Issue 11– July 19, 2024

Manitoba Potato Report

[Seasonal Reports](#) [Weekly Weather Maps](#) [Potato Production](#)

Provincial Summary

- Rainfall was variable and scattered in the potato growing areas across Manitoba.
- Most potato fields are doing very well and fields are at varying growth stages, most fields row-closed or nearly so. There is good tuber formation and sizing up well, more fields with over 3 inch tubers.
- Cumulative precipitation has been 135 to 198 % of the 30-year normal in potato growing areas.
- Aphid counts in the traps are still low. Young larvae of Colorado potato beetles are very active in many potato growing areas of Manitoba. European corn borer moth counts in Delta traps are still low by mid-July.
- Regular weekly reports with updates on disease and insect pests, including late blight risk forecasts on potatoes will also be available at *http://www.mbpotatoes.ca/index.cfm*. The site has SPRAYcast® that provides a 3-day spray advisory weather forecast for selected sites.

Ag Weather Data

Precipitation and Soil Moisture

Due to low precipitation in recent weeks, the top 30 cm soil zone has become drier relative to field capacity in many potato growing areas (*Fig.1*). The 0-120 cm depths have more moisture compared to top 30 cm zone. *https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf* and *https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-120cm.pdf.*

- This was a result of very little rainfall in the province from July 3 to July 13 (Fig 2).
- Precipitation (mm) in May and up to July 14 was above normal across agro-Manitoba, ranging from 135 % (Glenboro) to 198 % (Austin) in the selected sites (*Table 1*). *https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf.*

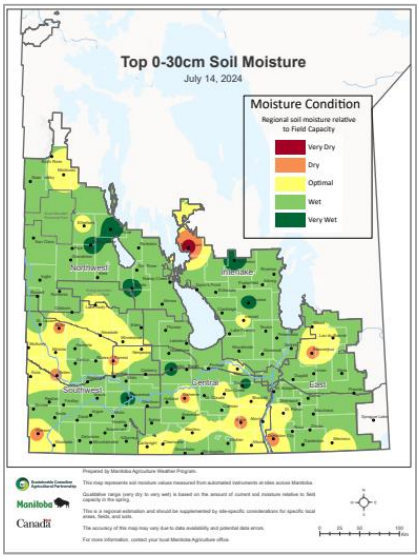

Fig. 1. 0-30 cm depth soil profile was much drier than lask week's profile. Similarly 0-120 cm depths were getting drier but had more moisture in most of agro-Manitoba potato areas.

Province of Manitoba | agriculture - Weather Conditions and Reports (gov.mb.ca)

Report compiled by Dr. Vikram Bisht
Potato and Horticulture Crop Pathologist, Manitoba Agriculture
[Subscribe](#) to the weekly Potato Report

