

Evaluation of foliar fungicides on canola for control of sclerotinia stem rot, 2004.

A field experiment was planted on 26 May with the cultivar 'InVigor 2663' at the Langdon Research Extension Center. The previous crop was fieldpea. Plot size consisted of seven 6 inch rows 16 ft long with a canola border between every plot to reduce drift to adjacent plots. The trial area had a resident population of *Sclerotinia sclerotiorum* sclerotia with additional sclerotia dispersed on the soil surface following planting to increase infection potential. In addition, petals were artificially inoculated by spray application with ascospores at the 50% bloom stage on 19 July at a rate of 25-29,000 spores/ml at 18 gpa. The trial was irrigated periodically with an overhead sprinkler system keeping the plants wet, favoring infection. A CO₂ pressurized backpack style sprayer with 8002 flat fan nozzles spaced at 20 inches was used to apply an 18 gpa solution at 40 psi. The 30-40% and 50-60% bloom treatments were sprayed on 18 July and 20 July, respectively. Twenty-five consecutive stems were rated within each plot for percent incidence and disease severity, using a 0-5 scale, just prior to swathing. A disease severity index (DSI) was calculated by: (incidence*severity)/5. The experimental design was a randomized complete block with four replications. Data were analyzed with the general linear model procedure (PROC GLM) using SAS (SAS Institute, Cary, NC). Treatment means were compared using Fisher's least significant difference at P≤0.05 and P≤0.10 levels.

Disease pressure was moderate. All treatments significantly (P≤0.05) reduced disease severity and incidence when compared to the control. Endura and Topsin M 4.5 FL (30-40% bloom) and Topsin M 70 WP and JAU6467 at 4.3 and 5 fl oz (50-60% bloom) provided the lowest disease severity, incidence and DSI. Yields were significantly higher than the control at P≤0.10 except for Topsin M 70 WP and Ronilan (30-40% bloom) and Topsin 4.5 FL (50-60% bloom).

Treatment and rate/A	Application Timing		Disease		Disease Severity Index (0-100)	Yield (lb/A)
	30-40%	50-60%	Severity ^y (0-5)	Incidence (%)		
	early bloom	late bloom				
Control.....			4.0	95	77	1717
Topsin M 70 WP 1 lb/a.....	X		2.3	66	33	1991
Topsin M 70 WP 1 lb/a		X	1.7	50	19	2151
Topsin M 4.5 FL 20 fl lb/A.....	X		1.1	39	11	2243
Topsin M 4.5 FL 20 fl oz/A.....		X	2.5	70	37	1925
Ronilan 50EG 12 oz.....	X		2.1	63	32	1920
Endura 70WG 5.5 oz.....	X		0.6	27	21	2165
JAU6467 480 SC 4.3 fl oz + Induce 1.25% v/v ^z		X	1.8	50	21	2094
JAU6467 480 SC 5 fl oz + Induce 1.25% v/v ^z		X	0.8	32	5	2342
V-10116 1.67 FL 9 fl oz/a + Induce 1.25% v/v ^z	X		2.1	63	30	2247
Trial Mean			1.9	56	29	2080
LSD(P≤0.05)			1.2	27	24	NS
LSD(P≤0.10)			1.0	22	20	316

^z - Induce is a non-ionic surfactant.

^y - Field severity scale: 0=no symptoms, 1=superficial lesions or small branch infected, 2=large branch dead, 3=main stem at least 50% girdled, 4=main stem girdled but plant produced good seed, 5=main stem girdled, much reduced yield.