

## Canola Fungicide Trial

*A common disease in Saskatchewan canola is sclerotinia caused by *Sclerotinia sclerotiorum*<sup>1</sup>. Symptoms first appear at the end of flowering, when conditions are hot and moist. Symptoms include light brown lesions, evolving into greyish white and eventually bleaching the stems. Therefore, application of a fungicide is a great tool in reducing diseases in canola but comes at a cost. Unfortunately, the decision to apply a fungicide isn't always simple. The risk of disease in each field must be evaluated individually. Assessing a fungicide application's efficacy on yield, grade and economics through the use of check strips is a great tool.*

<sup>1</sup>Sclerotinia stem rot. Diseases. Canola Encyclopedia. Canola Council.

<https://www.canolacouncil.org/canola-encyclopedia/diseases/sclerotinia-stem-rot/#disease-cycle-for-sclerotinia-stem-rot>

### Objective:

The objective of this field scale trial is to evaluate fungicide effectiveness and economics on canola under different environmental conditions and risk factors.

### Project Overview:

Cooperators will implement a replicated field-scale trial comparing fungicide applications versus untreated check strips, using their own equipment and otherwise normal practices. An agronomist/trial manager will provide support throughout the season, including setting up the trial and collecting data. Statistical analysis of the data will be conducted following harvest, and a report with results including economic analysis will be provided. Data from all on-farm trials will also be pooled to examine the results across different management, soil, and weather conditions. Results from all trials will be publicly available, however individual farm data will be kept anonymous, apart from the location of the trial (nearest town or R.M.). Collaborators will be invited to join a network of producers who are conducting on-farm research through field tours and a year-end wrap up meeting. This program is available to members in good standing.

### Study Design:

#### Option A:

1. Untreated check
2. Treated with fungicide

#### Option B:

1. Untreated check
2. Single application
3. Dual application



## Recommended application timings:

- 1st application: 20-50% flowering
- 2nd application: 7-14 days after first application

## Flowering guides:

- <https://www.canolacouncil.org/canola-watch/2017/06/28/how-to-count-10-50-flower/>
- <https://www.canolacouncil.org/download/157/canola-encyclopedia/18605/canola-growth-stages-blooming-final>

Fungicides will be applied according to label recommendations, will be replicated four times, for a total of 8 or 12 strips and randomized within the field. Apart from fungicide application, all strips must be managed the same agronomically including seeding, fertility, and pesticide (excluding fungicide) application. Variable rate (VR) fertilizer application can be used. An example randomized field plan is shown below. Layouts will be provided.

| Rep  | 1         |         | 2       |           | 3         |         | 4       |           |
|------|-----------|---------|---------|-----------|-----------|---------|---------|-----------|
| Plot | 1         | 2       | 3       | 4         | 5         | 6       | 7       | 8         |
| Trt  | 1         | 2       | 2       | 1         | 1         | 2       | 2       | 1         |
|      | Untreated | Treated | Treated | Untreated | Untreated | Treated | Treated | Untreated |

| Rep  | 1         |                    |                  | 2                  |           |                  | 3                |                    |           | 4                |           |                    |
|------|-----------|--------------------|------------------|--------------------|-----------|------------------|------------------|--------------------|-----------|------------------|-----------|--------------------|
| Plot | 1         | 2                  | 3                | 4                  | 5         | 6                | 7                | 8                  | 9         | 10               | 11        | 12                 |
| Trt  | 1         | 2                  | 3                | 2                  | 1         | 3                | 3                | 2                  | 1         | 3                | 1         | 2                  |
|      | Untreated | Single Application | Dual Application | Single Application | Untreated | Dual Application | Dual Application | Single Application | Untreated | Dual Application | Untreated | Single Application |



## Data Collection:

Agronomists or trial managers will help the cooperator seed the trial according to the protocol and will complete the following in-season data collection.

- Spring soil sample
- Plant density (if plant stand looks inconsistent)
- If hail damage - Count damaged stems/heads in 1 m<sup>2</sup> row
- Disease Assessments at podding (approx. 2-3 weeks after flowering)
- Samples to be sent to Discovery Seed Labs through SaskOilseeds disease testing program. This is to account for any other canola diseases that may affect yield. More information will be provided in-season
- Complete Canola Council's sclerotinia risk assessment at flowering, to submit to Project lead
  - <https://www.canolacouncil.org/sclerotinia-calc/>
- Yield – weighed separately for each treatment strip using weigh wagon or grain cart scale
- Harvest samples for each plot
- Regularly scouting for treatment differences in weed pressure, flowering, maturity, disease pressure, plant health, or plant structure
- Economical breakdown
- Management data
- Weather data

► For more information or to participate in the program contact:

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