

Manitoba Canola Disease Survey



Overview

Canola is an economically important crop in Manitoba and 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/or weather on incidence and severity.

Annual canola disease surveys have been occurring in Manitoba since 1971 with collaboration from Agriculture and Agri-Food Canada (AAFC) and Manitoba Agriculture (MB Ag). The Canola Council of Canada and Manitoba Canola Growers Association also support the Manitoba canola disease survey. 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.

In more recent surveys (2009 to present), AAFC Brandon and MB Ag have targeted 130+ fields annually across the canola growing regions of Manitoba. The number of fields surveyed in each RM are weighted according to the intensity of canola production from the previous year. Surveys occur as canola is ripening (30-60% 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. "Incidence" is the % of plants in an infected field with the disease. "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 verticillium stripe. Stems identified with blackleg and/or verticillium are also sent for lab confirmation.

Disease Survey Results

Table 1. Results of the Manitoba canola disease survey from 2020-2024 [1, 2, 3, 4, 5].

2024 Fields Surveyed (138 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot*	Alternaria Pod Spot
		Basal	Stem				
Prevalence (%) ^a	57	77	58	28	60	0	38
Incidence (%) ^b	8.1	15.4	12.8	2.3	32.4	0	1.2
Mean Severity ^b	2.9	1.6	-	-	-	-	-
2023 Fields Surveyed (129 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
Prevalence (%) ^a	13	78	29	21	29	0	9
Incidence (%) ^b	4.6	12	3.2	3.9	11	0	1.0
Mean Severity ^b	1.9	1.4	-	-	-	-	-
2022 Fields Surveyed (115 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
Prevalence (%) ^a	41	85	57	4	38	0	17
Incidence (%) ^b	6.2	15.1	6.7	2.5	22.8	0	1.9
Mean Severity ^b	2.9	1.4	-	-	-	-	-
2021 Fields Surveyed (135 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
Prevalence (%) ^a	1.5	84	50	10	30	0	7
Incidence (%) ^b	1.5	12	7.1	3.4	15	0	1.1
Mean Severity ^b	1.5	1.4	-	-	-	-	-
2020 Fields Surveyed (161 in total)	Sclerotinia	Blackleg		Aster Yellows	Verticillium Stripe	Clubroot	Alternaria Pod Spot
		Basal	Stem				
Prevalence (%) ^a	39	83	53	3	30	<1	17
Incidence (%) ^b	5	23	13	1.6	13.3	0	1.1
Mean Severity ^b	2.6	1.4	-	-	-	-	-

* No clubroot symptoms were found during the 2024 general canola disease survey. For the current clubroot map for Manitoba, please refer to [Clubroot Distribution in Manitoba](#).

^a Prevalence (%) is the % of diseased fields out of the total number surveyed

^b Disease incidence and severity in diseased crops only

Regional Results

Table 2. Mean prevalence, incidence and severity of Sclerotinia stem rot and blackleg in Manitoba in 2024^[1].

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 (34)	62	6.6	10.6	2.1	3.5	79	9.4	11.8	1.2	1.5	82	13.2	16.1
East./Inter. (12)	50	1.4	2.8	0.8	1.6	67	18.0	27.0	0.8	1.2	25	0.7	2.7
Northwest (35)	60	4.9	8.2	1.8	2.9	74	5.1	7.1	1.1	1.5	54	2.8	5.1
Southwest (57)	53	3.9	7.3	1.5	2.8	79	15.9	20.1	1.4	1.7	53	8.2	15.5
All regions (138)	57	4.6	8.1	1.7	2.9	77	11.7	15.4	1.2	1.6	58	7.4	12.8

^aPrevalence (P) = % diseased fields.

^bDisease incidence (DI) = % diseased plants or severity (Sev.) = scale of 0-5 across all surveyed crops.

^cDisease incidence or severity in diseased crops.

Table 3. Mean prevalence, incidence and severity of Alternaria pod spot, aster yellows, Verticillium stripe and foot rot in Manitoba in 2024^[1].

Crop Region (No. of crops)	Alternaria pod spot		Aster yellows			Verticillium stripe					Foot rot		
	P ^a	Sev. ^c	P ^a	DI ^b	DI ^c	P ^a	DI ^b	DI ^c	Sev. ^b	Sev. ^c	P ^a	DI ^b	DI ^c
Central (34)	44	1.1	38	0.7	1.8	91	37.4	41.0	n/a	n/a	0	0	0
East./Inter. (12)	67	1.0	17	0.2	0	67	13.1	19.6	n/a	n/a	0	0	0
Northwest (35)	40	1.3	20	0.5	0.5	80	22.9	22.9	n/a	n/a	0	0	0
Southwest (46)	28	1.4	30	0.8	2.7	28	8.1	28.9	n/a	n/a	0	0	0
All regions (138)	38	1.2	28	0.6	2.3	60	19.5	32.4	n/a	n/a	0	0	0

^aPrevalence (P) = % diseased fields.

