

Broadleaf weed control with 2,4-D formulations in spring wheat at Rosemount, MN - 2014. Durgan, Beverly R., Douglas W. Miller, and Bradley Kinkaid. This experiment was designed to evaluate broadleaf weed control and wheat injury with broadleaf herbicides applied to tillering wheat. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil with pH 6.7 and 4.1% organic matter. Soil test for P and K were 22 lbs/A and 286 lbs/A, respectively. Following soybeans, the experimental area was fall chisel plowed. On May 5, the area was fertilized with 70 lbs/A N, 25 lbs/A P, and 50 lbs/A K and field cultivated twice. 'RB-07' hard red spring wheat was seeded with a 12 foot wide drill at 115 lbs/A on May 6. The experimental design was a randomized complete block with three replications. Plot size was 10 by 24 ft. All herbicide treatments were applied to a 6 foot strip with a backpack type CO₂ powered sprayer delivering 10 gpa at 35 psi using 11001 flat fan nozzles with 18 inch spacing. Puma (fenoxaprop & safener) at 0.66 pt/A was broadcast on May 30 to control grass species. Application data and environmental conditions are listed below. Weed control and wheat injury were visually rated. Yields were determined by harvesting a 5 X 24 foot strip in the treated area with a small plot combine. Data is summarized in the Table below.

Treatment Date	June 13
Air Temperature (°F)	62
Relative humidity (%)	60
Dewpoint (°F)	48
Soil Temperature (°F)	not recorded
Soil Moisture	moist at 0.75"
Sky	clear
Wind	variable 0-2 mph
Rainfall before application	
Week 1 (inch)	1.27
Rainfall after application	
Week 1 (inch)	5.88
Week 2 (inch)	0.20
Common Ragweed (Corw)	
height (inch)	1.5-6 (most 2-3)
density (#/ft ²)	10
Pennsylvania Smartweed (Pesw)	
height (inch)	1-2
density (#/ft ²)	34
Wheat	
height (inch)	10-12
leaf stage	5.9-6.1 (Zadoks Z16, Z22)
tiller #	2

No significant differences in weed control efficacy were observed. Control of common ragweed ranged from fair to good. Pennsylvania smartweed control was general only fair. Injury was noted at both rating dates and was characterized as a shortening and thinning of the wheat. There was no significant yield differences between treatments.

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Treatment	Rate (Product/A)	Weed Control				Wheat		Yield (bu/A)
		Common Ragweed		Pennsylvania Smartweed		Injury		
		7/3	8/3	7/3	8/3	7/3	8/3	
		(%)	(%)	(%)	(%)	(%)	(%)	
WFS 2,4-D Amine 4	1 pt	82	80	73	68	2	0	30
AGH 14001	1 pt	87	87	82	78	3	0	30
AGH 14002	1 pt	85	82	80	78	5	0	27
AGH 09008	1 pt	90	90	82	77	10	8	22
AGH 09008 + AG 8050	1 pt + 6.4 oz	92	90	82	78	10	8	28
AGH 09008 + AG 13040	1 pt + 3.2 oz	90	90	82	77	3	0	30
AGH 09008 + AG 14012	1 pt + 6.4 oz	90	87	85	83	7	2	29
AGH 09008 + AG 14013	1 pt + 6.4 oz	92	90	83	80	5	0	29
AGH 09008 + AG 13064	1 pt + 4 oz	87	85	80	75	5	0	33
Weedy Check	--	--	--	--	--	--	--	25
LSD (0.05)		ns	ns	ns	ns	5	3	ns

WFS 2,4-D Amine 4L.

AGH 14001 = experimental from Winfield Solutions.

AGH 14002 = experimental from Winfield Solutions.

AGH 09008 = experimental from Winfield Solutions.

AG 8050 = experimental adjuvant from Winfield Solutions.

AG 13040 = experimental adjuvant from Winfield Solutions.

AG 14012 = experimental adjuvant from Winfield Solutions.

AG 14013 = experimental adjuvant from Winfield Solutions.

AG 13064 = experimental adjuvant from Winfield Solutions.