

## Control of Russian-thistle with Spartan® Charge in spring wheat

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A field study was conducted at Franz Farms near Lind, WA to evaluate the effect of Spartan Charge on Russian-thistle control in ‘Dark Northern’ spring wheat. Spartan Charge is a premixture of carfentrazone and sulfentrazone, with both active ingredients being protox inhibitors (Group 14).



The soil at this site is a Shano silt loam with 1.7% organic matter and a pH of 6.4. ‘Dark Northern’ spring wheat was seeded on April 6<sup>th</sup> using a double disk drill. Post plant pre-emergence treatments were applied on April 8<sup>th</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 42 psi at 2.3 mph. Conditions were an air temperature of 77°F, relative humidity of 29% and the wind out of the NW at 2 mph. Post-emergence treatments were applied on May 11<sup>th</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 42 psi at 2.3 mph. Conditions were an air temperature of 79°F, relative humidity of 19% and the wind out of the S at 7 mph. Wheat was at the one- to three-tiller stage and was 10 inches tall. Russian-thistle was 3 inches tall at the time of application.

No crop injury was observed in this study. On May 11<sup>th</sup>, when the post-emergence application was made, the Russian-thistle population across the entire trial was very low. It was decided to make the application at that time, because jointing was not that far off in the spring wheat. Visits were made to the site on June 1<sup>st</sup> and July 5<sup>th</sup> and at those times the Russian-thistle population was still very low. At some point in July the Russian-thistle population really increased and caused the grower to spray on August 5<sup>th</sup> (Roundup 22 fl oz/A + Class Act® 22 fl oz/A + InterLock® 4.0 fl oz/A) to desiccate the plants prior to their harvest on the 20<sup>th</sup>. All treatments except 2,4-D amine (Weedar® 64) reduced Russian-thistle densities compared to the nontreated check. Spartan Charge may help with Russian-thistle control in spring wheat.

Treatment	Rate fl oz/A	Application Date(s)	Russian-thistle		8/24	
			5/11 Ave. number of plants per plot	8/24	Yield bu/A	Test Weight lb/bu
Spartan Charge fb Brox® 2EC + Rhomene® MCPA <sup>1</sup>	5.1 fb 24 + 8	4/8 & 5/11	0 a <sup>2</sup>	1 a	19 a	58 a
Spartan Charge fb Weedar 64 <sup>1</sup>	7.6 fb 24	4/8 & 5/11	0 a	5 ab	15 a	58 a
Spartan Charge	7.6	4/8	0 a	6 ab	16 a	61 a
Spartan Charge fb Weedar 64 <sup>1</sup>	5.1 fb 24	4/8 & 5/11	0 a	6 ab	17 a	60 a
Huskie®	13.5	5/11	1 a	7 ab	17 a	60 a
Brox 2EC + Rhomene MCPA <sup>1</sup>	24 + 8	5/11	1 a	7 ab	16 a	60 a
Spartan Charge fb Weedar 64 <sup>1</sup>	3.8 fb 24	4/8 & 5/11	1 a	8 b	17 a	60 a
Spartan Charge	3.8	4/8	0 a	9 b	18 a	59 a
Spartan Charge	5.1	4/8	0 a	9 b	16 a	61 a
Weedar 64 <sup>1</sup>	24	5/11	2 a	16 c	18 a	59 a
Nontreated Check	--	--	1 a	22 c	16 a	60 a

<sup>1</sup> Treatments were tank mixed with 0.25% v/v NIS

<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.