

General grass control in hard red spring wheat. Howatt, Kirk A., Gregory J. Endres, Erik D. Eriksmoen, and Neil R. Riveland Experiments were conducted to determine wild oat control with herbicides as single or split applications at four locations across North Dakota in 2000. Treatments were applied with CO₂ pressurized sprayers through 8001 flat fan nozzle Treatment area was 7 ft wide and extended the length of 10 by 25 to 30 ft plots. All experiments were in a randomized complete block design with four replicates per treatment. Wheat injury and weed control were visually estimated. Information for the various experiments was as follows:

Location	Fargo	Carrington	Hettinger	Williston
Wheat, hard red spring variety	Oxen	Russ	Kenne	Reeder
leaf no.	2, 3 to 4	3 to 3.5, 4.5	3, 4.5	3 to 3.5, 4
Date				
seeding	Apr 26	May 3	Apr 19	May 4
treatment	May 15, May 23	May 16, Jun 02	May 16, May 22	May 25, May 30
harvest	Aug 7	Aug 9	Aug 7	Aug 15
Temperature (F)				
air	65, 62	64, 64	58, 56	60, 65
Sprayer				
gpa	8.5	10.4	17	8.6
psi	35	35	40	30
Wild oat leaf no.	3, 5	3, 5	2, 4	2, 4

Wild oat density at Carrington was very low. This resulted in no yield difference even when weed control was poor. Split treatments consisted of two applications at one-third the single application rate. Less total herbicide was used to offset extra application costs of a second timing. No consistent relationship between single and split applications of graminicides was observed. Split applications generally provided control comparable to or better than single applications. No wheat injury was observed for experiments at Fargo, Hettinger, or Williston. At Carrington, 0 to 10 % wheat injury was observed for most treatments on June 16. Injury diminished through the season and was not visible on August 2. (Plant Sciences, North Dakota State University, Fargo).

Table 1. General grass control in hard red spring wheat (Howatt, Endres, Eriksmoen and Riveland).

Treatment ^A	Rate ^b	Fargo			Carrington	
		6/12	7/18	8/07	7/19	8/09
		AVEFA (%)	AVEFA (%)	Yield (bu/A)	AVEFA (%)	Yield (bu/A)
Diclofop+bromoxynil+PO	16+4.0+0.12G	18	40	29	94	33
Diclofop+PO/diclofop+ bromoxynil+PO	5.3+0.12G/5.3+ 4.0+0.12G	49	59	51	90	39
Imazamethabenz+ thif&trib+NIS	5.0+ 0.15&0.07+0.25%	46	35	29	76	28
Immb+NIS/ immb+thif&trib+NIS	1.7+0.25%/ 1.7+0.15&0.07+0.25%	48	59	42	78	36
Difenzoquat+thif&trib	12.0+0.15&0.07	48	48	30	64	31
Dife/dife+ thifensulfuron&tribenuron	4.0/4.0+ 0.15&0.07	25	35	24	66	34
Tralkoxydim+MSO+AMS+ brox&MCPA	2.9+0.5%+20.0+ 4.0&4.0	86	93	55	91	31
Tral+MSO+AMS/ tral+MSO+AMS+brox&MCPA	1.0+0.5%+20.0/ 1.0+0.5%+20.0+4.0&4.0	97	99	65	92	30
CGA-184927+POC+ bromoxynil&MCPA	0.8+0.8%+ 4.0&4.0	83	93	54	97	33
CGA-184927+POC/ CGA- 184927+POC+brox&MCPA	0.27+0.8%/0.27+ 0.8%+4.0&4.0	90	95	56	96	31
Fenoxaprop+ bromoxynil&MCPA	1.32+ 4.0&4.0	84	93	57	55	27
Fenx/fenx+brox&MCPA	0.44/0.44+4.0&4.0	68	78	51	88	31
MKH 6562+ bromoxynil& MCPA+NIS	0.42+ 4.0&4.0+0.25%	66	90	48	95	32
MKH 6562+thif&trib+2,4-D+NIS	0.42+0.15&0.07+4.0+0.25%	60	86	38	97	28
MKH 6562+NIS/ MKH 6562+ thif&trib+2,4-D+NIS	0.14+0.25%/0.14+ 0.15&0.07+4.0+0.25%	70	74	42	97	27
Untreated	0	0	0	11	0	27
C.V. %		14	12	17	11	19
LSD 5%		12	11	10	12	NS
# OF REPS		4	4	4	4	4

