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Verticillium Harvest Management Protocol

Understanding how harvest management strategies influence disease development in canola is critical for improving both crop health and profitability. Verticillium stripe can reduce yield, impact seed quality, and contribute to longer-term disease pressure within a field. Because harvest timing and method can affect canopy moisture, residue distribution, and pathogen survival, ground spraying and swathing may differ in how they influence disease progression and spread. Evaluating these strategies side by side provides valuable insight into not only immediate yield and quality outcomes, but also longer-term residue and disease management implications. Identifying the most effective approach helps growers make informed harvest decisions that reduce disease risk, protect yield potential, and support sustainable production practices.

Objective:

The objective of this trial is to evaluate the impact of different harvest management strategies—specifically ground spraying versus swathing—on the incidence and severity of verticillium stripe in canola.

Project Overview:

Cooperators will implement a replicated field-scale trial comparing harvest management strategies, 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:

1) Swathed canola and combined
2) Standing canola treated with ground-applied desiccant product 1 (ground spray) and direct-combined
3) Standing canola treated with ground-applied desiccant product 2 (ground spray and direct-combines *(Optional)*

Rep	1		2		3		4		5		6	
Plot	1	2	3	4	5	6	7	8	9	10	11	12
Trt	1	2	2	1	1	2	2	1	2	1	2	1
	Swathed	Straight Cut	Straight Cut	Swathed	Swathed	Straight Cut	Straight Cut	Swathed	Straight Cut	Swathed	Straight Cut	Swathed

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Verticillium must be confirmed through the SaskOilseeds testing program. Recommended to test the fall prior or in the spring test old stubble in the field from previous canola crop, if viable. The treatments will be replicated six times, for a total 12-18 plots and randomized within the field. Apart from harvest management, all strips must be managed the same agronomically including seeding, fertility and pesticide application (other than desiccation). Variable rate (VR) seeding and fertility applications can be used.
An example randomized field plan is shown above. Layouts and datasheets will be provided.

Data Collection:

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

- Spring or fall soil nutrient sample
- Soil samples to measure verticillium inoculum in the soil a composite
  - Spring 2026 soil test: a composite for the whole trial area
  - Spring 2027 soil test: will consist of 12 samples (one per plot)
- Blackleg Race ID and Verticillium Testing Submission:
  - How to: cut 12 stems close to ground, using stems from each plot, cut 12 inches long, air dry for 24hrs, place in labeled paper bag
  - email info@saskoilseeds.com
  - provide the following information:
    - Sample Name, Agronomist name, Grower Name, Farm Name, Mailing Address, Town, RM, Land Location, Email
- Fall Stem Sample Testing: one week after harvest or after swathing
  - 25 samples (every plot)
  - Cut stems down to approximately 9", after visual disease rating, store in paper bags labelled with trial #, nearest town, plot, treatment, and date
- Disease Assessments: at 70%+ seed color change by clipping 25 random stems in each treatment and rating each stem on a 0-5 blackleg rating scale
- Yield – weighed separately for each treatment strip using weigh wagon or grain cart scale
- Harvest grain samples for each plot, mail to WARC
- Regularly scouting for treatment differences
- Economical breakdown
- Management data
- Weather data

For more information or to participate in the program contact:

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