

## XVIII FUNGICIDE TRIAL

**Objective:** To 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 and Ronilan EG are currently labeled for sclerotinia control on canola in the United States.

**Methodology:** The trial was seeded with the variety 44A89. A higher seeding rate of 5.5 lb/ac was used 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:

- A) Check - no fungicide applied
- B) Folicur - 4.0 oz/ac + 0.25 % nonionic surfactant applied at 25 % bloom
- C) Ronilan EG - 12 oz/ac applied at 25 % bloom
- D) Rovral Flo - 14.4 oz/ac + 1% crop oil concentrate applied at 25 % bloom
- E) Rovral Flo - 14.4 oz/ac + 1% crop oil concentrate applied at 50 % bloom
- F) Topsin - 16 oz/ac applied at 35 % bloom

Infection readings were taken by recording incidence and average disease level of 100 unswathed plants at three random locations within each plot along the edge of the swathed area. Disease levels were assessed on a scale of 1 to 5 (1 = small branch infected, 5 = the whole plant is dead with substantial yield loss).

**Observation:** This trial was seeded on May 17 into good moisture. Weather conditions leading up to bloom and during the first half of the bloom period were dry and hot. Petal tests conducted at 25 % bloom on July 3 showed only 9 % infection. Wet conditions during pod fill provided an ideal environment for sclerotinia to develop. The weather was calm and warm on each of the dates the fungicides were applied.

**Results:**

<b>FUNGICIDE EVALUATION TRIAL</b>							
<b>Thief River Falls, MN</b>							
<b>Treatment</b>	<b>Yield (%)</b>	<b>Yield (lb/ac)</b>	<b>Yield (bu/ac)</b>	<b>Oil (%)</b>	<b>Plants Infected (%)</b>	<b>Infect. Rating (1-5)</b>	<b>Contribution Margin (\$/ac)</b>
Check (No Fung.)	100	1468	29.4	40.2	26	4.7	3.69
Folicur	106	1563	31.3	40.4	23	4.8	(3.28)
Ronilan	112	1643	32.9	40.5	8	3.4	(1.79)
Rovral Flo at 25 %	109	1601	32.0	40.8	7	3.9	(7.08)
Rovral Flo at 50 %	116	1703	34.1	40.7	6	3.9	1.96
Topsin	115	1685	33.7	40.5	2	1.7	1.56
LSD (0.10)		80.9	1.62	0.46	11.8	1.29	
CV%		4.1	4.1	0.9	79.9	27.9	

Note: Brackets in Contribution Margin reflect a negative value.

**Discussion:**

The check yielded significantly lower than any other treatment. The later timing of Rovral Flo provided significantly higher yield than the early timing. This is likely due to the wet weather experienced at the end of flowering and into pod fill, compared to the hot, dry conditions during early flowering. Folicur had significantly higher yield than the check even though the percent of infected plants was similar to the check. The Ronilan, Rovral Flo and Topsin treatments all had significantly fewer infected plants than the check or Folicur. The Topsin treatment not only had the lowest number of infected plants, but the plants that were infected had significantly less severe infections. Both spray timings of Rovral Flo had significantly higher oil contents than the check. Even though the check yielded the lowest, it still had the highest contribution margin. Contribution margins reflect the differences in yield, fungicide costs and application costs for each of the treatments.