Issue 10 – July 12, 2024

Manitoba Potato Report

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

Provincial Summary

- After July 2, there has been little rainfall across Manitoba, and many fields have started drying rapidly.
- Most potato fields are doing very well, with even mid-June planted fields showing emergence. Fields are at varying growth stages, from early emergence to row-closure.
- Early planted fields are showing good tuber formation and sizing up well, with over 3 inch tubers.
- Cumulative rain so far has been 151 to 203 % of normal in potato growing areas.
- Bacterial blackleg and early blight are showing up in many fields.
- Early season aphid trapping is low. Overwintering adult Colorado potato beetles are now very active in all potato growing areas of Manitoba.
- 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 frequent and widespread rainfall, the top 30 cm was generally wet relative to field capacity by July 7 in most potato growing areas (*Fig.1*). The 0-120 cm depths are also still wet relative to field capacity. *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.*
- Precipitation (mm) in May and up to July 7 was above normal across agro-Manitoba, ranging from 151 % (Glenboro) to 203 % (Winkler) in the selected sites (*Table 1*). *https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf.*
- After May 25, scattered rains occurred on June 3, 11, 13, 16, 18,19, 23, 26, 28, 29 and July 2 which were quite widespread across Manitoba but little rainfall occurred July 3-10 (Fig. 2).

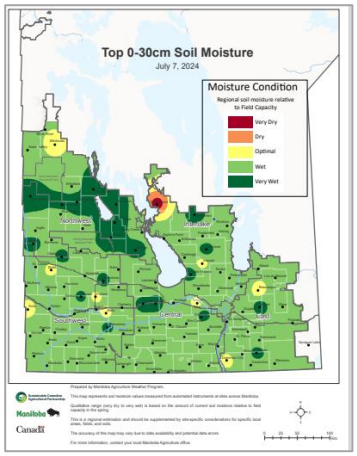

Fig. 1. 0-30 cm depth soil profile were wet relative to field capacity. Similarly 0-120 cm depths were wet in most of agro-Manitoba potato areas.

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

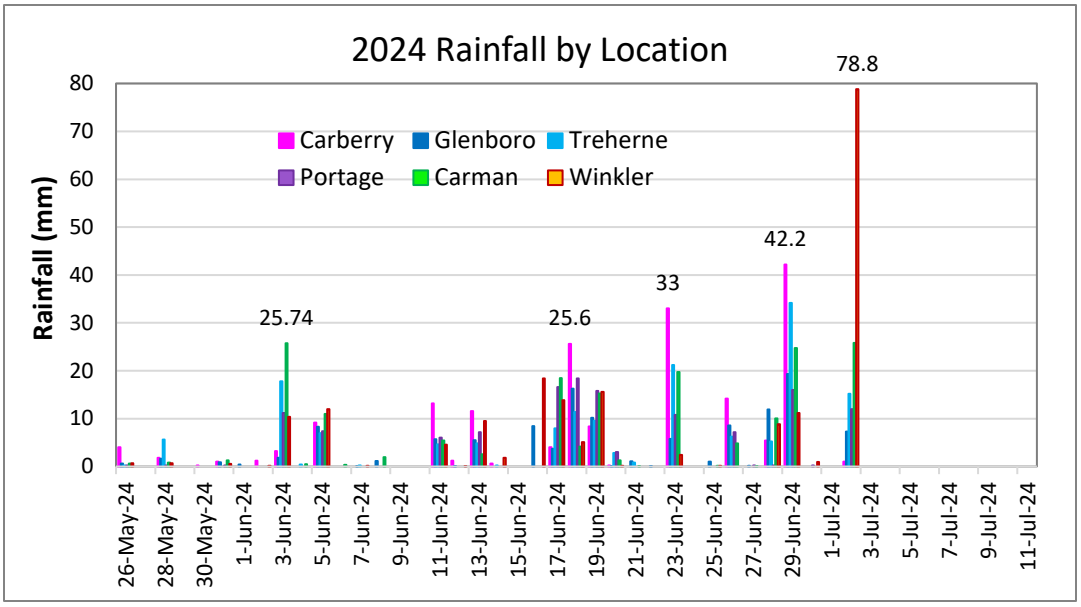

Fig. 2. Heavy and widespread rain on May 25 was followed by frequent rains in June, leading to many wet fields across Manitoba. There were widespread rains on July 2, but very little since July 3.

