

Issue 18 – September 6, 2024

Manitoba Potato Report



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Provincial Summary

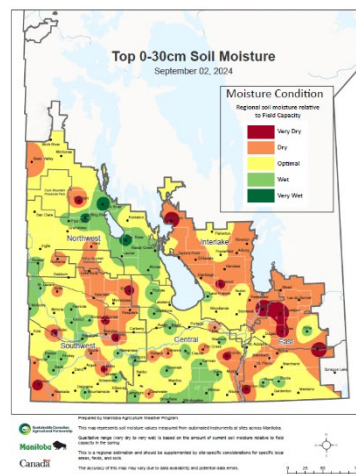
- Lack of substantial rainfall across potato areas of Manitoba led to drier soil moisture in the top 30 cm zone. The cumulative precipitation from May 1 to September 2 is still above the 30-year normal, ranging from 110 to 166% of normal.
- With P-Days over 720 in all of agro-Manitoba, the potato crops are in maturation phase.
- The main harvest for storage is just starting while harvesting for “direct from field to process” continues.
- There is no late blight reported yet in Manitoba. Spore trapping for late blight has ended for the season. Last week late blight was reported from Wisconsin and Minnesota, but none since.
- “Potato early dying” is being reported from more fields, but appears less severe than in 2023.
- Total aphid counts in the traps had a sharp decrease to almost negligible levels. No green peach aphids, and potato aphids were trapped this week. Most seed potatoes have been desiccated.
- Regular weekly reports are also 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

- For the week of Aug. 26 to Sept. 2, there was generally less rainfall in most potato growing areas of the province compared to last week (Table 1, Fig. 2), and ranged from 0.3 mm (Rivers) to over 20 mm (Glenboro and Winkler). [Province of Manitoba | agriculture - Weather Conditions and Reports \(gov.mb.ca\)](http://www.gov.mb.ca/agriculture/weather/conditions-reports).
- The cumulative rains from May 1 to Sept. 2 are still above the 30-year normal, ranging from 110% (Glenboro) to 166% (Winkler) at the selected sites (Table 1). <https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>
- Since mid-July, there has been very little rainfall in most potato growing areas until widespread rains on Aug. 14, 15, 22 and 29. However, lack of significant amounts of rain in many areas, has led to drier top 30 cm zone compared to last week. (Fig.1). [soil-moisture-30cm.pdf \(gov.mb.ca\)](http://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf)

Fig. 1. Due to lack of substantial rains since Aug 14/15, the soil moisture (relative to field capacity) in 0-30 cm zone has become drier compared to last week. The potato areas are mostly optimal to dry 0-30 cm zone.



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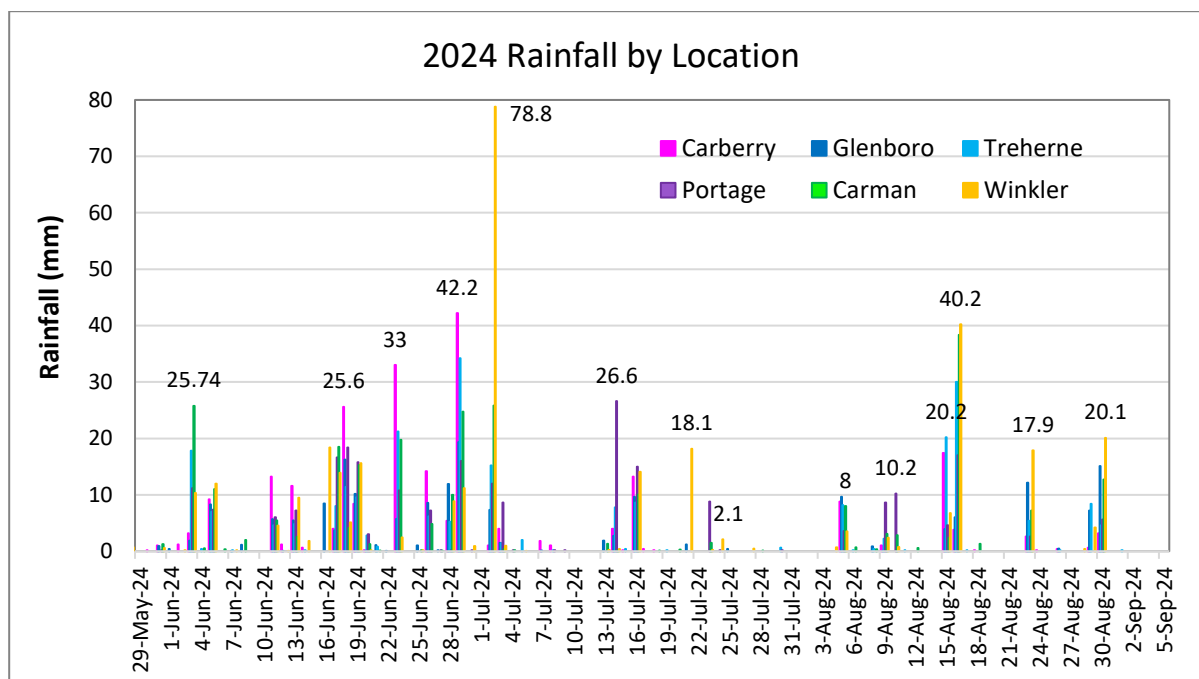


