

**Broadleaf weed control in spring wheat at Rosemount, MN - 2005.** Durgan, Beverly R., and Douglas Miller. 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. 'Alsen' hard red spring wheat was seeded on May 11 at 85 lbs/A. The experimental design was a randomized complete block with three replications and plot size was 10 by 24 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 below. Environmental conditions and plant sizes are listed below.

Treatment Date	June 5
Target weed stage	2-4 inch weeds

Temperature (degrees F)	
air	73
soil	68
Soil Moisture	dry to 0.75 inch
Relative Humidity (%)	50
Dewpoint (degrees F)	51
Sky	25% clouds

Rainfall before Application	
Week 1 (inch)	0.01
Rainfall after Application	
Week 1 (inch)	1.39
Week 2 (inch)	0.85

<b>Wheat</b>	
leaf stage	6-7
height (inch)	12-15
<b>Common Lambsquarters (CHEAL)</b>	
height (inch)	2-8
density (#/ft <sup>2</sup> )	5
<b>Pennsylvania Smartweed (POLPY)</b>	
height (inch)	1.5 -6
density (#/ft <sup>2</sup> )	4

<b>Powell Amaranth (AMAPO)</b>	
height (inch)	1.5 -6
density (#/ft <sup>2</sup> )	3
<b>Wild Buckwheat (POLCO)</b>	
height (inch)	2-4 (up to 10)
density (#/ft <sup>2</sup> )	Scattered
<b>Wild Mustard (SINAR)</b>	
height (inch)	18-24
density (#/ft <sup>2</sup> )	6

**Table 1. Broadleaf weed control in spring wheat at Rosemount, MN - 2005 - Weed Control Results (Durgan and Miller).**

Treatment	Rate (lb ai/A)	Weed Control									
		AMARE		CHEAL		POLCO		POLPY		SINAR	
		7/9	7/16	7/9	7/16	7/9	7/16	7/9	7/16	7/9	7/16
Bromoxynil & MCPA <sup>1</sup>	0.375 & 0.375	98	98	99	98	95	93	98	92	98	96
Bromoxynil & MCPA	0.25 & 0.25	99	98	99	98	95	92	94	96	96	98
Bromoxynil & MCPA + fluroxypyr	0.25 & 0.25 + 0.062	98	96	98	96	98	91	96	93	99	96
Bromoxynil & MCPA + fluroxypyr + thifensulfuron + NIS <sup>2</sup>	0.25 & 0.25 + 0.062 + 0.0047 + 0.25%	98	99	98	98	97	95	100	96	98	98
Bromoxynil & MCPA + fluroxypyr + thifensulfuron + NIS	0.187 & 0.187 + 0.062 + 0.0094 + 0.25%	98	98	99	98	96	95	96	93	99	99
Bromoxynil & MCPA + thifensulfuron + NIS	0.25 & 0.25 + 0.014 + 0.25%	95	96	97	95	96	92	98	93	98	98
Bromoxynil & MCPA + thifensulfuron & tribenuron <sup>3</sup> + NIS	0.25 & 0.25 + 0.0093 & 0.0047 + 0.25%	99	95	99	93	98	94	98	93	98	98
Bromoxynil & MCPA + fluroxypyr + thifensulfuron & tribenuron + NIS	0.25 & 0.25 + 0.0093 & 0.0047 + 0.25%	91	95	98	93	93	88	93	85	95	96
Bromoxynil & MCPA + tribenuron + fluroxypyr + NIS	0.25 & 0.25 + 0.0078 + 0.062 + 0.25%	98	95	98	93	95	93	95	90	97	95
Bromoxynil & MCPA + tribenuron + NIS	0.187 & 0.187 + 0.0078 + 0.25%	93	95	96	98	91	93	92	93	98	99
Fluroxypyr	0.062	85	83	77	78	83	85	75	80	98	98
Fluroxypyr + MCPA ester	0.062 + 0.25	99	96	98	98	94	93	95	94	97	98
Clopyralid & MCPA ester <sup>4</sup>	0.092 & 0.51	99	96	97	96	98	93	98	95	98	98
Clopyralid & fluroxypyr <sup>5</sup>	0.125 & 0.125	96	98	98	98	98	95	98	92	99	96
Clopyralid & fluroxypyr + MCPA ester	0.125 & 0.125 + 0.25	99	98	99	98	98	96	99	98	98	98
Thifensulfuron + tribenuron + NIS	0.015 + 0.00375 + 0.25%	98	99	98	98	96	98	95	96	99	98
Thifensulfuron + MCPA ester	0.015 + 0.25	98	99	97	98	96	96	96	95	99	96
Thifensulfuron & tribenuron + MCPA ester	0.0093 & 0.0047 + 0.25	96	92	98	96	97	92	93	95	98	97
Carfentrazone-ethyl & 2,4-D ester <sup>7</sup> + Carfentrazone-ethyl & 2,4-D ester + NIS	0.008 & 0.24	95	98	95	99	92	96	90	93	97	99
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron	0.008 & 0.24 + 0.014	98	92	95	93	96	94	92	92	98	98
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron + NIS	0.008 & 0.24 + 0.014 + 0.25%	93	98	9.	96	88	92	88	93	97	96
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron + NIS + AG 02013 <sup>7</sup>	0.008 & 0.24 + 0.014 + 0.25% + 0.3%	96	96	99	95	98	96	96	94	96	98
2,4-D Ester <sup>8</sup>	0.234	94	98	93	95	92	95	95	95	93	97
2,4-D Ester <sup>8</sup> + thifensulfuron + NIS	0.5	92	90	88	90	67	75	73	83	98	99
2,4-D Ester <sup>8</sup> + thifensulfuron + NIS + AG 02013	0.234 + 0.014 + 0.25% + 0.3%	93	92	92	91	80	80	83	82	95	97
2,4-D Ester <sup>9</sup>	0.234 + 0.014 + 0.25%	95	93	96	93	95	95	98	92	98	95
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS	0.25	95	95	92	93	95	96	94	91	97	99
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS + AG 02013	0.25	88	96	90	96	80	90	87	87	92	98
2,4-D Ester <sup>9</sup>	0.5	85	91	85	92	82	85	83	86	92	95
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS	0.25 + 0.014 + 0.25%	95	93	96	93	92	93	92	92	98	98
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS + AG 02013	0.25 + 0.014 + 0.25% + 0.3%	96	96	99	96	96	92	98	91	99	96
Weedy check		-	-	-	-	-	-	-	-	-	--
LSD (P=.05)		7	6	6	6	9	11	10	9	4	ns