Temperatures – Air and Soil

- The (July 1-7) week was 1 - 2 ^{O}C cooler in the daytime than the previous week. The daytime high temperatures (July 1 to July 7) ranged from 25.9 (Rivers) to 28.1 ^{O}C (Winkler) and overnight lows were warmer than last week, and ranged from 9.3 (Shilo) to 13.3 ^{O}C (Carman) (*Table 1*).
- P-Days (Potato Physiological days), cumulative heat units for potato growth was near normal (100 to 115% of normal) during June 1 to July 7 (*Fig.3*). https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-p-day.pdf. By July 10 the cumulative P-Days ranged from 291 in Rivers to 332 in Portage and St. Claude area (P-Days (mbpotatoes.ca).
- The heat accumulation in terms of GDD from May 1 to July 7 is below normal. https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-gdd.pdf
- Soil temperatures at 5 cm ranged from 19 to 23.5 ^{O}C by July 10 and at 20 cm depths were around 17-21 ^{O}C in the selected sites across Manitoba. Such warm and wet soils favour blackleg and soft rot bacteria.

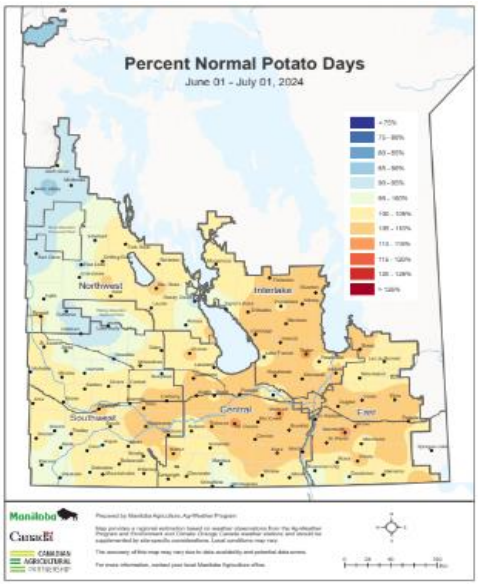

Fig. 3. The cumulative potato heat units, P-days are 100 to 115 % above normal from June 1 to July 7 -- this indicates that heat for potatoes is just perfect.

Weather Data Summary for Selected Potato Site Stations

- The week was 1-2 C cooler during days than the previous week but 5-6 C warmer at night (Table 1).
- The rainfall from July 1-7 ranged from 3.4 mm (Austin) to 79.7 mm in Winkler due to heavy rains on July 2.
- Cumulative rains from May 1 to July 7 are above the 30-year normal, ranging from 151 % (Glenboro) to 203 % (Winkler).
- According to the Environment and Climate Change Canada (ECCC) current weather forecast, some scattered rain and thunderstorms are forecast from Friday night (July 12) to Monday (July 15) 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 1 – July 7***

Region	Max Temp (ºC)	Min Temp (ºC)	Rain (mm) for the week	Rain (mm) (Since May 1)	2024 Rainfall (% of normal) since May 1	2023 Rainfall (% of normal) May 1 – July 9	2022 Rainfall (% of normal) May 1 – July 9
Altona	26.6	13.1	62.6	268	**162**	24	110
Austin	27.3	12.0	3.4	300	**202**	66	203
Bagot	27.5	12.1	19.3	301	**202**	59	198
Carberry EC	26.4	9.6	4.7	293	**202**	72	170
Carman	27.6	13.3	26.3	301	**198**	59	114
Cypress River	26.8	10.5	10.1	295	**174**	55	129
Glenboro	26.5	10.9	8.8	231	**151**	80	138
Holland	26.5	10.2	12.7	263	**155**	66	142
Morden	26.4	13.2	67.3	317	**189**	27	121
Portage EC	27.6	12.9	16.9	255	**172**	46	129
Rivers	25.9	10.9	38.5	251	**185**	103	181
Shilo	26.7	9.3	15.9	290	**200**	153	172
St. Claude	26.5	13.1	18.7	281	**179**	57	119
Treherne	26.1	11.0	17.0	269	**171**	32	120
Wawanesa	27.0	10.3	27.1	275	**189**	85	153
Winkler	28.1	13.2	79.7	340	**203**	53	102

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

Crop Progress

- Most potato fields are doing well, with over 24 inch plants. In most early planted fields, the canopy is closed-in between rows (Fig 4). Two to three fungicide applications before row closure have been applied.
- Warm days and cool nights are favorable for tuberization, especially with good soil moisture. Tubers range from tuber initials to over 3 inch size in many fields (Fig 5).
- Hilling operations and other ground operations including herbicide applications are being completed in areas which were earlier disrupted due to wet fields.
- There are more reports of minor metribuzin herbicide injury on the processing potatoes (Fig 6). Under cool and wet conditions, the injury appears to be more severe.