Fig. 2. There have been frequent rains in June, July and August, but relatively less from mid-July until mid-August.

Temperatures – Air and Soil

- Daytime high temperatures from Aug. 26 to Sept. 2 were 2-4 °C cooler than the previous week, ranging from 25.9 °C (Altona) to 27.8 °C (Rivers). Overnight lows were generally around 2 to 6 °C cooler than last week, and ranged from 4.4 °C (Rivers) to 7.5 °C (St. Claude) (Table 1).
- Total accumulated heat units for potato growth, P-Days (Potato Physiological days) from June 1 (50% potato emergence) to Sept. 2 was 100 to 110% of the 30-year normal in the potato growing areas. <https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-p-day.pdf>. By Sept. 3, the cumulative P-Days ranged from around 720+ in Rivers, Shilo, Wawanesa and Carberry to around 760+ in the Gladstone, Austin, Portage, St. Claude and Carman areas ([P-Days \(mbpotatoes.ca\)](https://www.gov.mb.ca/agriculture/weather/pubs/p-days-mbpotatoes.ca)). This heat range indicates that potato crops which emerged by June 1 are in maturation stage.
- Soils have started cooling down slowly. Since a peak of 19-26 °C on Aug. 2 at 5 cm depths, the soil temperatures have cooled down to 15-20 °C by Sept. 2. At 20 cm soil depths the temperatures peaked around Aug. 1 (18-25 °C) and have cooled to 16-20 °C by Aug. 25. Under such warm soil conditions, there is moderate risk of Pythium leak and Phytophthora pink rot in moist soils.

Weather Data Summary for Selected Potato Site Stations

- The “potato crop water demand” (CWD) for the week was much higher than the rainfall received in all potato sites with weather stations (Table 1). CWD for the week ranged from 24.3 to 34.4 mm in the selected potato sites. All areas needed supplemental irrigation.
- According to the Environment and Climate Change Canada (ECCC) current weather forecast, some precipitation was forecast for Sept. 5 and 6 at a few potato sites, but sunny in the rest of the province from Sept. 7 to 11. Forecast for temperature highs are projected to be up to 30+ °C from Sept. 8 to 11; and overnight lows from 6 to 13 from Sept. 6 to 11. [Manitoba - Weather Conditions and Forecast by Locations - Environment Canada.](#)

- The conditions for spraying can be confirmed at [SPRAYcast@ \(mbpotatoes.ca\)](mailto:SPRAYcast@mbpotatoes.ca). It is important to check spray conditions before spraying pesticides around sensitive crops or close to homes. Non-target applications can cause economic and health problems.

