

**Wild oat control in hard red spring wheat and barley with reduced rates at Crookston, MN - 2002.** Durgan, Beverly R., Jim Cameron, Douglas W. Miller and Krishona Martinson. This experiment was designed to evaluate wild oat control with Achieve (tralkoxydim), AE F130060, Assert (imazamethabenz), Discover (clodinaop and safener), and Puma (fenoxaprop & safener) applied at the labeled rate and at two reduced rates. Buctril was applied to selected treatments to control broadleaf weeds. 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 and 'Robust' Barley were seeded on April 30 at 1.5 and 1.75 Bu/A respectively. The experimental design was a randomized complete block with three replications and plot size was 10 by 16 ft. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. Application data and environmental conditions are listed below. Crop injury and wild oat control were rated visually. Yields were measured. All data are presented in Tables 1 and 2 for barley and wheat, respectively.

Treatment Date	May 30	June 4
Target weed or crop stage	2-3 leaf Wioa	3-4 leaf Wioa
Herbicides applied	Assert	Achieve, AE F130060, Discover, Puma
Wioa leaf stage	3	3.5-4
Air Temperature (° F.)	70	65
Wind (mph)	5 W	0-2 E
Cloud cover	clear	clear
Rainfall before Application		
Week 1 (inch)	0.13	0.05
Rainfall after Application		
Week 1 (inch)	0.00	3.60
Week 2 (inch)	3.63	0.43

**Table 1. Wild oat control in barley with reduced rates at Crookston, MN - 2002 (Durgan, Cameron, Miller, and Martinson).**

Treatment	Rate (lb ai/A)	Barley Injury					AVEFA Control			Barley Yield (bu/A)
		6/4	6/18	6/27	7/3	7/9	6/27	7/3	7/9	
<b>Postemergence (May 30)</b>										
Bromoxynil + check	0.25	8	0	0	0	0	--	--	--	24
Imazamethabenz + NIS <sup>1</sup> + COC <sup>2</sup> + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	20	3	3	3	2	96	75	80	48
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	25	7	10	3	0	96	75	80	44
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	23	2	3	0	0	93	50	77	42
<b>Postemergence (June 4)</b>										
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	--	0	0	3	0	93	96	94	39
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	--	0	0	0	0	90	75	79	50
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	--	0	0	0	0	91	38	67	54
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	--	5	8	7	3	96	90	88	51
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	--	8	7	7	0	96	93	91	51
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	--	3	0	0	0	96	78	83	54
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	--	15	17	17	7	96	99	99	45
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	--	13	13	20	3	96	90	95	40
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	--	7	10	5	0	96	96	91	47
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.186 + 0.5% + 0.25	--	5	3	3	0	96	98	89	49
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.135 + 0.5% + 0.25	--	8	10	13	3	96	98	98	43
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.190 + 0.5% + 0.25	--	2	0	3	0	96	70	82	42
<b>Postemergence (May 30) and (June 4)</b>										
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00225 + 0.0134 + 2.5%)	10	0	3	7	0	93	88	89	45
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00150 + 0.0100 + 2.5%)	10	5	7	7	0	96	83	79	46
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00112 + 0.0067 + 2.5%)	10	02	0	0	3	96	90	90	44
LSD P=.05		9	6	9	8	ns	ns	16	17	11

<sup>1</sup> NIS = Class Preference nonionic surfactant.

<sup>2</sup> COC = Class Crop Oil Concentrate.

<sup>3</sup> AMS = Spray grade ammonium sulfate (lb/A).

<sup>4</sup> surf = Supercharge.

<sup>5</sup> adjuvant = Destiny.

**Table 2. Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2002 (Durgan, Cameron, Miller, and Martinson).**

Treatment	Rate (lb ai/A)	Wheat Injury					AVEFA Control			Wheat Yield (bu/A)
		6/4	6/18	6/27	7/3	7/9	6/27	7/3	7/9	
<b>Postemergence (May 30)</b>										
Bromoxynil + check	0.25	8	0	0	0	0	--	--	--	11
Imazamethabenz + NIS <sup>1</sup> + COC <sup>2</sup> + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	18	2	0	0	0	96	75	78	43
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	23	2	3	0	0	96	75	80	43
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	25	0	0	0	0	93	50	72	37
<b>Postemergence (June 4)</b>										
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	--	0	3	0	0	93	76	79	42
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	--	0	0	0	0	90	75	75	42
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	--	0	0	0	0	91	39	59	41
Flucarbazone + 2,4-D Ester + NIS	0.027 + 0.25 + 0.25%	--	0	5	3	2	96	90	86	42
Flucarbazone + 2,4-D Ester + NIS	0.020 + 0.25 + 0.25%	--	2	3	3	2	96	93	93	37
Flucarbazone + 2,4-D Ester + NIS	0.013 + 0.25 + 0.25%	--	0	5	7	0	96	78	86	41
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	--	0	0	0	0	96	99	99	48
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	--	0	3	3	0	96	90	96	42
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	--	0	0	0	0	96	96	86	46
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.186 + 0.5% + 0.25	--	0	0	0	0	96	98	87	45
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.135 + 0.5% + 0.25	--	0	0	0	0	96	98	95	34
Tralkoxydim + surf <sup>4</sup> + bromoxynil	0.190 + 0.5% + 0.25	--	0	0	0	0	96	70	77	41
<b>Postemergence (May 30) and (June 4)</b>										
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00225 + 0.0134 + 2.5%)	8	0	3	0	0	96	88	88	39
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00150 + 0.0100 + 2.5%)	13	0	3	0	0	96	83	81	42
(Bromoxynil) + (AE F130060 + AW F107892 + adjuvant <sup>5</sup> )	(0.25) + (0.00112 + 0.0067 + 2.5%)	10	2	0	0	0	96	90	90	41
LSD P=.05		4	ns	ns	ns	ns	ns	21	19	8

<sup>1</sup> NIS = Class Preference nonionic surfactant.

<sup>2</sup> COC = Class Crop Oil Concentrate.

<sup>3</sup> AMS = Spray grade ammonium sulfate (lb/A).

<sup>4</sup> surf = Supercharge.

<sup>5</sup> adjuvant = Destiny.