

Project Title: Sclerotinia management in Canola
 Project Leader: Bob Stougaard
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 Objective: To evaluate the effects of varietal resistance and fungicide application on sclerotinia control in canola.

Results:

The factorial treatment arrangement consisted of two Roundup resistant canola varieties (DeKalb 30-42 and Pioneer 45H29) and two fungicide treatments (none and Endura). The two varieties of canola were seeded on May 3rd using a Great Plains disk drill at a rate of 4 lb/A. Plots were about one half acre in size and measured 24 by 1000 feet. Endura was applied at 6 oz/A with a hi-boy sprayer when the crop was at 50% bloom (DeKalb on July 2nd and Pioneer on July 5th). The study was swathed then combined two weeks later (table 1).

Significant agronomic differences were observed between varieties (Table 2). DeKalb 30-42 flowered earlier, was shorter, lodged less and had a lower plant density. However, differences in population can be attributed to the variation in seed size between the DeKalb and Pioneer varieties (72,000 and 112,555 seeds/lb, respectively).

Sclerotinia infection levels were low due to hot and dry conditions during July and August. Nevertheless, differences in infection levels were observed among the treatments. DeKalb 30-42 was more susceptible to sclerotinia than Pioneer 45H29 (15% and 7% respectively). In addition, applications of Endura reduced sclerotinia infection levels in both varieties. Averaged over varieties, infection levels ranged from 11% in the untreated to 1% when treated with Endura. In the DeKalb variety, Endura reduce infection levels from 15% in the untreated to 2%, while infection levels were reduced from 7% to 0% in the Pioneer variety. The use of Endura had no significant effect on lodging, yield, test weight or thousand kernel weights. However, applications of Endura did result in higher canola biomass relative to the check. This effect on biomass was most apparent with the Pioneer variety.

Table 1. Material and Methods - Sclerotinia management in canola- 2012

Seeding Date: 5/3/2012	Soil Type: Kalispell vf SL	Fungicide: Endura 6 oz/ac ☒
Seeding Rate: 4 lb/ac	Soil Test: 80-40-380-168	Harvest: Swathed 8/13-14
Previous Crop: Spring wheat	Fertilizer: 100-85-90-10	Combined 8/27-28
Tillage: Conventional	Herbicide: 1 pt/A Cornerstone ☒	
Irrigation: None	Insecticide: None	

Table 2. Sclerotinia management in canola, Kalispell MT 2012

	Flowering Julian	Height inches	Lodging %	Stand no/sqft	Biomass lb/ac	Sclerotinia %	Yield bu/A	TWT lb/bu	TKW g	
Variety										
DKL30-42	184	45	13	9	372	8	62	48	5	
Pioneer 45H29	186	58	46	13	479	3	60	49	4	
LSD	1.1	4.2	17.3	3.7	NS	4.2	NS	NS	0.23	
Fungicide										
Untreated	185	52	30	11	407	11	60	49	4	
Endura	185	52	29	11	445	1	63	49	4	
LSD	NS	NS	NS	NS	26.8	3.2	NS	NS	NS	
Variety x Fungicide										
DKL30-42	Untreated	184	46	15	10	371	15	61	48	5
DKL30-42	Endura	184	45	11	9	373	2	63	49	5
Pioneer 45H29	Untreated	186	58	46	13	442	7	59	49	4
Pioneer 45H29	Endura	186	58	47	14	516	0	62	49	4
Mean		185	52	30	11	426	6	61	49	4
LSD		NS	NS	NS	NS	37.9	4.5	NS	NS	NS

TWT: test weight, TKW: thousand kernel weight