Wild oats control in hard red spring wheat and barley with reduced rates at Crookston, MN - 2000. Durgan, Beverly R., Jim Cameron and Douglas W. Miller. This experiment was designed to evaluate wild oat control with Assert (imazamethabenz), Puma (fenoxaprop & safener), Achieve (tralkoxydim), and Discover (clodinaop and safener) applied at a labeled rate and at two reduced rates. 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 29 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 oats control were visually rated on June 9, June 27, and July 3. Yields were measured. All data are presented in Tables 1 and 2 for barley and wheat, respectively.

Treatment Date	May 19	May 25
Target weed or crop stage	2-3 leaf Wheat	3-4 leaf Wheat
Herbicides applied	Assert	Puma, Achieve, Discover
Rainfall before Application		
Week 1 (inch)	002	0.21
Rainfall after Application		
Week 1 (inch)	0.21	0.39
Week 2 (inch)	0.43	0.05

Table 1. Wild oat control in barley with reduced rates at Crookston, MN - 2000 (Durgan, Cameron, and Miller).

Treatment	Rate	Barley Injury 6/9	Barley Injury 6/27	Wioa Control 6/9	Wioa Control 6/27	Barley Yield
	(lb ai/A)	%		%		Bu/A
Imazamethabenz + NIS[1] + COC[2] + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	0	5	47	85	32
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	0	0	47	81	42
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	0	0	43	58	31
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	0	7	57	92	41
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	0	5	50	80	39
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	0	5	43	65	27
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.18 + 0.5% + 1.5 + 0.25	0	18	68	95	39
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.135 + 0.5% + 1.5 + 0.25	0	17	50	96	40
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.09 + 0.5% + 1.5 + 0.25	0	10	60	96	39
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	0	23	63	96	40
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	0	23	60	98	41
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	0	15	60	95	39
Weedy check		0	0	--	--	11
LSD P=.05		ns	8	15	15	9

[1] NIS = Class Preference nonionic surfactant.
[2] COC = Class Crop Oil Concentrate.
[3] AMS = Spray grade ammonium sulfate (lb/A).

Table 2. Wild oat control in hard red spring wheat with reduced rates at Crookston, MN - 2000 (Durgan, Cameron, and Miller).

Treatment	Rate	Wheat Injury 6/9	Wheat Injury 6/27	Wioa Control 6/9	Wioa Control 6/27	Wheat Yield
	(lb ai/A)	%		%		Bu/A
Imazamethabenz + NIS[1] + COC[2] + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	0	0	47	78	25
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	0	0	47	73	30
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	0	0	43	58	26
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	0	0	57	92	33
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	0	0	50	80	33
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	0	0	43	65	26
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.18 + 0.5% + 1.5 + 0.25	0	0	68	95	34
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.135+ 0.5% + 1.5 + 0.25	0	0	50	96	36
Tralkoxydim + TF8035 COC + AMS[3] + bromoxynil	0.09 + 0.5% + 1.5 + 0.25	0	0	60	95	36
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	0	0	63	96	37
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	0	0	60	98	35
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	0	0	60	95	34
Weedy check		0	0	--	--	3
LSD P=.05		ns	ns	15	12	9

[1] NIS = Class Preference nonionic surfactant.
[2] COC = Class Crop Oil Concentrate.
[3] AMS = Spray grade ammonium sulfate (lb/A).