

Management of White Mold in Canola with Foliar Fungicides, Langdon 2015

Venkat Chapara and Amanda Arens
Langdon Research Extension Center

A field study was planted on June 4 at the NDSU Langdon Research Extension Center located in Langdon, ND. The trial experimental design was a randomized complete block with four replications. Plots were seven rows spaced at six inch row spacing and a row length of 20 feet trimmed to 15 feet for harvest. The cultivar 'DLK 30-42 RR' was seeded at a rate of 14 live seed per square foot. An untreated border plot was planted between treated plots to minimize interference from spray drift. The previous crop was hrsw. Roundup Power Max (16 oz/a) + Kicker (0.25% v/v) were used to control weeds. Warrior was applied on June 9th at a rate of 1.92 oz/a for flea beetle control. The plots were not inoculated. Fungicides were applied with a CO₂ backpack sprayer equipped with a three nozzle boom (XR8001) operated at 40 psi delivering a water volume of 20 GPA. Fungicide application was made at 20% flowering on July 9 (wind speed 12 MPH, 75° F at 2:30pm) and at 40% flowering on July 13th (wind speed 3 MPH, 75° F at 2:30pm).

White mold disease was rated on 100 random plants (ten plants in ten different spots) using 0-5 scale, 1=superficial lesions or few pods 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 and much reduced yield. Plots were harvested on August 27 with a plot combine. Yield, test weight and oil content were determined. Data was analyzed in SAS. Fisher's least significant difference (LSD) was used to compare means at $P \leq 0.05$.

Results

None of the fungicide treatments were statistically significantly different from the untreated check in terms of white mold incidence, yield, test weight and oil content (Table 1). However, the fungicide Proline had reduced white mold severity significantly compared to the other treatments. A severity rating of 1.6 indicates that the plants were infected with superficial lesions.

Table 1. Effect of fungicide treatments on white mold incidence, severity, yield and oil content of canola, Langdon 2015.

Treatment	Rate of Application	White Mold		Yield (bu/a)	Test	
		Incidence (%)	Severity Scale		Weight (lbs/bu)	Oil (%)
Untreated Check	--	15	3.7	44.5	49.9	45.1
1Double Nickel LC	1.06 qts/a	12	2.0	41.5	50.0	45.4
2Double Nickel LC	2.1 qts/a	10	2.3	45.7	49.9	44.6
Proline	4.3 fl oz/a	8	1.6	52.2	50.2	44.7
Trial Mean		12	2.4	45.9	50.0	45.0
C.V.%		67.1	35.0	18.2	0.5	1.9
LSD 5%		11.9	1.3	12.9	0.4	1.3
$P \leq 0.05$		0.63	0.02	0.34	0.42	0.56

*Significantly different from other treatments.

Acknowledgements: The trial was funded by Certis Bio.