

Manitoba Canola Disease Survey



Overview

Canola is an economically important crop in Manitoba, but its continued profitability relies on the management of pests, such as diseases. Annual disease surveys of canola give valuable information on distribution in the province and the impact of farming practices (and weather) on incidence and severity.

Results from disease surveys help farmers, agronomists and researchers prioritize where future research is needed and provide early warning about new diseases or erosion of varietal resistance.

Annual canola disease surveys have been occurring in Manitoba since 1971 with collaboration from Agriculture and Agri-Food Canada (AAFC) and Manitoba Agriculture.

In more recent surveys (2009 to present), AAFC Brandon and Manitoba Agriculture have targeted 150-200 fields annually across the canola growing regions of Manitoba. Surveys occur as canola is ripening (30-40% seed colour change) to assess for the prevalence (% of crop infested) and incidence (% of plants within infected fields) of Sclerotinia, Blackleg, Aster Yellows, Alternaria, Verticillium Stripe and Clubroot.

In reviewing the results below, please note that "Prevalence" is the % of fields having infection across the province. "Severity" refers to the average rating (on a 0-5 scale) within infected fields. All these results and more information on the individual survey year can be found in the [Canadian Plant Disease Survey](#) publication from the Canadian Phytopathological Society. The reference for each survey is below that year's table.

Method

In each field, 100 plants are selected from a "W" pattern, where the five points of the "W" are at least 20 paces apart. All plants are pulled from the soil and individually examined for presence of disease. Soil samples may also be collected to test for the presence of clubroot spores in the soil. Stem are cut at the base to evaluate the incidence and severity of basal stem cankers of blackleg. Stem lesions of blackleg, observed higher up on the plant, are recorded separately. Cut stems are also examined for symptoms of Verticillium stripe. Currently there is no severity rating scale for this disease.

Disease Survey Results

Table 1. Results of the 2023 canola disease survey. Prevalence (% of fields having infection) and incidence (average % of plant showing infection within infected fields) for a 5-year period and all fields surveyed.

2023 Fields Surveyed (129 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
% Prevalence	13	78	29	21	29	<1	9
Mean Severity	0.2	1.1	-	-	-	-	-
Reference: Survey of canola diseases in Manitoba in 2023. <i>Can. Plant Dis. Surv.</i> in press							
2022 Fields Surveyed (115 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
% Prevalence	41	85	57	4	38	0	4
Mean Severity	1.2	1.2	-	-	-	-	-
Reference: Survey of canola diseases in Manitoba in 2022. <i>Can. Plant Dis. Surv.</i> 103:126-129							
2021 Fields Surveyed (135 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
% Prevalence	2	84	50	7	30	0	8
Mean Severity	0.02	1.2	-	-	-	-	-
Reference: Survey of canola diseases in Manitoba in 2021. <i>Can. Plant Dis. Surv.</i> 102:151-154							
2020 Fields Surveyed (161 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
% Prevalence	39	83	53	3	30	<1	17
Mean Severity	1.0	1.4	-	-	-	-	-
Reference: Survey of canola diseases in Manitoba in 2020. <i>Can. Plant Dis. Surv.</i> 101:152-155							
2019 Fields Surveyed (165 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
% Prevalence	25	68	47	6	18	<1	12
Mean Severity	2.0	1.4	-	-	-	-	-
Reference: Survey of canola diseases in Manitoba in 2019. <i>Can. Plant Dis. Surv.</i> 100:199-204							

Regional Results

Table 2. Mean prevalence, incidence and severity of sclerotinia stem rot and blackleg in Manitoba in 2023.

