

Wild oat control in hard red spring wheat and barley with reduced rates at Crookston, MN - 2001. Durgan, Beverly R., Jim Cameron, Douglas W. Miller and Krishona Martinson. This experiment was designed to evaluate wild oat control with Assert (imazamethabenz), Discover (clodinaop and safener), and Puma (fenoxaprop & safener). applied at the 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 May 14 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. Wheat yields were measured. Barley yields were not measured due to heavy rainfall and subsequent stand damage. All data are presented in Tables 1 and 2 for barley and wheat, respectively.

Treatment Date	June 5	June 8
Target weed or crop stage	2-3 leaf Wioa	3-4 leaf Wioa
Herbicides applied	Assert	Puma, Discover
Wheat Stage		
leaf stage	2	3
height (inch)	6	7
tiller number	1	2
Barley Stage		
leaf stage	2	3
height (inch)	7	8
tiller number	1	2
Wioa		
leaf stage	3	3
height (inch)	6	6
density (#/ft ²)	5	5
Air Temperature (degrees F)	58	66
Humidity (%)	62	66
Wind	E, 5 mph	--
Cloud cover	cloudy	cloudy
Rainfall before Application		
Week 1 (inch)	0.49	0.17
Rainfall after Application		
Week 1 (inch)	0.28	0.56
Week 2 (inch)	0.73	0.43

Table 1. Wild oat control in barley with reduced rates at Crookston, MN - 2001 (Durgan, Cameron, Miller, and Martinson).

Treatment	Rate (lb ai/A)	Barley Injury			Wioa Control	
		6/21	7/9	7/22	79	7/22
		----- % -----				
Imazamethabenz + NIS ¹ + COC ² + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	3	0	0	98	95
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	3	0	0	92	90
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	3	0	0	92	89
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	3	0	0	100	100
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	2	0	0	96	96
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	7	0	0	93	93
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	30	15	15	100	100
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	13	0	0	98	98
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	25	0	0	95	95
Weedy check		0	0	0	--	--
LSD P=.05		22	6	6	4	5

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 - 2001 (Durgan, Cameron, Miller, and Martinson).

Treatment	Rate (lb ai/A)	Wheat Injury			Wioa Control		Wheat Yield (Bu/A)
		6/21	7/9	7/22	79	7/22	
		----- % -----					
Imazamethabenz + NIS ¹ + COC ² + bromoxynil	0.31 + 0.25% + 0.5% + 0.25	5	0	0	98	94	58
Imazamethabenz + NIS + COC + bromoxynil	0.23 + 0.25% + 0.5% + 0.25	5	0	0	92	90	64
Imazamethabenz + NIS + COC + bromoxynil	0.155 + 0.25% + 0.5% + 0.25	2	0	0	92	89	62
Fenoxaprop & safener + bromoxynil	0.084 + 0.25	5	0	0	100	100	61
Fenoxaprop & safener + bromoxynil	0.063 + 0.25	2	0	0	96	96	54
Fenoxaprop & safener + bromoxynil	0.041 + 0.25	0	0	0	93	93	62
Clodinafop & safener + DSV adjuvant + bromoxynil	0.05 + 0.8% + 0.25	0	3	0	100	100	63
Clodinafop & safener + DSV adjuvant + bromoxynil	0.0375 + 0.8% + 0.25	7	0	0	98	97	63
Clodinafop & safener + DSV adjuvant + bromoxynil	0.025 + 0.8% + 0.25	20	0	0	95	95	63
Weedy check		0	0	0	--	--	47
LSD P=.05		ns	3	ns	4	6	ns

¹ NIS = Class Preference nonionic surfactant.

² COC = Class Crop Oil Concentrate.

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