

Evaluation of BAS 85101H in tank mix combination with glyphosate for Russian-thistle control in chemical fallow

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A field study was conducted at the Lind Dryland Research Center near Lind, WA to assess BAS 85101H alone and in tank mix combinations with glyphosate for the control of Russian-thistle in chemical fallow. BAS 85101H is an herbicide in development by BASF Corporation.



The soil at this site is a Ritzville silt loam with 1.3% organic matter and a pH of 5.6. The field was previously in winter wheat. The Russian-thistle population was uniform across the trial area but was at a low level of 12 plants per square yard. The plants ranged from 6 to 16 inches in diameter (mean = 9.0 inches) and a height that ranged from 2.5 to 10 inches (mean = 6.0 inches). Treatments were applied on June 30, 2022, with a CO₂-powered backpack sprayer set to deliver 10 gpa at 47 psi at 2.3 mph. The applications were made at an air temperature of 86°F and relative humidity of 21%, and winds were out of the south at 8 mph.

The station received 1.73 inches of rain in June (average = 0.78 inches), and 0.35 inches in July (average = 0.28 inches) following the herbicide applications. Air temperatures were not significantly different from the normal for this time. RoundUp PowerMax applied at either 16 or 22 fl oz/a did not control Russian-thistle (Table). BAS 85101H, Sharpen and Reviton all showed quick acting burndown on Russian-thistle 7 days after treatment (DAT). Fourteen DAT, it was evident that Russian-thistle plants were recovering in the Sharpen- and Reviton-treated plots. This trend continued with these two treatments up to the final rating 27 DAT. BAS 85101H provided nearly complete control of Russian-thistle through the final rating 27 DAT. The addition of RoundUp PowerMax at either rate, did not significantly change the level of Russian-thistle control provided by BAS 85101H, Sharpen or Reviton as stand-alone treatments. With the above-average precipitation preceding the study, it was thought that the Russian-thistle plants were not under significant drought stress and that glyphosate would provide acceptable control. It may have been that the glyphosate rates chosen in the study were too low to provide control. BAS 85101H really stood out in this study. Our hope is that this product will be brought to the market and provide another herbicide other than glyphosate or paraquat that will offer excellent control of Russian-thistle.

			7/7	7/14	7/21	7/27
			7 DAT	14 DAT	21 DAT	27 DAT
Trt #	Treatment ¹	Rate	Russian-thistle control			
		fl oz/A	-----%-----			
1	Nontreated check	--	--	--	--	--
2	RoundUp PowerMax + AMS	16 + 8.5 lb/100 gal	20 c ²	40 e	23 e	5 d
3	RoundUp PowerMax + AMS	22 + 8.5 lb/100 gal	20 c	40 e	23 e	10 d
4	Sharpen	1.0	98 a	81 bc	68 bc	58 b
5	BAS 85101H	1.4	100 a	100 a	96 a	95 a
6	Reviton	1.0	93 b	78 cd	63 cd	53 bc
7	RoundUp PowerMax + Sharpen	16 + 1.0	89 b	68 d	50 d	33 c
8	RoundUp PowerMax + BAS 85101H	16 + 1.4	100 a	100 a	99 a	95 a
9	RoundUp PowerMax + Reviton	16 + 1.0	99 a	85 bc	70 bc	53 bc
10	RoundUp PowerMax + Sharpen	22 + 1.0	93 b	80 cd	71 bc	58 b
11	RoundUp PowerMax + BAS 85101H	22 + 1.4	100 a	99 a	99 a	99 a
12	RoundUp PowerMax + Reviton	22 + 1.0	100 a	93 ab	82 ab	71 b

¹Treatments 4-12 were tank-mixed with 1% KALO MVO and 8.5 lb AMS/100 gal

²Means, 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.