Table 1. Manitoba Ag Weather Data –August 26 – September 2

Region	Max Temp (°C)	Min Temp (°C)	Rain (mm) for the week	Crop Water Demand (mm) for the week	Rain (mm) (Since May 1)	2024 Rainfall (% of normal) since May 1
Altona	25.9	6.2	7.7	NA	363	127
Austin	27.8	5.6	8.8	31.1	368	136
Bagot	26.7	6.4	10.9	28.3	375	139
Carberry EC	27.6	5.8	3.2	26.9	341	127
Carman	26.2	6.7	12.7	24.3	391	143
Cypress River*						
Glenboro	26.7	5.0	22.2	26.8	302	110
Holland	27.2	5.1	6.9	32.2	391	143
Morden*						
Portage EC	27.3	7.3	5.5	34.4	339	125
Rivers	27.8	4.4	0.3	29.9	299	126
Shilo	27.7	4.9	2.2	33.9	367	136
St. Claude	26.6	7.5	17.2	29.3	357	131
Treherne	27.6	7.3	13.4	28.5	362	133
Wawanesa	27.2	4.8	10.0	27.9	334	124
Winkler	26.9	3.9	24.6	28.7	471	166

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

* Data was unavailable. NA – Crop water demand data not available.

Crop Progress

- Crops are in rapid tuber bulking and maturation stages and are over 10 oz size in many fields. Though Russet Burbank are still green, many other varieties are turning color.
- Some crops that are short of nitrogen and/or moisture are showing higher levels of early dying. Due to frequent rains some of the fields lost nitrogen, and the fertigation may not have been able to meet the crop needs in a timely manner.
- Eleven to thirteen fungicide applications have been applied so far in some farms and a few insecticide applications mostly for Colorado potato beetles. In seed crops 4 to 5 insecticide applications along with petroleum oils have been applied, including Afidopyropen (Sefina). Most seed crops were being desiccated last week.
- Harvest for storage has just started in some farms while harvest for “direct from field” to processing plant continues. Up to 25% of the crop has been harvested in some farms. Due to warm conditions it is important to monitor tuber pulp temperatures and stop harvest when temperatures become high. Warm tubers in storage could lead to storability issues.

Disease Monitoring

- Early blight (EB) spores in Spornado traps were generally much higher this week compared to last week’s high *Alternaria solani* trap counts (Table 2). It appears the rains on August 28 and 29 may have favoured

high sporulation and dispersal. Early blight is now prevalent in most of Manitoba, and the spore production continues.

- Potato early dying (PED), caused by verticillium wilt and black dot diseases, is being observed in many areas (Fig. 3a,b). The disease became more severe after 2-3 weeks of high temperatures and low rainfall in many areas of the province. However, the overall severity appears to be lower than the last 2 to 3 years.
 - This year, shortage of nitrogen in some wet fields (due to leaching and inability to timely fertigate) may also have caused N-deficiency stress, making the crops more prone to PED.



Fig. 3.a, b) Potato Early Dying (PED) is becoming more severe in high stress areas especially in high spots in fields; b) both Verticillium wilt and black dot disease are now easily seen in the fields.

Late Blight Monitoring

Monitoring and Forecasting

- **Late blight Disease Severity Values (DSVs)** are cumulative numbers starting from June 1. Please refer to the risk maps on [Late Blight \(mbpotatoes.ca\)](http://mbpotatoes.ca).
- Currently, the **cumulative 7-Day DSV numbers on Sept. 3, suggest low risk** of late blight in most potato growing areas of Manitoba, if the inoculum is present (Fig. 4).
- Collection at the 16 passive Spornado traps for late blight spores has ended for the season. Spore trapping is another tool-in-the-box of late blight management, but does not replace scouting.
- The eleventh week of cassette collections from the spore traps at a few sites, was on Tuesday, Sept 3.. Results from the PCR testing are included in table 2 below.
 - No late blight spores were trapped in the week (Aug. 26 – Sept. 3) (Table 2).
 - Depending on the location, the spore numbers of *A. solani* trapped were substantially higher than anytime in the season (Table 2). The **Alternaria leaf-spot (ALS) diseases** are present in all potato growing areas of the province. The sudden surge appears to have coincided with widespread rains on August 28 / 29.
- Late blight risk maps, P-Days, and SprayCast maps are available at <http://www.mbpotatoes.ca/index.cfm>.

