

Broadleaf weed control in hard red spring wheat with carfentrazone-ethyl at Rosemount, MN - 2001. Durgan, Beverly R., Douglas Miller, and Krishona Martinson. The purpose of this experiment was to evaluate broadleaf weed control and crop injury with carfentrazone-ethyl and various tank mixes in hard red spring wheat. 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 K. The field was disked once, field cultivated once, and harrowed twice. '2375' hard red spring wheat was seeded on April 30 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. Visual weed control ratings, wheat injury ratings, and yields are presented in the table. Environmental conditions and plant sizes are listed below.

Treatment Date June 8
 Target weed or 3-4 leaf wheat
 crop stage

Temperature (degrees F)
 air 61
 soil (at 2") 58
 Soil Moisture moist
 Wind (mph) calm
 Relative Humidity (%) 83
 Dewpoint (%) 56
 Sky clear
 Rainfall before
 Application
 Week 1 (inch) 0.99
 Rainfall after
 Application
 Week 1 (inch) 2.89
 Week 2 (inch) 0.46

Wheat		Redroot pigweed	
leaf stage	6	height (inch)	0.1-3
tillers	2-3	density (#/ft ²)	111
height (inch)	12-14	Velvetleaf	
Common Lambsquarters		height (inch)	1-2
height (inch)	0.5-1.5	density (#/ft ²)	0.5
density (#/ft ²)	5	Wild Buckwheat	
Common Ragweed		height (inch)	1.5-3
height (inch)	1.5-2	density (#/ft ²)	1
density (#/ft ²)	1		
Eastern Black Nightshade			
height (inch)	0.5-1.25		
density (#/ft ²)	3		

Early spring moisture and temperature conditions were optimal for wheat growth and development. Weed sizes were small at the time of treatment application. The result was excellent weed control for all weed species due to herbicide efficacy and good crop competition.

Table. Broadleaf weed control in hard red spring wheat with Aim at Rosemount, MN - 2001 (Durgan, Miller, and Martinson).

Treatment	Rate (lb ai/A)	Weed control (6/19)			Wheat				Yield Bu/A
		Corw	Rrpw	Wibu	Injury				
					6/13	6/19	6/25	7/5	
Carfentrazone-ethyl + NIS ¹	0.008 + 0.25%	65	48	92	7	0	0	2	63
Carfentrazone-ethyl + NIS + 2,4-D ester	0.008 + 0.25% + 0.375	100	100	100	7	3	2	0	62
Carfentrazone-ethyl + NIS + MCPA ester	0.008 + 0.25% + 0.375	100	92	98	10	7	0	3	59
Carfentrazone-ethyl + NIS + 2,4-D ester + dicamba	0.008 + 0.25% + 0.25 + 0.0625	97	97	98	10	3	22	22	53
Carfentrazone-ethyl + NIS + 2,4-D ester + dicamba	0.008 + 0.25% + 0.25 + 0.094	100	100	100	13	13	30	25	52
Carfentrazone-ethyl + NIS + 2,4-D ester + fluroxypyr	0.008 + 0.25% + 0.375 + 0.125	100	100	100	5	0	0	2	56
Carfentrazone-ethyl + NIS + 2,4-D ester + fluroxypyr	0.008 + 0.25% + 0.375 + 0.094	97	97	100	7	2	0	2	57
Carfentrazone-ethyl + NIS + fluroxypyr & 2,4-D ester ²	0.008 + 0.25% + 0.09 & 0.38	100	92	100	8	3	0	2	56
Carfentrazone-ethyl + NIS + fluroxypyr & MCPA ester ³	0.008 + 0.25% + 0.09 & 0.38	100	100	98	10	3	2	0	54
Carfentrazone-ethyl + NIS + 2,4-D ester + thifensulfuron	0.008 + 0.25% + 0.375 + 0.014	100	100	100	8	3	0	3	56
Carfentrazone-ethyl + NIS + 2,4-D ester + thifensulfuron & tribenuron ⁴	0.008 + 0.25% + 0.375 + 0.009 & 0.005	98	98	99	8	2	0	5	56
Carfentrazone-ethyl + NIS + bromoxynil & MCPA	0.008 + 0.25% + 0.25 & 0.25	97	100	100	5	0	0	0	59
Carfentrazone-ethyl + NIS + bromoxynil & MCPA + thifensulfuron	0.008 + 0.25% + 0.25 & 0.25 + 0.014	99	100	100	7	0	0	3	58
Thifensulfuron + MCPA ester + NIS	0.014 + 0.25 + 0.25%	88	97	97	2	2	0	2	57
Bromoxynil & MCPA ⁵	0.25 & 0.25	100	92	92	7	3	0	3	53
Thifensulfuron & tribenuron + MCPA ester + NIS	0.009 & 0.005 + 0.25 + 0.25%	92	92	100	8	3	2	0	58
Fluroxypyr & 2,4-D ester	0.09 & 0.38	100	92	100	5	2	0	0	60
Fluroxypyr & MCPA ester	0.09 & 0.35	93	93	98	7	2	0	3	60
Weedy check		--	--	--	0	0	0	0	59
Weedy check		--	--	--	0	0	0	0	61
LSD (P=.05)		14	14	ns	5	4	2	5	5

¹ NIS = Class Preference nonionic surfactant.

² Premix = Starane + Salvo 3.75E.

³ Premix = Starane + Sword 3.55E

⁴ Premix = Harmony Extra 75DF.

⁵ Premix = Bronate 4E