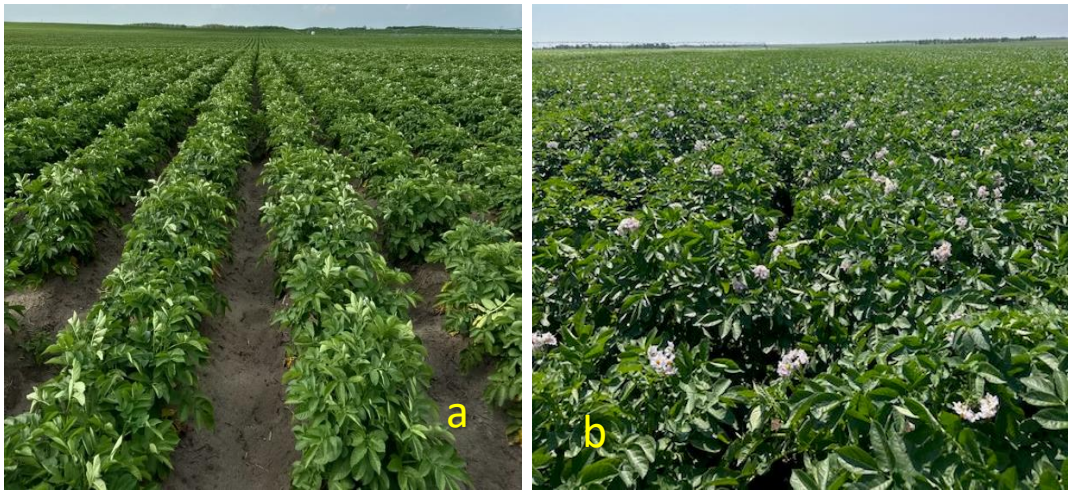

Fig.4. Rangers – nearly row covered to full canopy cover Photos: a: Steve Saunderson (Choice Agri), b:. Orla Sheridan (Shilo Farms)

Fig.5. Tuber formation in early planted fields. Photos: a: Orla Sheridan (Shilo Farms), b: Mark Robertson (Robertson Farms)

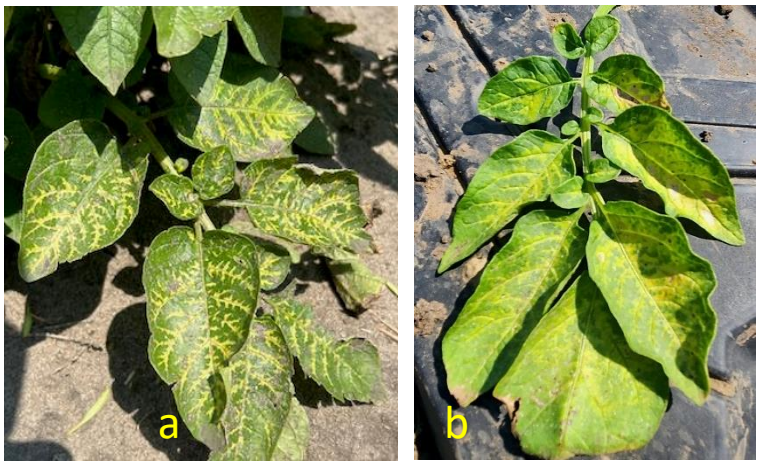

Fig.6. Metribuzin injury on Ranger Russet. – showing as yellow veins. Photo: a: Orla Sheridan (Shilo Farms), b: Kurtis McKee (JPW Farms).

Disease Monitoring

- The 0-30 soil profiles in many areas are still wet (based on field capacity). Thunderstorms and hail have caused stem and foliage injury at some site. These sites are prone to fungal and bacterial infection. More blackleg infected plants are being reported (Fig 7 a, b, c). With increasing soil temperatures the blackleg incidence is expected to become more obvious.

- Early blight (EB) spores in Spornado traps were much higher between July 2-8 (Table 2) compared to previous weeks. With canopy cover between rows increasing, there could be more reports of EB. The P-Day values have exceeded 300 in most potato growing areas; it is the critical level when the EB can become serious under current favourable conditions (Fig. 8).

