Evaluation of Orthosulfamuron + Pyraflufen-ethyl for Volunteer Canola Management

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The addition of canola in wheat-based rotations in the inland Pacific Northwest has given growers an additional opportunity for managing weeds. However, volunteer, Roundup Ready canola has become a problematic weed for subsequent cropping years. The objective of this study was to evaluate increasing doses and combinations of Strada (orthosulfamuron + halosulfuron), pyraflufen-ethyl, and GlyStar (glyphosate), on volunteer canola in wheat cropping systems.

The study was established in the spring of 2022 near Pullman, WA in a canola-only crop. Treatments were applied on June 22, 2022 (Table 1) with a CO_2-powered backpack sprayer with a 5 ft boom with 3 Teejet 11002VS nozzles with an effective spray pattern of 5 ft and calibrated to deliver 15 gallons per acre. The study was conducted in a randomized complete block design with 4 replications. Plots were 10 ft by 30 ft long. Treatments were assessed for injury response at 7, 14, and 35 days after treatment. Data were subject to ANOVA using the Agricultural Research Manager software (Ver. 2022.3).

Table 1*. Treatment application details*

Study Application	
Date	June 22, 2022
Application volume (GPA)	15
Timing	Postemergence
Crop Stage	Bolting
Air temperature (˚F)	60
Wind velocity (mph, direction)	5, NE

Results

Treatments containing only Strada 50 WDG controlled canola similarly, regardless of the application rate. Complete control was achieved in all treatments containing GlyStar Plus and Strada 50 WDG, with or without the addition of pyraflufen-ethyl. Consistent with the label, GlyStar Plus caused considerable injury to canola when applied alone. Glyphosate can cause significant injury to canola when applied post-bloom. Strada appears to be an excellent product for control of volunteer canola, when applied with glyphosate. The addition of pyraflufen-ethyl, as the product ET, also contributed to control. Regardless of rate, the most effective treatments always included pyraflufen-ethyl, Strada, and glyphosate.

Table 2. Percent Injury to canola in response to increasing doses of Strada, pyraflufen-ethyl, and GlyStar. Means with the same letters are not statistically different ($\alpha = 0.05$).

		Control			
Treatment[1]	**Rate**	**6/27/2022**		**7/26/2022**	
	lb ai/a	**%**			
Nontreated		13	d	18	c
Strada 50 WDG	0.018	50	abc	93	a
Strada 50 WDG	0.036	61	abc	90	a
Strada 50 WDG	0.054	53	abc	90	a
Pyraflufen-ethyl	0.003	35	c	63	b
Pyraflufen-ethyl	0.005	40	bc	15	c
Pyraflufen-ethyl	0.008	64	ab	53	b
GlyStar Plus + Strada 50 WDG	0.75 + 0.036	56	abc	100	a
GlyStar Plus + Pyraflufen-ethyl	0.75 + 0.005	48	abc	60	b
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.018 + 0.003	58	abc	98	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.018 + 0.005	73	a	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.018 + 0.008	71	a	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.036 + 0.003	63	ab	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.036 + 0.005	56	abc	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75+ 0.036 + 0.008	69	a	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.054 + 0.003	53	abc	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.054 + 0.005	64	ab	100	a
GlyStar Plus + Strada 50 WDG + Pyraflufen-ethyl	0.75 + 0.054 + 0.008	75	a	100	a
GlyStar Plus	0.75	55	abc	65	ab

[1]Each treatment included nonionic surfactant at 0.25% v/v.

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.