<sup>1</sup> Premix = Bronate Advanced 5E.

<sup>2</sup> NIS = Class Preference nonionic surfactant.

<sup>3</sup> Premix = Harmony Extra 75DF.

<sup>4</sup> Premix = Curtail M 2.77E

<sup>5</sup> Premix = Widematch 1.5E.

<sup>6</sup> Premix = AGH 02001 from Agrilience.

<sup>7</sup> AGH 02013 = drift control - deposition agent from Agrilience.

<sup>8</sup> AGH 02007 from Agrilience.

<sup>9</sup> 2,4-D LV6.

**Table 2. Broadleaf weed control in spring wheat at Rosemount, MN - 2005 - Wheat Injury and Yield (Durgan and Miller).**

Treatment	Rate (lb ai/A)	Wheat Injury			Wheat Yield (bu/A)
		6/22	6/29	7/9	
		----- % -----			
Bromoxynil & MCPA <sup>1</sup>	0.375 & 0.375	0	5	0	42
Bromoxynil & MCPA	0.25 & 0.25	0	2	0	46
Bromoxynil & MCPA + fluroxypyr	0.25 & 0.25 + 0.062	0	3	0	46
Bromoxynil & MCPA + fluroxypyr + thifensulfuron + NIS <sup>2</sup>	0.25 & 0.25 + 0.062 + 0.0047 + 0.25%	0	5	0	45
Bromoxynil & MCPA + fluroxypyr + thifensulfuron + NIS	0.187 & 0.187 + 0.062 + 0.0094 + 0.25%	0	0	0	48
Bromoxynil & MCPA + thifensulfuron + NIS	0.25 & 0.25 + 0.014 + 0.25%	0	3	0	46
Bromoxynil & MCPA + thifensulfuron & tribenuron <sup>3</sup> + NIS	0.25 & 0.25 + 0.0093 & 0.0047 + 0.25%	0	3	0	47
Bromoxynil & MCPA + fluroxypyr + thifensulfuron & tribenuron + NIS	0.25 & 0.25 + 0.0093 & 0.0047 + 0.25%	0	2	0	47
Bromoxynil & MCPA + tribenuron + fluroxypyr + NIS	0.25 & 0.25 + 0.0078 + 0.062 + 0.25%	0	0	0	47
Bromoxynil & MCPA + tribenuron + NIS	0.187 & 0.187 + 0.0078 + 0.25%	0	0	0	46
Fluroxypyr	0.062	0	2	0	46
Fluroxypyr + MCPA ester	0.062 + 0.25	0	0	0	48
Clopyralid & MCPA ester <sup>4</sup>	0.092 & 0.51	0	2	0	45
Clopyralid & fluroxypyr <sup>5</sup>	0.125 & 0.125	0	0	0	45
Clopyralid & fluroxypyr + MCPA ester	0.125 & 0.125 + 0.25	0	0	0	44
Thifensulfuron + tribenuron + NIS	0.015 + 0.00375 + 0.25%	0	0	0	47
Thifensulfuron + MCPA ester	0.015 + 0.25	0	0	0	48
Thifensulfuron & tribenuron + MCPA ester	0.0093 & 0.0047 + 0.25	0	3	0	48
Carfentrazone-ethyl & 2,4-D ester <sup>7</sup> + Carfentrazone-ethyl & 2,4-D ester + NIS	0.008 & 0.24	12	5	0	43
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron	0.008 & 0.24 + 0.014	8	7	0	44
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron + NIS	0.008 & 0.24 + 0.014 + 0.25%	8	3	0	44
Carfentrazone-ethyl & 2,4-D ester + thifensulfuron + NIS + AG 02013 <sup>7</sup>	0.008 & 0.24 + 0.014 + 0.25% + 0.3%	3	3	0	42
2,4-D Ester <sup>8</sup>	0.234	7	8	0	43
2,4-D Ester <sup>8</sup>	0.5	0	3	0	45
2,4-D Ester <sup>8</sup> + thifensulfuron + NIS	0.234 + 0.014 + 0.25%	0	5	0	44
2,4-D Ester <sup>8</sup> + thifensulfuron + NIS + AG 02013	0.234 + 0.014 + 0.25% + 0.3%	0	3	0	43
2,4-D Ester <sup>9</sup>	0.25	0	2	0	47
2,4-D Ester <sup>9</sup>	0.5	0	0	0	48
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS	0.25 + 0.014 + 0.25%	0	0	0	44
2,4-D Ester <sup>9</sup> + thifensulfuron + NIS + AG 02013	0.25 + 0.014 + 0.25% + 0.3%	0	2	0	46
Weedy check		0	5	0	47
LSD (P=.05)		4	5	ns	4

<sup>1</sup> Premix = Bronate Advanced 5E.

<sup>2</sup> NIS = Class Preference nonionic surfactant.

<sup>3</sup> Premix = Harmony Extra 75DF.

<sup>4</sup> Premix = Curtail M 2.77E

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