^bDisease incidence (DI) = % diseased plants and severity (Sev.) = scale of 0-5 across all surveyed crops.

^cDisease incidence and severity in diseased crops.

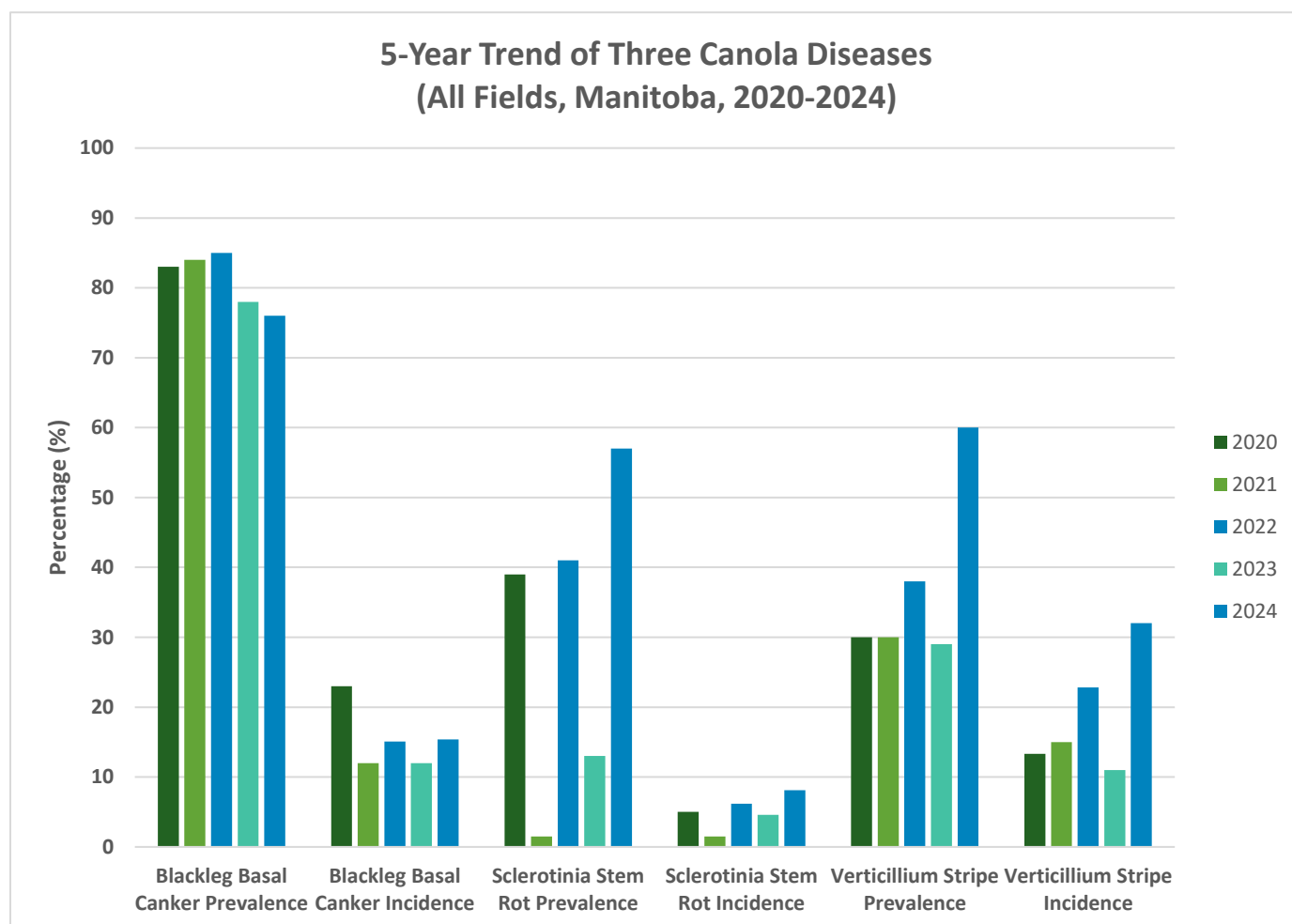


Figure 1. Prevalence (%) and incidence (%) of blackleg, sclerotinia, and verticillium stripe over a 5-year period (2020-2024). Incidence is in diseased crops only.

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Contact Us

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