Broadleaf weed control and wheat tolerance at Rosemount, MN - 2001. Durgan, Beverly R., Douglas Miller, and Krishona Martinson. This experiment was designed to evaluate broadleaf weed control and wheat injury with various 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. '2375' hard red spring wheat was seeded on April 30 at 85 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. Fenoxaprop and safener (0.06 lb ai/A) was applied on June 8 to control grassy weeds. Visual weed control ratings, wheat injury ratings, and yields are presented in the table. Environmental conditions and plant sizes are listed below.

Treatment Date	May 30
Target weed or crop stage	3-4 leaf wheat
Temperature (degrees F)	
air	62
soil (at 2")	59
Soil Moisture	moist
Wind (mph)	2-4 E
Relative Humidity (%)	62
Dewpoint (%)	49
Sky	10% clouds
Rainfall before Application	
Week 1 (inch)	1.68
Rainfall after Application	
Week 1 (inch)	0.91
Week 2 (inch)	1.24

Wheat	
leaf stage	5-5.25
tillers	1-2
height (inch)	8-10
Common Lambsquarters	
height (inch)	0.5-1
density (#/ft^2)	5
Common Ragweed	
height (inch)	1.5
density (#/ft^2)	1
Eastern Black Nightshade	
height (inch)	0.25-1
density (#/ft^2)	3
Redroot pigweed	
height (inch)	0.5-2
density (#/ft^2)	111
Velvetleaf	
height (inch)	0.5-1.5
density (#/ft^2)	0.5
Wild Buckwheat	
height (inch)	1-2
density (#/ft^2)	1

Early spring moisture and temperature conditions were optimal for wheat growth and development. Weed sizes were small at the time of treatment application. The result was excellent weed control for all weed species due to herbicide efficacy and good crop competition.

Table. Broadleaf weed control and wheat tolerance at Rosemount, MN - 2001 (Durgan, Miller, and Martinson).

Treatment	Rate	Weed Control (6/19) Rrpw	Wibu	Wheat Injury 6/6	6/13	6/19	Yield
	(lb ai/A)		%				Bu/A
Thifensulfuron & tribenuron[1] + bromoxynil & MCPA ester[2] + NIS[3]	0.009 & 0.005 + 0.19 & 0.19 + 0.125%	100	100	10	2	2	50
Thifensulfuron & tribenuron + bromoxynil & MCPA ester + NIS	0.009 & 0.005 + 0.22 & 0.22 + 0.125%	100	100	12	3	2	55
Bromoxynil & MCPA ester + 2,4-D ester	0.25 & 0.25 + 0.25	100	100	0	0	0	53
Bromoxynil & MCPA ester + tribenuron + NIS	0.25 & 0.25 + + 0.004 +0.125%	100	100	8	5	3	47
Bromoxynil & MCPA ester + fluroxypyr	0.25 & 0.25 + 0.047	100	100	0	2	2	52
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.375 + 0.125%	100	100	7	2	0	54
Thifensulfuron & tribenuron + 2,4-D ester + NIS	0.012 & 0.006 + 0.25 + 0.125%	100	100	5	2	0	54
Bromoxynil & MCPA ester + thifensulfuron + NIS	0.15 & 0.15 + + 0.016 +0.125%	100	100	10	2	0	52
Bromoxynil & MCPA ester + thifensulfuron + NIS	0.19 & 0.19 + + 0.016 +0.125%	100	98	7	2	2	56
Tribenuron + MCPA ester + dicamba + NIS	0.006 + 0.25 + 0.062 + 0.125%	98	100	7	3	3	52
Tribenuron + 2,4-D ester + NIS	0.008 + 0.25 + 0.125%	100	100	7	0	0	52
2,4-D ester + dicamba	0.25 + 0.062	100	100	15	0	0	54
MCPA ester + dicamba	0.25 + 0.062	95	100	15	3	2	55
Bromoxynil & MCPA ester	0.25 & 0.25	100	97	0	2	0	55
Bromoxynil	0.25	95	100	2	0	2	51
Fluroxypyr + 2,4-D ester	0.125 + 0.25	98	100	3	3	5	52
Fluroxypyr	0.125	85	96	2	3	2	56
Fluroxypyr + thifensulfuron & tribenuron + NIS	0.094 + 0.006 & 0.003 + 0.25%	100	100	3	3	3	54
Thifensulfuron + MCPA ester + NIS	0.014 + 0.25 + 0.25%	100	100	2	2	3	57
Thifensulfuron + 2,4-D ester + NIS	0.014 + 0.25 + 0.25%	100	100	3	2	2	53
Thifensulfuron + fluroxypyr + NIS	0.014 + 0.25 + 0.25%	100	100	2	2	0	51
Bromoxynil & MCPA ester[4]	0.25 & 0.25	100	100	0	2	2	54
Bromoxynil & MCPA ester[4]	0.25 & 0.25 + 0.047	98	100	3	0	0	49
Weedy check		--	--	0	0	0	56
Weedy check		--	--	0	0	0	59
Weedy check		--	--	0	0	0	49
Weedy check		--	--	0	0	0	57
LSD (P=.05)		5	ns	5	ns	ns	ns

[1] Premix = Harmony Extra 75DF.
[2] Premix = Bronate 4E.
[3] NIS = Class Preference nonionic surfactant.
[4] Bronate 5