

Fungicide Evaluation to Manage White Mold in Canola

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A 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 21, 2018 with the Roundup Ready canola variety “DKL 30-42” in a randomized complete block design replicated four times. The trial location 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 10 minutes every two hours from 7:00 PM to 6:00 AM beginning one week before the start of bloom to four weeks after bloom to help increase disease infection levels. Fungicides were applied at 20% bloom using a CO₂-pressurized backpack style sprayer with a three-nozzle boom (XR-8002) at 20 GPA and repeated 12 days after first spray. The amount of white mold infection obtained in the research plots was natural. Fifty plants were rated within each plot and the level of incidence and severity levels were recorded for each plant prior to swathing (August 18) 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 disease severity index (DSI) was calculated with weighted mean of incidence and number of plants in each severity rating.

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

WHITE MOLD ON CANOLA					
Treatments	Dosage/A	Incidence (%)	DSI (0-5)	Yield (lbs/A)	Test Weight (lbs/bu)
Non-treated Check	CHK	27.5	1.16	3248	50.6
EXPERIMENTAL	13.7 oz + .125 v/v	9.0	0.42	3566	50.9
PROLINE+NIS	5 oz + .125 v/v	16.5	0.79	3529	50.7
PRIAXOR+NIS	4 oz + .125 v/v	21.5	1.05	3716	50.8
QUASH+NIS	3 oz + .125 v/v	20.0	0.81	3571	50.7
TOPSIN	1.0 lb	17.0	0.76	3556	50.8
QUASH+TOPSIN	3 oz + ½ lb	18.0	0.83	3828	50.5
MEAN		18.5	0.83	3574	50.7
C.V. %		43.2	49.5	11.4	0.58
LSD 5%		NS	NS	NS	NS
p-Value (α at 0.05%)		NS	NS	NS	NS

Treatments were applied at 20% bloom and 12 days after first spray.

Results: No significant differences in white mold incidence, disease severity index (DSI), test weight, or yield were observed among the fungicides tested and the non-treated check (p-value non-significant). Dry weather during the growing season played a role in lower white mold incidences in the trial.

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