Wild oat control with tralkoxydim and CGA-184927 in hard red spring wheat and barley at Crookston, MN - 1998. Durgan, Beverly R. and Jim Cameron. The objective of the this experiment was to evaluate wild oats control with tralkoxydim and CGA-184927 alone and in combination with several broadleaf herbicides. 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 'Stander' barley were seeded on April 28 at rates of 1.5 and and 1.75 Bu/A, respectively. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. The experimental design was a randomized complete block with three replications and plot size was 10 by 16 ft. Application date and environmental conditions are listed below. Crop injury was visually rated June 4, June 29, and July 9. Wioa control was visually rated on June 29 and July 9. Crop yield data were collected. All data are presented in Tables 1 and 2 for barley and wheat, respectively.

Treatment Date	May 20
Target weed or	3-4 lf wild oat
Soil Moisture	adaquate
Sky	clear
Wind	5 E
Air Temperature (°F)	73
Rainfall before Application	
Week 1 (inch)	3.08
Rainfall after Application	
Week 1 (inch)	0.00
Week 2 (inch)	0.29
Wioa density (#/ft^2)	>300

Tralkoxydim injury was observed in barley at the first two rating dates and slight injury was observed in wheat at the first rating date. All symptoms had disappeared by the final rating.

CGA-184927 caused injury (yellowing and stunting) to both barley and wheat at the early rating date. Barley was injured to a greater degree than wheat and may have resulted in reduced yields. These injury symptoms decreased by the second rating date except for the two treatments with dicamba as a tank mix ingredient. Most injury symptoms were not apparent by the last rating date.

All tralkoxydim tank mixes resulted in good to excellent wild oats control. Control was lower however, when applied without a broadleaf herbicide component, resulting in lower barley and wheat yields. The reason for the reduced control was not apparent.

Wild oats control with CGA-184927 was good to excellent except dicamba may have caused some antagonism which was observed by the later rating date. The addition of thifensulfuron & tribenuron with the dicamba resulted in even greater antagonism. The combination of injury and antagonism caused significantly lower barley yields. Wheat yields were not significantly affected.

The fenoxaprop treatments caused some early barley injury similar to tralkoxydim. Wild oats were controlled with the fenoxaprop treatments.

The imazamethabenz treatment resulted in poor wild oats control and significantly reduced barley and wheat yields. This was due in part to the extremely high populations of wild oats. Wild oat stage and the imazamethabenz rate were also a factor.

Table 1. Wild oat control with tralkoxydim and CGA-184927 in barley at Crookston, MN - 1998 (Durgan and Cameron).

Treatment	Rate	Barley Injury 6/4	Barley Injury 6/29	Barley Injury 7/9	Wioa Control 6/29	Wioa Control 7/9	Barley Yield
	(lb ai/A)	%	%	%	%	%	Bu/A
Tralkoxydim + TF8035 COC + AMS[1]	0.18 + 0.5% + 1.5	10	10	0	92	73	70
Tralkoxydim + TF8035 COC + AMS + bromoxynil & MCPA ester[2]	0.18 + 0.5% + 1.5 + 0.25 & 0.25	17	10	0	96	94	75
Tralkoxydim + TF8035 COC + AMS + bromoxynil	0.18 + 0.5% + 1.5 + 0.25	17	10	0	98	95	92
Tralkoxydim + TF8035 COC + AMS + MCPA ester	0.18 + 0.5% + 1.5 + 0.25	0	10	0	96	93	86
Tralkoxydim + TF8035 COC + AMS + 2,4-D butoxyethyl ester	0.18 + 0.5% + 1.5 + 0.25	10	10	0	96	94	84
Tralkoxydim + TF8035 COC + AMS + thifensulfuron & tribenuron[3] + MCPA ester	0.18 + 0.5% + 1.5 + 0.011 & 0.005 + 0.25	10	10	0	35	10	67
Imazamethabenz[4] + NIS[5] + COC[6]	0.31 + 0.25% + 2.5%	0	0	0	87	70	86
Fenoxaprop & safener[7]	0.104	17	7	0	99	97	90
CGA-184927 & safener + surf[8]	0.05 + 0.8%	37	10	0	98	98	75
CGA-184927 & safener + bromoxynil & MCPA ester + surf	0.05 + 0.25 & 0.25 + 0.8%	32	13	7	96	90	69
CGA-184927 & safener + dicamba + surf	0.05 + 0.094 0.8%	40	32	7	98	83	50
CGA-184927 & safener + thifensulfuron & tribenuron + surf	0.05 + 0.011 & 0.005 + 0.8%	32	12	0	98	95	69
CGA-184927 & safener + thifensulfuron & tribenuron + dicamba + surf	0.05 + 0.011 & 0.005 + 0.0625 + 0.8%	42	35	10	94	75	55
Fenoxaprop & safener + thifensulfuron & tribenuron + NIS	0.104 + 0.011 & 0.005 + 0.25%	13	7	0	99	94	79
Weedy check		0	0	0	--	--	43
LSD (P=.05)		11	9	ns	4	13	19