^a NIS was Activator 90 from Loveland Industries, Greeley, CO; POC is Score a petroleum oil concentrate in co-pac from Novartis, Greensboro, NC; MSO was Supercharge a methylated seed oil with conditioning agent in co-pac from Zeneca, Wilmington, DE; PO is a petroleum based crop oil; AMS is ammonium sulfate; and UAN is urea ammonium nitrate as a 28% nitrogen fertilizer.

^bG is gallons.

Table 2. General grass control in hard red spring wheat (Howatt, Endres, Eriksmoen and Riveland).

Treatment ^A	Rate ^b	Hettinger			Williston		
		6/19 AVEFA	7/10 AVEFA	8/7 Yield	6/18 AVEFA	7/12 AVEFA	8/15 Yield
Diclofop+bromoxynil+PO	16+4.0+0.12G	96	98	54	66	77	24
Diclofop+PO/diclofop+ brox+PO	5.3+0.12G/5.3+ 4.0+0.12G	97	98	54	65	83	21
Imazamethabenz+ thif&trib+NIS	5.0+ 0.15&0.07+0.25%	97	99	51	61	70	16
Immb+NIS/immb+ thif&trib+NIS	1.7+0.25%/1.7+ 0.15&0.07+0.25%	97	99	53	66	69	17
Difenzoquat+thif&trib	12+0.15&0.07	92	84	47	16	20	9
Dife/dife+ thifensulfuron&tribenuron	4.0/4.0+ 0.15&0.07	55	22	45	3	13	6
Tralkoxydim+MSO+AMS+ brox&MCPA	2.9+0.5%+20.0+ 4.0&4.0	99	91	53	86	83	26
Tral+MSO+AMS/ tral+ MSO+AMS+brox&MCPA	1.0+0.5%+20.0/1.0+ 0.5%+20.0+4.0&4.0	99	99	54	84	83	21
CGA-184927+POC+ bromoxynil&MCPA	0.8+0.8%+ 4.0&4.0	97	99	55	91	95	32
CGA-184927+POC/ CGA- 184927+POC+brox&MCPA	0.27+0.8%/0.27+ 0.8%+4.0&4.0	99	99	54	6	86	24
Fenoxaprop+ bromoxynil&MCPA	1.32+ 4.0&4.0	96	99	49	74	87	25
Fenx/fenx+brox&MCPA	0.44/0.44+4.0&4.0	98	98	52	53	70	18
MKH 6562+bromoxynil& MCPA+NIS	0.42+ 4.0&4.0+0.25%	97	99	52	93	93	23
MKH 6562+thif&trib+ 2,4-D+NIS	0.42+0.15&0.07+ 4.0+0.25%	98	99	53	93	93	25
MKH 6562+NIS/MKH 6562+ thif&trib+2,4-D+NIS	0.14+0.25%/0.14+ 0.15&0.07+4.0+0.25%	96	99	50	91	89	21
Untreated	0	0	0	38	0	0	7
C.V. %		12	10	5	18	10	25
LSD 5%		15	12	4	16	9	7
# OF REPS		4	4	4	4	4	4

^a NIS was Activator 90 from Loveland Industries, Greeley, CO; POC is Score a petroleum oil concentrate in co-pac from Novartis, Greensboro, NC; MSO was Supercharge a methylated seed oil with conditioning agent in co-pac from Zeneca, Wilmington, DE; PO is a petroleum based crop oil; AMS is ammonium sulfate; and UAN is urea ammonium nitrate as a 28% nitrogen fertilizer.

^bG is gallons.