Evaluation of Seed Treatments to Manage Blackleg on Canola

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Objective: To evaluate seed treatments to manage blackleg on canola.

Materials and Methods:

A research trial was conducted at the Langdon Research Extension Center with an objective to evaluate the performance of seed treatments to manage blackleg on canola. The trial was planted on May 22, 2020 with treated seed of various treatments on the canola cultivar 'Westar' compared with non-treated seed. The design was randomized complete block with four replications. The trial followed state recommended practices for land preparation, fertilization, seeding rate and weed control. The plot size was 5 ft. wide x 16 ft. long. Data on blackleg infections were rated following the scale of 0-5. Infections obtained in the research plots were natural. Twenty five canola stubbles were rated within each plot and the incidence (number of plants that had blackleg infections out of twenty five cut stems) and severity on each was recorded after swathing (August 18) on a 0-5 scale, where 0 = no disease tissue visible in the cross section; 1 = $\leq$ 25% of the cross section has disease tissue; 2 = 26 to 50% of the cross section has disease tissue; 3 = 51 to 75% of the cross section has disease tissue; 4 = $\geq$ 75% of the cross section has disease tissue; 5 = 100% diseased tissue/plant dead. A blackleg mean disease severity index was calculated with weighted mean of incidence and number of plants in each severity rating. Data were subjected to analysis of variance using complete block, balanced orthogonal designs of Agrobase generation II software.

Table 1: Mean blackleg disease incidence, severity and their effect on yield and test weights on the application of different seed treatments on canola.

		Blackleg			
Treatments	**Rate (fl oz/100 lb seed)**	**Incidence (%)**	**Mean Disease Severity (0-5)**	**Yield (lbs/A)**	**Test Weight (lbs/bu)**
Control	Check	69	1.78	1087	50.2
Biological	0.62	74	2.24	1258	50.8
Biological	1.23	62	1.67	1499	50.9
Biological	2.46	36	0.66	1268	50.0
Saltro	1.23	42	0.87	1529	51.1
	Mean	**57**	**1**	**1328**	**51**
	CV %	**28**	**36**	**19**	**1**
	LSD	**24**	**1**	**NS**	**NS**
	P-Value (0.05)	**0.017**	**0.0052**	**0.13**	**0.13**

Results: Canola seed treated with the biological at the higher rate followed by Saltro® had the lowest blackleg incidence and mean disease severity (Table 1) and was statistically significant from the other treatments tested. There was no significant difference in yield or test weight in the treatments tested when compared with the non-treated check.