[1] AMS = Spray grade ammonium sulfate. Rate is pounds product per acre.
[2] Premix = Bronate 4E.
[3] Premix = Harmony Extra 75DF.
[4] Assert LC 2.5E.
[5] NIS = Class Preference nonionic surfactant.
[6] COC = Class Crop Oil Concentrate.
[7] HOE 1170.
[8] surf = Score.

Table 2. Wild oat control with tralkoxydim and CGA-184927 in hard red spring wheat at Crookston, MN - 1998 (Durgan and Cameron).

Treatment	Rate	Wheat Injury 6/4	Wheat Injury 6/29	Wheat Injury 7/9	Wioa Control 6/29	Wioa Control 7/9	Wheat Yield
	(lb ai/A)	%	%	%	%	%	Bu/A
Tralkoxydim + TF8035 COC + AMS[1]	0.18 + 0.5% + 1.5	7	0	0	90	75	37
Tralkoxydim + TF8035 COC + AMS + bromoxynil & MCPA ester[2]	0.18 + 0.5% + 1.5 + 0.25 & 0.25	7	3	0	94	95	51
Tralkoxydim + TF8035 COC + AMS + bromoxynil	0.18 + 0.5% + 1.5 + 0.25	7	0	0	96	95	57
Tralkoxydim + TF8035 COC + AMS + MCPA ester	0.18 + 0.5% + 1.5 + 0.25	0	0	0	94	91	54
Tralkoxydim + TF8035 COC + AMS + 2,4-D butoxyethyl ester	0.18 + 0.5% + 1.5 + 0.25	7	0	0	96	94	51
Tralkoxydim + TF8035 COC + AMS + thifensulfuron & tribenuron[3] + MCPA ester	0.18 + 0.5% + 1.5 + 0.011 & 0.005 + 0.25	7	0	0	27	7	33
Imazamethabenz[4]+ NIS[5] + COC[6]	0.31 + 0.25% + 2.5%	0	0	0	82	68	48
Fenoxaprop & safener[7]	0.104	10	0	0	98	97	50
CGA-184927 & safener + surf[8]	0.05 + 0.8%	13	0	0	98	98	53
CGA-184927 & safener + bromoxynil & MCPA ester + surf	0.05 + 0.25 & 0.25 + 0.8%	10	0	0	94	87	46
CGA-184927 & safener + dicamba + surf	0.05 + 0.094 + 0.8%	13	13	0	97	86	44
CGA-184927 & safener + thifensulfuron & tribenuron + surf	0.05 + 0.011 & 0.005 + 0.8%	10	0	0	98	95	59
CGA-184927 & safener + thifensulfuron & tribenuron + dicamba + surf	0.05 + 0.011 & 0.005 + 0.0625 + 0.8%	13	10	0	94	78	50
Fenoxaprop & safener + thifensulfuron & tribenuron + NIS	0.104 + 0.011 & 0.005 + 0.25%	7	3	0	98	93	47
Weedy check		0	0	0	--	--	21
LSD (P=.05)		8	4	ns	5	12	12

[1] AMS = Spray grade ammonium sulfate. Rate is pounds product per acre.
[2] Premix = Bronate 4E.
[3] Premix = Harmony Extra 75DF.
[4] Assert LC 2.5E.
[5] NIS = Class Preference nonionic surfactant.
[6] COC = Class Crop Oil Concentrate.
[7] HOE 1170.
[8] surf = Score.