

Foxtail control in hard red spring wheat with MKH 6562 at Rosemount, MN - 1998.

Durgan, Beverly R. and Douglas Miller. The purpose of this experiment was to evaluate antagonism of foxtail control and crop injury with MKH 6562 and various tank mixes. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil. Following soybeans, the experimental area was fall chisel plowed. In the spring, the area was fertilized with 50 lbs/A N and 70 lbs/A K, then was disked once, field cultivated once, and harrowed twice. 'Butte 86' hard red spring wheat was seeded on April 23 at 85 lbs/A. The experimental design was a randomized complete block with three replications and plot size was 10 by 25 ft. All herbicide treatments were applied to a 6 ft strip with a backpack type sprayer delivering 10 gpa at 35 psi using 11001 flat-fan nozzles. Bromoxynil (0.375 lb ai/A) was applied postemergence to control broadleaf weeds. Visual foxtail control, visual wheat injury ratings, and yields are presented in the table. Environmental conditions, plant sizes, and densities are listed below.

Treatment Date	May 18
Time	7:00-7:45 am
Target weed or crop stage	3-5 leaf foxtail
Temperature (°F)	
air	66
soil (at 2")	59
Soil Moisture	moist at 0.25"
Wind (mph)	4-7 S
Sky	hazy
Relative Humidity (%)	humid
Rainfall before Application	
Week 1 (inch)	2.39
Rainfall after Application	
Week 1 (inch)	0.57
Week 2 (inch)	1.12

Wheat		Giant foxtail	
leaf stage	3-4	density (#/ft ²)	8
tillers	1-3	leaf no.	2-5 (mostly 4)
height (inch)	5-7	height (inch)	1-3

Foxtail control with MKH 6562 was slightly greater when 28%N was included with surfactant or when crop oil concentrate replaced surfactant, however the differences were not significant. 2,4-D ester caused some antagonism of foxtail control compared to MKH 6562 alone or with the other tank mixes, again the differences were not significant. The HOE 1170 treatment resulted in the best foxtail control over all treatments. The imazamethabenz treatment resulted in poor foxtail control. Slight injury (yellowing and stunting) was observed with all the MKH 6562 treatments. Poor wheat seed quality caused a reduced wheat stand and consequently, overall wheat yields were low. No treatment effects could be associated to wheat yield results.

Table. Foxtail control in hard red spring wheat with MKH 6562 at Rosemount, MN -1998 (Durgan and Miller).

Treatment	Rate (lb ai/A)	Wheat				Yield Bu/A
		Foxtail Control		Injury		
		5/27	6/13	5/27	6/13	
MKH 6562 + NIS ¹	0.027 + 0.25%	90	85	10	10	15
MKH 6562 + NIS + 28%N	0.027 + 0.25% + 5%	94	90	10	10	18
MKH 6562 + COC	0.027 + 2.5%	94	90	10	10	13
MKH 6562 + 2,4-D diethylamine + NIS	0.027 + 0.5 + 0.25%	82	88	10	10	14
MKH 6562 + 2,4-D butoxyethyl ester + NIS	0.027 + 0.5 + 0.25%	83	83	10	10	18
MKH 6562 + thifensulfuron & tribenuron + NIS	0.027 + 0.011 & 0.005 + 0.25%	86	87	10	10	15
MKH 6562 + thifensulfuron & tribenuron ² + 2,4-D butoxyethyl ester + NIS	0.027 + 0.011 & 0.005 + 0.25 + 0.25%	92	91	10	10	11
MKH 6562 + bromoxynil + MCPA ester	0.027 + 0.25 + 0.25	96	91	10	10	14
MKH 6562 + bromoxynil & MCPA ester ⁶ + NIS	0.027 + 0.25 & 0.25 + 0.25%	96	90	10	10	12
Imazamethabenz ³ + NIS + COC ⁴	0.31 + 0.25% + 2.5%	50	28	0	7	14
Fenoxaprop & safener ⁵	0.104	99	99	3	3	16
Tralkoxydim + TF8035 COC + AMS ⁷	0.18 + 0.5% + 1.5	90	91	0	3	10
Weedy check		--	--	0	0	8
Weedy check		--	--	0	0	12
Weedy check		--	--	0	0	7
LSD (P=.05)		13	8	2	6	ns

¹ NIS = Class Preference nonionic surfactant.

² Premix = Harmony Extra 75DF.

³ Assent LC 2.5E.

⁴ COC = Class Crop Oil Concentrate.

⁵ HOE 1170

⁶ Premix = Bronate 4E.

⁷ AMS = Spray grade ammonium sulfate. Rate is pounds per acre.