

**Broadleaf weed control with 2,4-D formulations in spring wheat at Rosemount, MN - 2015.** Durgan, Beverly R., Douglas W. Miller, and Bradley Kinkaid. This experiment was designed to evaluate broadleaf weed control and wheat injury with several 2,4-D formulations applied to tillering wheat. The experiment was conducted at Rosemount, MN on a Waukegon silt loam soil with pH 6.2 and 4.5% organic matter. Soil test for P and K were 20 lbs/A and 180 lbs/A, respectively. Following soybeans, the experimental area was fall chisel plowed. On April 15, the area was fertilized with 70 lbs/A N, 60 lbs/A P, and 60 lbs/A K and field cultivated twice. 'Linkert' hard red spring wheat was seeded with a 12 foot wide drill at 115 lbs/A on April 16. 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 CO<sub>2</sub> powered sprayer delivering 10 gpa at 35 psi using 11001 flat fan nozzles with 18 inch spacing. 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.

<b>Treatment Date</b>	<b>June 1</b>
Air Temperature (°F)	57
Relative humidity (%)	52
Dewpoint (°F)	40
Soil Temperature (°F)	62
Soil Moisture	moist
Sky	15% clouds
Wind	SE 2-6 mph
Rainfall before application	
Week 1 (inch)	1.45
Rainfall after application	
Week 1 (inch)	1.70
Week 2 (inch)	0.60
<b>Common lambsquarters (Colq)</b>	
leaf stage	4-10
height (inch)	2-6
density (#/ft <sup>2</sup> )	0.7
<b>Pennsylvania Smartweed (Pesw)</b>	
leaf stage	1-7
height (inch)	1-5
density (#/ft <sup>2</sup> )	60
<b>Wild Buckwheat (Wibu)</b>	
leaf stage	--
height (inch)	3-5
density (#/ft <sup>2</sup> )	scattered
<b>Wild Mustard (Wimu)</b>	
density (#/ft <sup>2</sup> )	scattered
<b>Wheat</b>	
height (inch)	6-9
leaf stage	3.5 – 4.1 (Zadoks Z14, Z21-22)
tiller #	1-2

## Results

No significant differences in weed control or wheat yield were observed between treatments.

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Treatment	Rate (Product/A)	Weed Control								Wheat	
		Common		Pennsylvania		Wild		Wild		Injury	Yield
		Lambsquarters		Smartweed		Buckwheat		Mustard			
		6/23	7/1	6/23	7/1	6/23	7/1	6/23	7/1	6/2	(Bu/A)
AGH 08032	1.5 pt	99	99	96	90	98	92	99	99	0	48
AGH 15005	1.5 pt	99	98	92	87	95	90	99	98	0	50
AGH 08032 + Preference + Interlock	1.5 pt + 3.2 oz + 4 oz	99	99	95	96	99	93	99	99	0	50
AGH 15005 + Preference + Interlock	1.5 pt + 3.2 oz + 4 oz	99	99	98	90	99	92	99	99	0	49
AGH 08032 + AG 14039	1.5 pt + 0.5 pt	99	99	97	99	97	99	99	99	0	50
AGH 15005 + AG 14039	1.5 pt + 0.5 pt	99	98	88	90	94	90	99	98	0	48
AGH 15004	1.5 pt	99	99	93	88	98	90	99	99	0	49
Huskie + N-Pak AMS	13.5 oz + 1.18 pt	99	99	96	93	98	94	99	99	0	54
Widematch + MCPA Ester	1 pt + 0.5 pt	99	99	99	95	99	95	99	99	0	53
Affinity Tankmix + Preference	0.6 oz + 3.2 oz	99	99	91	87	94	88	99	99	0	48
Weedy Check	--	--	--	--	--	--	--	--	--	--	50
LSD (0.05)		ns	ns	ns	ns	ns	ns	ns	ns	ns	ns

AGH 08032 = experimental from Winfield Solutions.

AGH 1505 = experimental from Winfield Solutions.

Preference = nonionic surfactant.

Interlock = drift control agent.

AG 14039 = experimental adjuvant from Winfield Solutions.

Huskie 2.08 EC = pyrasulfotole (0.23 lb ai/gal) & bromoxynil 1.85 lb ai/gal) & safener.

N-Pak AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).

Widematch 1.5E = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal).

MCPA Ester 4E.

Affinity Tankmix 50SG = thifensulfuron (40%) & tribenuron (10%).