

## Evaluation of NUP 17063, dichlorprop-p, for the control of common lambsquarters in spring wheat

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A study was established at the S&E Barr Ranch Inc. near Edwall, WA to evaluate NUP 17063 for crop safety and common lambsquarters control in spring wheat. The active ingredient in NUP 17063 is dichlorprop-p (Group 4). Other Group 4 herbicides include 2,4-D, MCPA and dicamba, to list a few. Dichlorprop-p has looked promising for the control of glyphosate-resistant kochia and other broadleaf weeds in wheat grown in the Great Plains and we wanted to evaluate its effectiveness in Washington.



‘WestBred 6121’ was direct seeded at 90 lb seed/A on April 29<sup>th</sup>. Soil at this site is a Broadaxe silt loam. Treatments were applied on June 10<sup>th</sup> when the growth stage of the spring wheat was predominantly first node detected and plants were at an average height of 14 inches. Treatments were applied with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 50 psi at 2.3 mph. The air temperature was 82°F, relative humidity was 25% and the wind was out of the west at 6 mph.

Crop injury was not observed where NUP 17063 or Rhonox MCPA were applied alone. Crop injury was not noted until 14 days after treatment on the June 24<sup>th</sup> rating date. The crop injury appears to be related to the Maestro 2EC (bromoxynil), which appeared as mottled chlorosis and in some cases necrotic lesions on the newly emerged leaves at the time of application. The addition of NUP 17063 or Rhonox MCPA to Maestro 2EC did not increase crop injury when compared to Maestro 2EC applications alone. NUP 17063 applied at 8, 12 or 16 fl oz/A provided a low level of common lambsquarters control, which was similar to Rhonox MCPA at 9 fl oz/A. The main stems of the common lambsquarters were twisted, height was reduced, but the stems and leaves remained green of the plants treated with NUP 17063 and Rhonox MCPA. Maestro 2EC was the main driver of common lambsquarters control, regardless of rate. Maestro 2EC at 16 fl oz/A combined with either NUP 17063 or NUP 17063 + Rhonox MCPA, provided the same level of control as Maestro 2EC applied alone at 16 fl oz/A. NUP 17063 is safe to use on wheat in the Pacific Northwest, with no crop injury observed and no yield reduction. NUP 17063 did not provide commercially acceptable control of common lambsquarters, whereas Maestro 2EC did.

		6/24/19	7/8/19	6/24/19	7/8/19	9/3/19
				Common		
Treatment <sup>1</sup>	Rate	Crop injury		lambquarters control		Yield
	fl oz/A	-----0 to 100%-----		-----0 to 100%-----		bu/A
Nontreated check	--	--	--	--	--	48 a
NUP 17063	8	0 a <sup>2</sup>	0 a	50 b	53 b	62 a
NUP 17063	12	0 a	0 a	55 b	58 b	53 a
NUP 17063	16	0 a	0 a	50 b	58 b	64 a
Maestro 2EC	16	3 ab	2 ab	89 a	100 a	55 a
Maestro 2EC	24	7 cd	6 b	88 a	100 a	68 a
RhonoxMCPA	9	0 a	0 a	48 b	58 a	76 a
NUP 17063 + Maestro 2EC + RhonoxMCPA	16 + 16 + 9	9 d	4 ab	86 a	100 a	59 a
NUP 17063 + Maestro 2EC + RhonoxMCPA	16 + 16 + 4.5	8 cd	5 b	91 a	100 a	56 a
NUP 17063 + Maestro 2EC + RhonoxMCPA	12 + 16 + 9	5 bc	4 ab	89 a	100 a	48 a
NUP 17063 + Maestro 2EC	16 + 16	10 d	5 b	85 a	100 a	60 a
NUP 17063 + Maestro 2EC	12 + 24	10 d	3 ab	89 a	100 a	63 a
NUP 17063 + Maestro 2EC	16 + 24	8 cd	4 ab	91 a	100 a	69 a

<sup>1</sup> Herbicide treatments were tankmixed with NIS 0.25% v/v and applied on June 10<sup>th</sup>.

<sup>2</sup> Means, based on four replicates, within a column, followed by the same letter are not significantly different at P = 0.05 as determined by Fisher's protected LSD test, which means that we are not confident that the difference is the result of treatment rather than experimental error or random variation associated with the experiment.

## Disclaimer

**Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to \$7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.**