

Assessing the risk of Kerb SC herbicide carryover to winter wheat following use in spring canola

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Objective: To determine if fall and spring Kerb SC applications, applied to control Italian ryegrass in the spring canola crop, will carry over into the following winter wheat crop.

Methods: Fall and spring applications of Kerb SC (1.25 & 2.5 pt/a) were applied on 11/21/2020 and 3/9/2021, respectively. All Kerb SC treatments were applied at 10 GPA. The trial area was planted to 'CP9978TF' spring canola on April 23, 2021 with a Horsch direct seed planter. Precipitation that fell between the time the fall and spring applications were made and planting was 9.1 and 0.92 inches, respectively.

Results and Discussion: This trial was placed on a gentle slope in a field at the Cook Agronomy Farm, near Pullman. This was done to minimize the risk of a heavy infestation of Italian ryegrass since the main objective of this study is to evaluate the potential for crop injury in the following winter wheat crop. On May 26<sup>th</sup>, 34 days after planting, canola and Italian ryegrass plants were counted within two quarter meter square-frames. None of the Kerb SC applications affected canola stand density, which averaged 3.9 plants/ft<sup>2</sup>, or yield, which averaged 170 lb/a. All Kerb SC treatments reduced the number of Italian ryegrass plants per square foot when compared to the nontreated check plots (Table 1). There were no significant differences among the four Kerb SC treatments in relation to the number of Italian ryegrass plants per square foot. Visual Italian ryegrass control ratings suggested greater treatment differences. Kerb SC 2.5 pt/a applied on 11/21/20 provided the best control of Italian ryegrass followed by Kerb SC 1.25 pt/a applied on 11/21/20. The spring applications of Kerb SC did not provide commercially acceptable control of Italian ryegrass. From the time the spring applications were made, to when the visual control ratings were taken, only 1.19 inches of rain fell. Rain events were spaced far apart, and they were not heavy rain events. This may have impeded the activation of Kerb SC.

Table 1. The effect of Kerb SC on Italian ryegrass control.

Treatment	Rate pt/a	Application date	Italian ryegrass	
			5/26/21 plants ft <sup>2</sup>	6/8/21 control %
Nontreated control	--	--	2.4 a <sup>1</sup>	--
Kerb SC	1.25	11/21/20	0.5 b	77 b
Kerb SC	2.5	11/21/20	0.0 b	95 a
Kerb SC	1.25	3/9/21	0.4 b	38 d
Kerb SC	2.5	3/9/21	0.5 b	60 c

<sup>1</sup> Means, based on six 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.

Winter wheat was directed seeded into the trial area on October 4<sup>th</sup>. While there was a rain event that occurred on September 27/28, the majority of that moisture was gone at the time of planting. The wheat was planted into dry soil. We are hoping for a significant rainfall event to provide uniform germination and emergence of the winter wheat crop. The unusually dry spring and summer of 2021 will likely represent a worst-case scenario for herbicide carryover.