Evaluation of Fungicides to Manage White Mold in Canola

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This research trial was conducted at the Langdon Research Extension Center with an objective to evaluate the performance of fungicides to manage white mold in canola. The trial was planted on May 17, 2024 with the Roundup Ready canola variety 'DKL DKTFLL21SC' in a randomized complete block design replicated four times. 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 with a canola border on either side of each plot. The trial was irrigated with an overhead sprinkler system set at one hour each day beginning one week before the start of bloom and continuing four weeks after bloom to help increase disease infection levels. Fungicides were applied at 20% bloom using a CO_2-pressurized backpack style sprayer with a three-nozzle boom (XR-8002) at 20 GPA. Ascospores were sprayed at the 20% flowering stage to obtain white mold infection in the research plots. Disease assessments were done on fifty plants within each plot and the levels of incidence and severity were recorded for each plant prior to swathing (August 25) on a 0-5 scale, where 1 = superficial lesions or small branch infected; 2 = large branch(es) dead; 3 = main stem at least 50% girdled; 4 = main stem girdled but plant produced good seed; 5 = main stem girdled, much reduced yield. A white mold mean disease severity index (MDS) was calculated with weighted mean of incidence and the number of plants in each severity rating.

Data analysis: Statistical analysis was done using Genovix Generation II software. Fisher's least significant difference (LSD) was used to compare means at p ($\alpha = 0.05$).

Table 1: Efficacy of commercially available fungicides in managing white mold and their influence on yield and test weight.

	White Mold		Yield	Test Weight
Treated	**% Incidence**	**% MDS**	**lbs/a**	**lbs/bu**
Non-treated Check	35	30	965	52.0
Miravis Neo @ 13.7 fl oz/a + MasterLock @ 6 oz/a	3	1	1368	52.5
Propulse @ 13.6 fl oz/a + MasterLock @ 6 oz/a	4	3	1438	51.9
Priaxor @ 4 fl oz/a + MasterLock @ 6 oz/a	13	9	1641	52.1
Topsin 70% @ 2 lb/a + MasterLock @ 6 oz/a	10	6	1054	51.9
Endura @ 6 fl oz/a + MasterLock @ 6 oz/a	13	12	1403	52.1
Proline 5.7 fl oz	0	0	1850	52.3
Mean	**11**	**8**	**1582**	**52.1**
CV%	**78**	**91**	**15**	**0.5**
LSD	**13**	**12**	**NS**	**0.4**
P-Value (0.05)	**0.0004***	**0.0006***	**NS**	**0.0367***

NS: Statistically non-significant

Results: There were significant differences observed in white mold incidence and mean disease severity (MDS) among the treatments tested. The fungicide Proline® followed by Miravis Neo® and Propulse® provided the best control of white mold over any of the other fungicides tested (Table 1). There were no significant differences found among the treatments tested (p-value non-significant) in terms of yield. However, statistical significance was observed in test weights among the treatments tested.

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