Manitoba

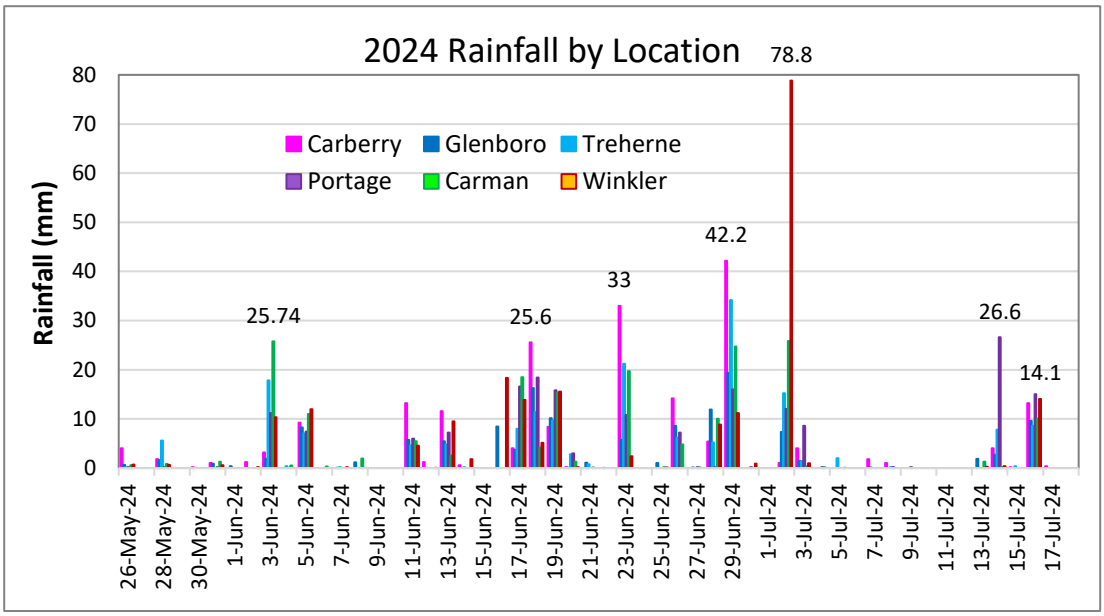

Fig. 2. After frequent rains in May and June, there were widespread rains on July 2, but very little from July 3 to 13. Fields have begun to dry and some need supplemental irrigation

Temperatures – Air and Soil

- The (July 8 to14) week was 3 - 4^{O}C warmer in the daytime than the previous week. The daytime high temperatures (July 8 to July 14) ranged from 30.0 (Treherne) to 32.3 ^{O}C (Carman). Overnight lows were similar to last week, and ranged from 11.7 (Cypress River) to 14.9 ^{O}C (St. Claude) (*Table 1*).
- P-Days (Potato Physiological days), cumulative heat units for potato growth was near normal (100 to 110 % of normal) during June 1 to July 14 (*Fig.3*). https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-p-day.pdf. By July 14 the cumulative P-Days ranged from 324 in Rivers to 332 in the Portage and St. Claude areas (P-Days (mbpotatoes.ca) . This range indicates the potato crop which emerged by June 1 should be in rapid bulking stage.
- Soil temperatures on July 14 at 5 cm ranged from 19 to 26 ^{O}C at various station sites and at 20 cm depths were around 19-24 ^{O}C in the selected sites across Manitoba. Such warm and wet soils favour blackleg, soft rot bacteria and other moisture loving pathogen.

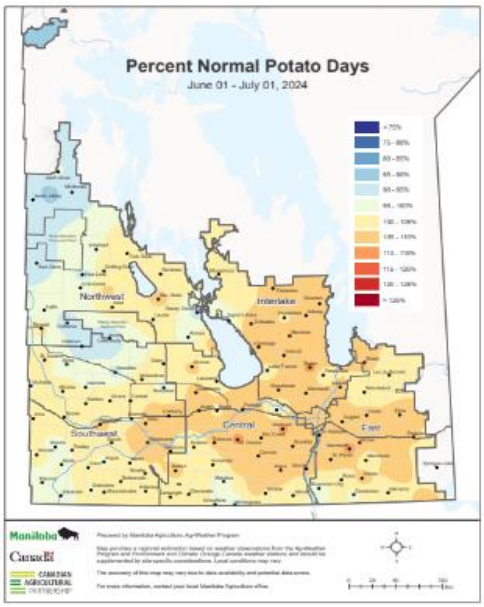

Fig. 3. The cumulative potato heat units, P-days are 100 to 110 % above normal from June 1 to July 14 -- this indicates that heat for potatoes is just perfect.

