Evaluation of Seed Treatments to Manage Verticillium Stripe on Canola

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A research trial was conducted at the Langdon Research Extension Center to evaluate the effectiveness of seed treatments for managing Verticillium in canola. The trial began on May 28, 2025, using the canola cultivar 'InVigor L233P' and a range of seed treatments, which were compared to non-treated seed. The experimental design was a randomized complete block structure with four replications. State-recommended protocols were followed for land preparation, fertilization, seeding rate, and weed control. Each plot measured 5 feet in width by 16 feet in length. Verticillium inoculum was produced by culturing isolates on wheat spawn in the laboratory in March 2025 and was applied at planting. After swathing, twenty-five canola stubbles per plot were evaluated for Verticillium incidence and severity by observing infection levels on the cross-sections of stems selected for rating (Figure 1). Disease severity was assessed on a 0-100% scale, where 0 indicated no visible disease tissue in the cross-section and 100% indicated dead or fully diseased tissue. The Verticillium mean disease severity index was calculated by multiplying the mean incidence by the percent severity and dividing the product by 100. Data were analyzed using analysis of variance with complete-block and balanced-orthogonal designs generated by Genovix Generation II software.

Table 1: Efficacy of seed treatments on Verticillium stripe incidence, severity, index, plant stand, yield and test weight on canola.

	Verticillium Stripe				Yield	Test Weight
Treatments	**% Incidence**	**% Severity**	**Index**	**Plant Stand/A**	**(lbs/a)**	**(lbs/bu)**
Trunemco	21	8	2	127,015	2214	51
Saltro	23	8	2	138,803	2184	51
Evergol Energy	20	5	1	123,874	2185	51
Intego Solo	25	7	3	125,462	2257	51
Rancona Summit	14	4	1	127,686	2358	51
Trilex	19	5	1	141,979	2298	51
Mertect	20	5	1	124,192	2209	51
Non-Treated	45	20	9	123,556	2106	52
Mean	**23**	**8**	**2**	**129,071**	**2226**	**51**
CV %	**44**	**45**	**75**	**18**	**7**	**0.9**
LSD	**15**	**5**	**3**	**NS**	**NS**	**NS**
P-Value (0.05%)	**0.0147***	**0.0001***	**0.0001***	**NS**	**NS**	**NS**

Results: The evaluated seed treatments resulted in significant differences in Verticillium stripe incidence, severity, and index, suggesting that the seed treatments may effectively manage Verticillium stripe. Notably, the Rancona Summit treatment produced the highest yield, while the non-treated control exhibited the lowest yield (Table 1). There were no significant differences detected for plant stand, yield, or test weight.

Figure 1: Verticillium stripe incidence and severity ratings were recorded by making the cross section of the canola stems at the collar region.