenuron + 2,4-D ester + NIS	0.008 + 0.375 + 0.125%	96	95	91	93	17	10	10	33
Tribenuron + 2,4-D ester + NIS	0.008 + 0.25 + 0.125%	96	93	93	92	18	13	13	30
2,4-D ester + dicamba	0.25 + 0.062	90	93	88	93	20	10	10	35
MCPA ester + dicamba	0.25 + 0.062	96	95	93	95	0	3	3	32
Bromoxynil & MCPA ester	0.25 & 0.25	98	95	95	95	0	3	7	29
Bromoxynil	0.25	99	96	93	95	0	3	3	28
Fluroxypyr + 2,4-D ester	0.125 + 0.25	98	98	95	98	0	13	13	33
Fluroxypyr	0.125	95	93	92	93	0	0	3	34
Fluroxypyr + thifensulfuron & tribenuron	0.125 + 0.006 & 0.003	90	88	90	88	0	7	7	34
Weedy check		--	--	--	--	0	0	0	25
Weedy check		--	--	--	--	0	0	0	22
Weedy check		--	--	--	--	0	0	0	24
Weedy check		--	--	--	--	0	0	0	20
LSD (P=.05)		5	6	7	5	10	7	7	5

1 Premix = Harmony Extra 75DF.

2 Premix = Bronate 4E.

3 NIS = Class Preference nonionic surfactant.