

Sharpen® plus Rugged® with adjuvants for the control of Russian-thistle in chemical fallow

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A field study was conducted in Douglas County, WA in wheat stubble to evaluate the control of Russian-thistle with Sharpen + Rugged in combination with adjuvants. Sharpen contains the active ingredient saflufenacil in the Mechanism of Action Group 14. Rugged is Winfield/United proprietary formulation of 2,4-D amine, which is in the Mechanism of Action Group 4. Cornerstone® 5 Plus contains the active ingredient glyphosate, which is in the Mechanism of Action Group 9, and was included as a standard.

Postemergence treatments were applied on July 24th with a CO₂-powered backpack sprayer set to deliver 15 gpa at 2.5 mph. The applications were made under winds out of the north at 10 mph with an air temperature of 68°F and relative humidity of 32%. Russian-thistle plants were 3 to 6 inches in height and diameter and mean plot coverage was between 20 and 35%.

The initial rating was taken on August 7th, which was 14 days after application. At that time, Russian-thistle plants treated with Sharpen + Rugged, with or without the adjuvants StrikeLock™ or Exuro®, exhibited the most injury. Sharpen + StrickLock, while better than Sharpen alone, did not provide an acceptable level of control. Sharpen + Exuro provided fair control of Russian-thistle. Cornerstone 5 Plus and Sharpen without an adjuvant provided very little activity on Russian-thistle in this study. The second rating was taken 24 days after application on August 21st. Visual control of Russian-thistle had declined compared to the previous rating date for all treatments. From July 24 to August 12, the average low, average high and average temperature were 63 F, 89 F and 76 F, respectively. These conditions were very conducive for Russian-thistle growth and development and may have been why some plants grew out of the initial injury or new plants emerged. In addition, the size of the plants at the time of application were larger than ideal. At the August 17th rating, the addition of Exuro to Sharpen + Rugged, improved Russian-thistle control compared to Sharpen + Rugged alone. Proper adjuvant selection can improve the control of Russian-thistle with Sharpen + Rugged herbicide tank mix.

		8/7	8/17	8/7	8/17
		Mean number of			
Treatment	Rate	Russian-thistle plants/yd ²		Russian-thistle injury	
	fl oz/A			-----0-100%-----	
Nontreated Check		14 e ¹	16 c	--	--
Cornerstone 5 Plus	24	10 d	12 bc	25 d	14 ef
Rugged	16	7 a-d	8 ab	64 b	44 b-d
Sharpen	1	9 cd	11 ab	18 d	4 f
Sharpen + StrikeLock	1 + 8	9 cd	11 ab	41 c	30 de
Sharpen + StrikeLock	1 + 12	9 cd	10 ab	46 c	31 de
Sharpen + Exuro	1 + 12	8 b-d	9 ab	69 b	51 a-c
Sharpen + Exuro	1 + 16	10 d	11 ab	69 b	35 cd
Sharpen + Rugged	1 + 16	3 a	8 ab	86 a	45 b-d
Sharpen + Rugged + StrikeLock	1 + 16 + 8	5 ab	7 a	85 a	56 ab
Sharpen + Rugged + StrikeLock	1 + 16 + 12	6 a-c	8 ab	89 a	63 ab
Sharpen + Rugged + Exuro	1 + 16 + 12	4 ab	8 ab	89 a	65 a
Sharpen + Rugged + Exuro	1 + 16 + 16	3 a	7 a	91 a	68 a

¹ 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.