Fig. 7 a,b,c) Blackleg affected plants. Photos: a: Janelle Lavich & b: Steve Saunderson (Choice Agri); c: Mohemmed Elshetehy (MHPEC). With warm and wet conditions there is probability of more blackleg in wet fields.

Fig. 8. Early blight symptoms on the mid to top leaves have been noticed in more fields across Manitoba. Photos a: Orla Sheridan (Shilo Farms), b: Kurt Ginter (KR Crop Check).

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 10) has crossed the critical value of 18 at many locations; 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.**
- A network of 16 passive Spornado traps for late blight spores, across Manitoba has been set up. Spore trapping is another tool-in-the-box of late blight management. It does not replace in-field scouting.
- The third week of cassette collections from the spore traps was on Tuesday, July 8. Results from the PCR testing are included in table 2 below.

- No late blight (*Phytophthora infestans*) spores trapped in the week (July 2 to 8) (Table 2).
- Late blight risk maps, P-Days, and SprayCast maps are available at http://www.mbpotatoes.ca/index.cfm.

Table 2: Phytophthora infestans sprore trapping and PCR results **Wk 3 (July 2– July 8).**

Spore Trap Locations	Pi spores	Early blight (spore #s) max	Comments	Spornado Sr. No.
Rivers – SS (WL22)	Negative	110,000		F462
Shilo - MW	Negative	204,000		H362
Douglas – MW	Negative	57,000		F456
Wellwood – SS (WL)	x		No Sample	
Carberry N- 31C-#5 - SS	Negative	580,000		F371
Carberry N - Acad- HC	Negative	21,100		H381
Carberry South (B) – MW	Negative	48,600		F467
Glenboro – MW	Negative	13,900		F362
MacGregor – SG	Negative	2,050		H361
Melbourne – SG	Negative	379		F194
Treherne – CC	Negative	10,300		F 461
Cypress River – CC	Negative	20,500		F 464
Bagot – DM-Delta	Negative	74,700		F463
Portage – SG	Negative	13,200		F192
Carman – SG	Negative	122,000		LF-12
Stephenfield - VB	Negative	9,210		F459

- **Late blight, US #23 strain has been confirmed from Ontario – Dennis Van Dyk (July 3, 2024)**
  - A brief update on late blight confirmations in Ontario Canada as summarized by Dr. Kutay Ozturk, Extension potato pathologist with the University of Maine.
  - Late blight was found in Ontario potatoes (Elgin County) and field tomatoes (Kent County).
    https://onvegetables.com/2024/07/03/late-blight-update-14/
    https://onvegetables.com/2024/07/05/late-blight-update-15/

Insect Pests Monitoring

- Suction and pan traps for aphid monitoring have been set up in eight seed potato fields across Manitoba. Regular weekly monitoring has started.
- Early season aphid counts showed low population levels in Manitoba (Table 3). Samples were received from 6 sites out of 8. Buckthorn aphid (potato colonizers) was trapped at one of six sites. No Green peach aphid or Potato aphid were trapped.
- 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.
- Overwintering adults of Colorado potato beetles (CPBs) are now active in all potato growing regions of Manitoba, but more so in southern Manitoba. CPBs are now multiplying at varying population densities. 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.

Table. 3. Weekly Aphid Report – Week 3 (July 2– July 8) 2024

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphids	Total *	ALH	PLH	Comments
Southern Region									
Field 1-H	**Winker**	Stanley	-	-	-	-	-	-	No sample
Field 2-K	**Stephenfield**	Dufferin	0	0	2	**2**	0	0	Some thrips
Field 3-S	**Winkler**	Rhineland	-	-	-	-	-	-	No sample
Central Region									
Field 4-S	**Swan Lake**	Victoria	0	0	6	6	0	0	1 Buckthorn
Field 5-S	**Glenora**	Argyle	0	0	2	2	0	0	
Field 6-S	**Westbourne**	Portage La Prairie	0	0	3	3	0	0	
Western Region									
Field 7-A	**Wellwood**	North Cypress-Langford	0	0	5	5	0	0	Some thrips
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. Early instars of CPB have been reported from many locations in Manitoba. These larvae are voracious feeders and can cause serious defolation on unprotected crops. Photo:a: Kurt Ginter (KR Crop Check), b: Vikram Bisht (Manitoba Agriculture).

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