

XV FUNGICIDE TRIAL

Objective: Evaluate the effectiveness of different fungicides at controlling sclerotinia in canola and how they influence yield, quality and economic return.

Background: Sclerotinia stem rot is caused by the fungus *Sclerotinia sclerotiorum* that occurs in most canola growing areas. The disease is usually most severe in wetter areas of the growing region. Severity of stem rot varies from year to year, and even from field to field within a region. With the right combination of thick crop density and wet weather conditions before and during flowering, heavy infections can develop almost anywhere. In some cases half the potential yield of a crop may be lost to sclerotinia. Quadris, Ronilan EG and Topsin 70WP are currently labeled for sclerotinia control on canola in the United States.

Methodology: The trial was seeded with the variety DKL 34-55 at a seeding rate of 5.5 lb/ac to facilitate a microclimate in the canopy to enhance sclerotinia development. Spraying was done using a ground sprayer equipped with twinjet nozzles at 75 psi and 20 gal/ac spray solution. Fungicides were applied at rates and timings suggested by the label or industry representative. Treatments included:

1. Check - no fungicide applied
2. Endura 70WG - 5.7 oz/ac applied at 30 to 40% bloom
3. Ronilan EG - 12 oz/ac applied at 30 to 40% bloom
4. Rovral flo - 14.4 oz/ac + 1% v/v Aphoil applied at 30 to 40% bloom
5. Topsin 70WP - 16 oz/ac applied at 30 to 40% bloom (1 lb)
6. Topsin 70WP - 24 oz/ac applied at 30 to 40% bloom (1.5 lb)
7. Topsin 70WP - 16 oz/ac + 0.25% v/v non-ionic surfactant applied at 30 to 40% bloom (1 lb + NIS)

Infection readings were taken by recording disease level of 50 unswathed plants at three random locations within each plot along the edge of the swathed area. Disease levels for each plant were assessed on a scale of 1 to 5 (1 = small branch infected, 5 = the whole plant is dead with substantial yield loss).

Observations: This trial was seeded on May 20 into good moisture. The wet weather throughout the summer created a shorter and thinner stand than expected. Despite the tremendous amount of moisture during the summer, sclerotinia infection was only light in the trial. This was possibly due to the high temperatures during bloom, which may have inhibited the duration of viability of the ascospores. However, a petal test taken on July 11 showed 30% petal infection. All fungicide treatments were applied on July 6.

Results:

FUNGICIDE EVALUATION TRIAL							
Thief River Falls, MN							
Treatment	Yield (%)	Yield (lb/ac)	Yield (bu/ac)	Oil (%)	Plants Infected (%)	Infect. Rating (1-5)	Contribution Margin (\$/ac)
Check (No Fung.)	100	1675	33.5	44.7	5	4.2	84.79
Endura	103	1733	34.7	44.1	3	4.4	68.66
Ronilan	98	1637	32.7	44.5	5	4.2	59.13
Rovral Flo	102	1715	34.3	44.7	5	4.5	67.47
Topsin 1.5 lb	104	1735	34.7	44.2	5	4.2	60.73
Topsin 1 lb	97	1632	32.6	44.3	5	4.3	58.15
Topsin 1 lb + NIS	98	1635	32.7	44.6	4	4.6	57.64
LSD (0.10)		198.1	3.96	0.75	1.9	0.48	
CV%		9.6	9.6	1.4	35.4	9.0	

Discussion:

There were no differences in yield, oil content or infection rating among the treatments. Infection levels were very low. However, infection frequency was lower with Endura than the other treatments. With the low infection levels and lack of differences in yield, the check had the greatest contribution margin due to the lack of fungicide cost. Contribution margins reflected differences in yield and fungicide application costs.