

Fungicide Evaluation to Manage White Mold in Canola

Amanda Arens and Venkat Chapara

The research trial was conducted at the Langdon Research Extension Center and was planted on May 19th 2017 with the canola variety “DKL 30-42 (Roundup Ready)” in a randomized complete block design and replicated four times. Canola production recommendations for northeast North Dakota from the North Dakota State University Extension Service were followed. The plot size was 5 ft. x 16 ft. long with a canola border between each plot. The trial was irrigated with an overhead sprinkler system set for 1 hour every day beginning one week before the start of bloom to 4 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 were repeated 8 days after first spray. The amount of white mold infection obtained in the research plots was natural. Fifty plants per plot were rated on a scale of 0-5 (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). The levels of incidence and severity were recorded for each plant prior to swathing (August 18). A white mold disease severity index was calculated with weighted scale of incidence and severity ratings.

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

Treatments	Dosage	White Mold	Yield	Test Weight
	(Fl oz/A)	DSI*	(lbs/A)	(lbs/bu)
Approach + NIS	9	0.03	3794	52
Endura + NIS	6	1.33	4086	52
Proline + NIS	4.3	0.28	4200	52
Quash + NIS	3	0.19	3968	52
Topsin	231(g/A)	0.23	4372	52
CHECK	Check	1.46	3769	52
Mean		0.59	4031	52
CV (%)		59	14	0.76
LSD		0.62	1014	0.7
p-Value		0.0006	NS	NS

NIS: Non-Ionic Surfactant 0.25% V/V

DSI*: White Mold Disease Severity Index

NS: Non-Significant

The results indicate there were significant differences obtained among the fungicides tested and the non-treated check. More white mold DSI was observed in Endura and the non-treated check while Approach was low. There were no significant differences among the treatments when yield and test weights were compared.

Acknowledgements: Bryan Hanson, Travis Hakanson and Lawrence Henry for their technical support.