

Grass weed control in HRS wheat, Carrington, 2006. (Greg Endres and Kirk Howatt)

The experiment was conducted on a Heimdahl loam soil with 6.9 pH and 3.3% organic matter at the NDSU Carrington Research Extension Center. The experimental design was a randomized complete block with three replicates. 'Alsen' HRS wheat was direct-seeded into oat stubble on April 27. Herbicide treatments were applied with a CO₂-hand-boom plot sprayer delivering 10 gal/A at 35 psi through 8001 flat fan nozzles to the center 6.7 ft of 10 by 25 ft plots. Treatments were applied on June 1 with 81 F, 21% RH, 80% clear sky, and 12 mph wind to 5-leaf wheat and 2- to 5-leaf yellow and green foxtail, and 5-leaf barnyardgrass. Average wheat density in untreated plots on June 1 was 17 plants/ft² and grass weed density was 21 plants/ft². The trial was harvested with a plot combine on August 1.

Table. Grass weed control in HRS wheat, Carrington, 2006.

Herbicide	oz ai/A	Grass control				Wheat		Seed yield	Test weight
		6/16	7/8		Injury	7/18			
Treatment		Fxtl ¹	Fxtl	Bygr	Foba	6/16	7/18	bu/A	lb/bu
		%							
Mesosulfuron+Brox&MCPA5+Basic Blend	0.036+8+1%	96	20	0	27	3	0	47.1	57.4
Flucarbazone+Brox&MCPA5+Basic Blend	0.32+8+1%	85	98	80	70	8	0	45.7	57.7
Prcz&Mess+Brox&MCPA5+Basic Blend	0.178+8+1%	80	23	97	82	3	0	41.1	57.1
Immb+Brox&MCPA5+MSO	5+8+0.19G	40	0	7	0	13	0	41.2	57.8
Tral+Brox&MCPA5+Supercharge+AMS	2.9+8+0.5%+9.5	75	75	27	0	0	0	44.5	58.3
Fenoxaprop+Brox&MCPA5	0.8+8	78	96	83	0	0	0	46.1	58.1
Fenoxaprop+Brox&MCPA5	1.32+8	95	96	94	0	0	0	49.2	58.0
Clodinafop-ng+Brox&MCPA5	0.8+8	93.7	90	96	0	0	0	48.1	58.0
Pinoxaden+Brox&MCPA5+Adigor	0.86+8+0.075G	92.7	83	92	0	0	0	40.7	57.8
Difenzoquat+Brox&MCPA5	16+8	40	0	0	0	60	23	26.9	53.8
Untreated check	0	0	0	0	0	0	0	34.2	55.9
C.V. (%)		7	13	10	23	42	41	10	2
LSD (0.05)		9	11	9	6	6	1	7.4	1.7

¹Fxtl= Yellow and green foxtail.

Foxtail and barnyardgrass control was 90-96% and wheat yield was over 48 bu/A with Fenoxaprop at 1.32 oz ai/A and clodinafop. Propoxycarbazone+mesosulfuron provided 82% foxtail barley control. Difenzoquat did not control weeds and severely injured 'Alsen' wheat, resulting in similar wheat yield and reduced test weight compared to the untreated check.