Manitoba

Weather Data Summary for Selected Potato Site Stations

- The week was 3-4 ^{O}C warmer during days than the previous week but similar lows at night (Table 1).
- The rainfall from July 8 to14 ranged from 0 mm in Altona to 37.1 mm in Shilo due to heavy rains on July 13.
- Cumulative rains from May 1 to July 14 are above the 30-year normal, ranging from 135 % (Glenboro) to 203 % (Austin).
- The "potato crop water demand" (CWD) for the week was generally higher than the rainfall received (Table 1) in almost all potato sites; only Shilo had more rain. CWD is a function of crop growth, air temperature and wind speed, all of which affect the water evapotranspiration from a crop.
- According to the Environment and Climate Change Canada (ECCC) current weather forecast, some scattered rain and thunderstorms are forecast for Friday night (July 19) and no rains until July 24 across Manitoba, with 30+ ^{O}C daytime highs and overnight lows in mid-teens. Manitoba - Weather Conditions and Forecast by Locations - Environment Canada

*Table 1. Manitoba Ag Weather Data – **July 8 to 14***

Region	Max Temp (ºC)	Min Temp (ºC)	Rain (mm) for the week	Crop Water Demand (mm) for the week	Rain (mm) (Since May 1)	2024 Rainfall (% of normal) since May 1	2023 Rainfall (% of normal) May1-Jul 16	2022 Rainfall (% of normal) May 1 – July 17
Altona	32.0	13.4	**0.0**	NA	268	**147**	**22**	103
Austin	32.3	13.8	24.1	**34.4**	324	**198**	**60**	186
Bagot	32.2	14.3	6.5	**33.1**	307	**188**	**56**	184
Carberry EC	32.1	12.1	3.7	**27.2**	297	**177**	**62**	155
Carman	32.3	13.5	1.5	**27.1**	302	**179**	**54**	111
Cypress River	30.1	11.7	9.1	NA	304	**158**	**49**	126
Glenboro	31.7	12.9	4.5	**29.9**	236	**135**	**71**	140
Holland	30.7	12.0	13.7	**31.1**	277	**144**	**59**	137
Morden							**25**	121
Portage EC	31.5	14.5	19.0	**35.1**	274	**167**	**46**	119
Rivers	30.3	11.8	0.1	**26.2**	251	**166**	**94**	178
Shilo	31.0	12.1	**37.1**	29.8	327	**194**	**133**	160
St. Claude	31.0	14.9	3.1	**30.4**	284	**163**	**51**	112
Treherne	30.0	12.3	7.8	**25.3**	277	**159**	**30**	116
Wawanesa	31.7	12.9	11.0	**27.4**	286	**170**	**75**	149
Winkler	31.9	13.3	0.5	**29.0**	340	**187**	**50**	114

For more Manitoba weather information, visit: *www.gov.mb.ca/agriculture/weather*

Crop Progress

- Most potato fields are doing well, with full canopy between rows. Two to three fungicide applications before row closure have been applied, and more in hail affected fields. The early part of the week had scattered thunderstorms and hail damage in some fields on July 13/14 (Fig. 4).
- Warm days and cool nights are favorable for tuberization, especially with good soil moisture. Tuber bulking ranges from tuber initials to over 3 inch size in many fields, and >4 inches in some.

- There are more reports of minor metribuzin herbicide injury on the processing potatoes. A occurrence of group 4 herbicide damage has been reported..

Fig.4. Hail damage after weekend thunderstorms. Photo: a: Kurtis McKee (JPW Farms), b:.Heat runners have started appearing in some fields. Photo: Vikram Bisht (Manitoba Agriculture)

Fig.5. Irrigation has started in many areas, to prepare for the hot days forecasted in a few days. Photo: Vikram Bisht (Manitoba Agriculture).

Disease Monitoring

- Thunderstorms and hail have caused stem and foliage injury, which are prone to fungal and bacterial infection. Low incidence of blackleg infected plants are still being being reported.
- Early blight (EB) spores in Spornado traps continue to be high between July 8 to15 (Table 2) compared to previous weeks. Early blight is being noticed in many fields (Fig. 6), with differences between varieties. The P-Day values have exceeded 300 in all potato growing areas; it is the critical level when EB can become serious under current favourable conditions.
- In some fields common scab-like symptoms have been noted (Fig. 7). Lab testing will be conducted to confirm *Streptomyces* or *Spongospora* fungi.