Crop Region (No. of crops)	Sclerotinia stem rot					Blackleg basal cankers					Blackleg stem lesions		
	P ^a	DI ^b	DI ^c	Sev. ^b	Sev. ^c	P ^a	DI ^b	DI ^c	Sev. ^b	Sev. ^c	P ^a	DI ^b	DI ^c
Central (40)	15	0.4	2.7	0.2	1.3	75	13	17	0.9	1.2	28	0.7	2.6
East./Inter. (14)	29	1.4	4.8	0.5	1.7	64	17	26	1.2	1.8	7	0.1	1.0
Northwest (29)	21	1.5	7.0	0.4	2.2	72	6	8	1.0	1.4	21	0.6	3.0
Southwest (46)	2	0.02	1.0	0.1	4.0	87	7	8	1.2	1.4	41	1.5	3.7
All regions (129)	13	0.6	4.6	0.2	1.9	78	10	12	1.1	1.4	29	0.9	3.2

^aPrevalence (P).

^bDisease incidence (DI) or severity (Sev.) across all surveyed crops.

^cDisease incidence or severity in infested crops.

Table 3. Mean prevalence and incidence or severity of alternaria pod spot, aster yellows, and verticillium stripe in Manitoba in 2023.

Crop Region (No. of crops)	Alternaria pod spot		Aster yellows			Verticillium stripe				
	P ^a	Sev. ^c	P ^a	DI ^b	DI ^c	P ^a	DI ^b	DI ^c	Sev. ^b	Sev. ^c
Central (40)	5	1.0	23	0.8	3.3	28	1.2	4.3	n/a	n/a
East./Inter. (14)	29	1.0	0	0	0	14	1.0	7.0	n/a	n/a
Northwest (29)	17	1.2	41	1.3	1.3	48	11	11	n/a	n/a
Southwest (46)	2	1.0	13	0.8	6.3	22	0.4	1.8	n/a	n/a
All regions (129)	9	1.0	21	0.8	3.9	29	3.1	11	n/a	n/a

^aPrevalence (P).

^bDisease incidence (DI) and severity (Sev.) across all surveyed crops.

^cDisease incidence and severity in infested crops.

Canola Diseases Trend in Manitoba 2023

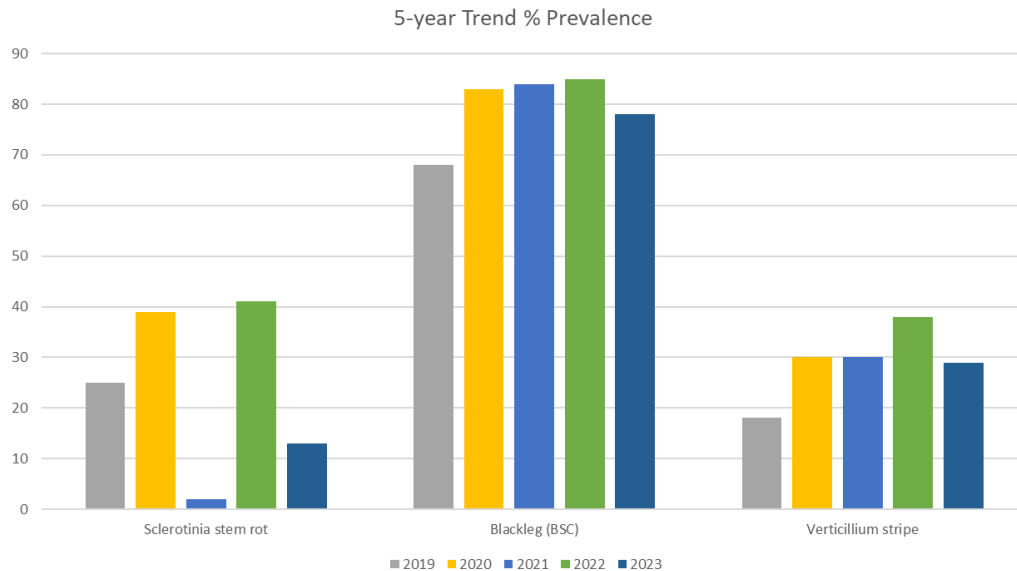


Figure 1. Prevalence of Sclerotinia, Blackleg and Verticillium Stripe over a 5-year period (2019 to 2023)

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Contact Us

Survey results compiled by the Manitoba Agriculture Disease Specialist and Manitoba Agriculture Oilseeds Specialist.

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