Broadleaf weed control in hard red spring wheat with carfentrazone-ethyl at Rosemount, MN - 1999. Durgan, Beverly R. and Douglas Miller. 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. '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. Visual weed control ratings, wheat injury ratings, and yields are presented in the tables. Environmental conditions and plant sizes are listed below.

Treatment Date	June 2
Target weed or crop stage	2-4" weeds
Temperature (EF)	
air	60
soil (at 2")	67
Soil Moisture	moist at 0.5"
Wind (mph)	calm
Relative Humidity (%)	59
Sky	clear
Rainfall before Application	
Week 1 (inch)	0.22
Rainfall after Application	
Week 1 (inch)	0.81
Week 2 (inch)	1.63

Wheat		**Pennsylvania smartweed**	
leaf stage	6	density (#/ft^2)	32
tillers	3	leaf no.	2-8
height (inch)	7-10	height (inch)	1.5-4
Common lambsquarters		**Redroot pigweed**	
density (#/ft^2)	variable	density (#/ft^2)	variable
leaf no.	4-10	leaf no.	--
height (inch)	1-4	height (inch)	1-2
Common Ragweed		**Wild Mustard**	
density (#/ft^2)	variable	density (#/ft^2)	19
leaf no.	4-8	leaf no.	--
height (inch)	2-5	diameter (inch)	5-9
Eastern black nightshade		**Wild Buckwheat**	
density (#/ft^2)	20	density (#/ft^2)	2
leaf no.	2-4	leaf no.	2-8
height (inch)	0.75-2	height (inch)	2-4

Table. Broadleaf weed control in hard red spring wheat with carfentrazone-ethyl at Rosemount, MN - 1999 (Durgan and Miller).

		Weed Control				Wheat			
		Wimu		Pesw/Wibu		Injury			
Treatment	Rate	6/24	7/10	6/24	7/10	6/12	6/24	7/10	Yield
	(lb ai/A)	%							Bu/A
Carfentrazone-ethyl + NIS[1] + 28%N[2]	0.008 + 0.25% + 4%	45	47	55	60	27	10	10	26
Carfentrazone-ethyl + NIS + 28%N + MCPA ester	0.008 + 0.25% + 4% + 0.75	96	96	85	92	27	18	10	29
Carfentrazone-ethyl + NIS + 28%N + MCPA ester	0.008 + 0.25% + 4% + 0.5	96	92	60	67	25	20	10	30
Carfentrazone-ethyl + NIS + 28%N + dicamba	0.008 + 0.25% + 4% + 0.094	80	80	53	58	32	17	10	29
Carfentrazone-ethyl + NIS + 28%N + dicamba + MCPA ester	0.008 + 0.25% + 4% + 0.094 + 0.375	95	93	70	67	33	18	10	27
Carfentrazone-ethyl + NIS + fluroxypyr + MCPA ester	0.008 + 0.25% + 0.125 + 0.5	96	96	85	83	23	17	10	34
Carfentrazone-ethyl + NIS + fluroxypyr + MCPA ester	0.008 + 0.25% + 0.06 + 0.25	83	83	80	78	23	12	10	31
Carfentrazone-ethyl + NIS + fluroxypyr + 2,4-D ester	0.008 + 0.25% + 0.125 + 0.5	96	95	80	93	27	20	10	29
Carfentrazone-ethyl + NIS + fluroxypyr + 2,4-D ester	0.008 + 0.25% + 0.06 + 0.25	93	93	70	76	23	10	10	33
Fluroxypyr + MCPA ester	0.125 + 0.5	80	82	70	72	3	3	10	32
Fluroxypyr + 2,4-D ester	0.125 + 0.5	93	90	67	73	10	12	10	32
Bromoxynil	0.25	82	82	82	82	0	3	7	29
Dicamba + MCPA ester	0.094 + 0.375	87	90	87	90	17	20	13	31
Thifensulfuron & tribenuron + MCPA ester + NIS	0.009 & 0.005 + 0.375 + 0.25%	86	88	73	81	0	3	3	31
Bromoxynil & MCPA[4]	0.25 & 0.25	95	90	85	70	0	5	7	30
Weedy check		--	--	--	--	0	0	0	23
Weedy check		--	--	--	--	0	0	0	22
Weedy check		--	--	--	--	0	0	0	20
LSD (P=.05)		25	23	ns	ns	7	8	4	4

[1] NIS = Class Preference nonionic surfactant.
[2] 28%N = 28% UAN fertilizer solution.
[3] Premix = Harmony Extra 75DF.
[4] Premix = Bronate 4E.