Fig.6. Foliar symptoms – early blight on the mid to top leaves have been noticed in more fields across Manitoba. Photos Vikram Bisht (Manitoba Agriculture).

Fig. 7. Common scab appearing symptoms on a young crop. . Photos: a: Vikram Bisht & Cassidy Phillips (Manitoba Agriculture).

Late Blight Monitoring

Montitoring and Forecasting

- Late blight Disease Severity Values (DSVs) are cumulative numbers starting from June 1. Please refer to the risk maps on Late Blight (mbpotatoes.ca).
- **Currently, the cumulative DSV numbers (June 1-July 17) are 12 to 29. At many locations the critical value of 18** is the initial threshold of risk of blight if inoculum is present in the area. DSVs in Gladstone, Carman, Winkler and Glenboro are high. **7-Day DSVs suggest moderate to high late blight risk in the presence of inoculum in potato growing areas** (Fig. 8)**.** *(Carberry station values are anomaly).*
- A network of 16 passive Spornado traps for late blight spores has been set up across Manitoba. Spore trapping is another tool-in-the-box of late blight management.
- The fourth week of cassette collections from the spore traps was on Tuesday, July 15. Results from the PCR testing are included in table 2 below.
- No late blight (*Phytophthora infestans*) spores trapped in the week (July 8 to 15) (Table 2). However, high numbers of early blight spores continue to be trapped.
- Late blight risk maps, P-Days, and SprayCast maps are available at http://www.mbpotatoes.ca/index.cfm.

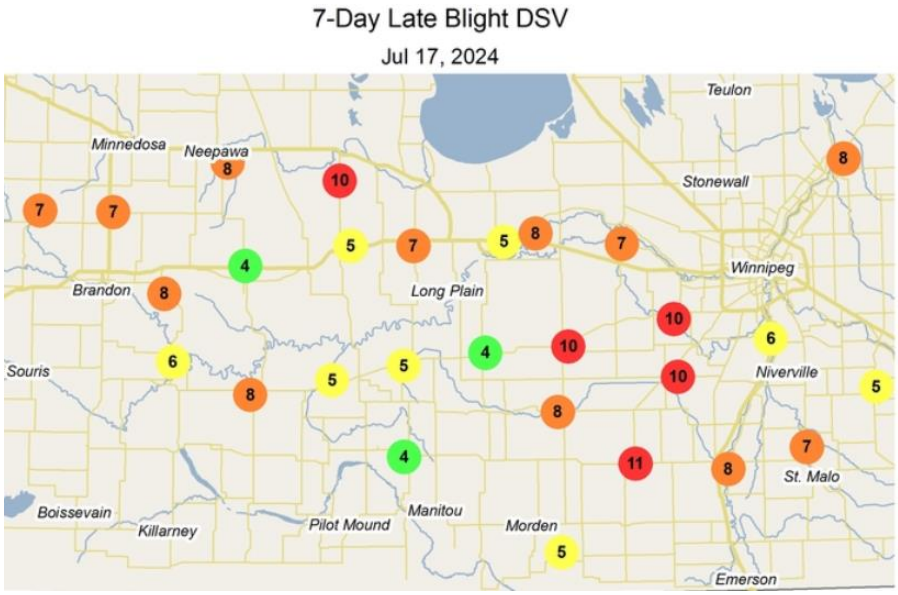

Fig. 8. 7-day Cumulative DSVs suggest moderate to high level of late blight risk in the presence of late blight spores.

Table 2: Phytophthora infestans sprore trapping and PCR results week 4 (July 8 - 15).

Spore Trap Locations	Pi spores	Early blight (spore #s) max	Spornado Sr. No.
Rivers – SS (WL22)	Negative	428,000	F462
Shilo – MW	Negative	606,000	H362
Douglas – MW	Negative	69,700	F456
Wellwood – SS (WL)	X		
Carberry N- 31C-#5 - SS	Negative	293,000	F371
Carberry N - Acad- HC	Negative	12,000	H381
Carberry South (B) – MW	Negative	132,000	F467
Glenboro – MW	Negative	33,000	F362
MacGregor – SG	Negative	188,000	H361
Melbourne – SG	Negative	72,600	F194
Treherne – CC	Negative	50,000	F 461
Cypress River – CC	Negative	80,400	F 464
Bagot – DM-Delta	Negative	23,500	F463
Portage – SG	Negative	75,000	F192
Carman – SG	Negative	106,000	LF-12
Stephenfield – VB	Negative	2,110,000	F459

Insect Pests Monitoring

- Suction and pan traps for **aphid monitoring** have been set up in eight seed potato fields across Manitoba. Regular weekly monitoring is in the fouth week. Samples were received from all eight sites.
- Early season aphid counts continue to show low population levels (Table 3), however, compared to last week the aphid counts are higher. No green peach aphid at any site but potato aphids were trapped at one site. Minnesota aphid alert has advised, even though the aphid numbers were currently low, the count is increasing, and green peach aphids were also recorded.

- Overwintering adults of **Colorado potato beetles** (CPBs) are now active in all potato growing regions of Manitoba, but more so in southern Manitoba. Egg masses and early instars of larvae have been reported from many locations (Fig.9). The larval stages are quite sensitive to foliar insecticides.
    - Scouting for infestation and multiplication is helpful in determining the timing for foliar insecticides, if needed. Eggplants are a preferred host as compared to potatoes.
- Delta traps with Iowa strain **European corn borer** pheromone lures have been set up in some fields, mostly in western potato growing areas of Manitoba where high populations have been noted in previous years. Low counts of ECB moths have been trapped with an average of <1 moth per trap.
- However, 100's of **micro-lepidoptera** moths have been trapped on the ECB delta-traps (Fig. 10). Currently, it is not known if these are pests on potato crop, and maybe from nearby grasslands.

Table. 3. Weekly Aphid Report – Week 4 (July 8– July 15) 2024

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphids	Total *	ALH	PLH	Comments
Southern Region									
Field 1-H	**Winker**	Stanley	0	0	17	17	0	0	No sample
Field 2-K	**Stephenfield**	Dufferin	0	0	2	**2**	0	0	Lots of thrips
Field 3-S	**Winkler**	Rhineland	0	0	0	0	0	0	
Central Region									
Field 4-S	**Swan Lake**	Victoria	0	0	0	0	0	0	1 Buckthorn
Field 5-S	**Glenora**	Argyle	0	0	1	1	3	0	
Field 6-S	**Westbourne**	Portage La Prairie	0	0	2	2	0	0	
Western Region									
Field 7-A	**Wellwood**	North Cypress-Langford	0	5	6	11	0	0	
Field 8-S	**Carberry**	North Cypress-Langford	0	0	0	0	0	0	No pan traps

** The aphid counts are a summation from a suction trap and two pan traps in a field.*
******* *Suction fan may not be working.*
ALH = Aster leafhopper, PLH = Potato leafhopper.

Fig. 9. Egg masses (left) and early instars of CPB (right) are being reported from more locations in Manitoba. Often beneficial insects (right – lady beetle larva). do a good job of beetle larvae control Photos: a: Vikram Bisht (Manitoba Agriculture), b: Mitch Blyth (Crop Care).

Fig. 10. Large number of micro-lepidoptera moths were trapped on European corn borer (iowa strain pheromone lure) traps. The ECB numbers are so far very low.

Growers and industry stakeholders, please report or submit for diagnosis, any disease or insect observations of importance. If you suspect late blight in your area, please contact vikram.bisht@gov.mb.ca, or 204-745-0260

Manitoba