7-Day Late Blight DSV
Sep 3, 2024

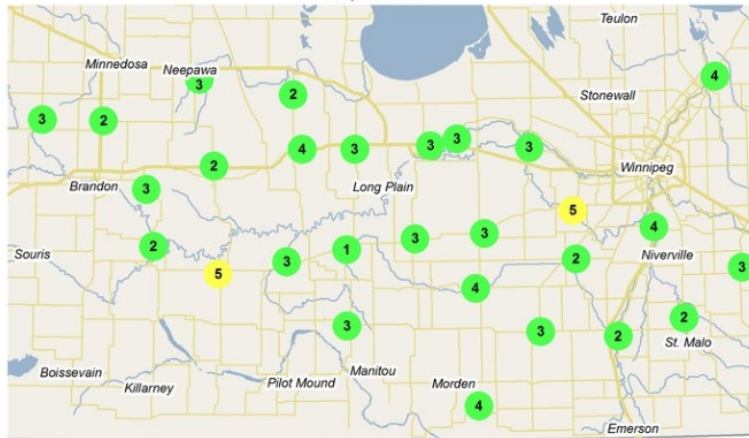


Fig. 4. 7-day cumulative DSVs for the week suggest that conditions have led to low risk of late blight, in the presence of inoculum.

Table 2 *Phytophthora infestans* and *Alternaria solani* spore trapping PCR results – week 11 (Aug. 26 – Sept. 6).

Spore Trap Locations	Pi spores	Early blight (spore #s) max	Spornado Sr. No.
Rivers – SS (WL21)	Negative	400,000	H002
Shilo – MW	Test results not received		H362
Douglas – MW	Test results not received		F456
Wellwood – SS – 32-12	Negative	136000,000	F462
Carberry N – HW#5 – SS	Negative	91,400,000	F371
Carberry N - Acad- HC	Negative	1110	H381
Carberry South (B) – MW	Test results not received		F467
Glenboro – MW	Test results not received		F362
MacGregor – SG	No sample	-	H361
Melbourne – SG	No sample	-	F194
Treherne – CC	Negative	116,000,000	F 461
Cypress River – CC	No sample	-	F 464
Bagot – DM-Delta	Negative	26,300,000	F463
Portage – SG	No sample	-	F192
Carman – SG	No sample	-	LF-12
Stephenfield – VB	No sample	-	F459

“-“ Samples not received / collected by shipping time.

- No new reports of late blight from Wisconsin or Minnesota, after end of August incidences. This was the first confirmation of late blight on tomato or potato in WI and MN for 2024.

Insect Pests Monitoring

- Suction and pan traps for **aphid monitoring** set up in eight seed potato fields across the province is now terminated for the season. Weekly monitoring is in the eleventh week.

- Samples were received from five out of eight sites.
- Most seed crops at these sites have been top-killed.
- The week's aphid counts from the five sites were only eight aphids, a drastic reduction from the two previous weeks (Table 3). A total of 8 aphids were trapped in week 11, with an average of 1.6 per trap site, compared to 554 in week 10, with an average of 69.3 per trap site.
 - There were no **Green peach aphids** (GPA) or **potato aphids (PA)** trapped at any site.
 - The drastic reduction in aphid counts appears to have been related to use of Afidopyropen (Sefina), as informed by the growers; there could be other factors too.
- MN/ND aphid trap counts had also dropped significantly compared to the previous week. Rains and low temperatures were considered to be the reasons for the drop.

Table. 3 Weekly Aphid Report – Week 11 (Aug. 26 – Sept. 3) 2024

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphid	Total *	ALH	PLH	Comments
Southern Region									
Field 1-H	Winker	Stanley	0	0	7	7	0	0	Crop terminated.
Field 2-K	Stephenfield	Dufferin	0	0	0	0	0	0	Crop terminated.
Field 3-S	Winkler	Rhineland	-	-	-	-	-	-	No sample. Crop terminated.
Central Region									
Field 4-S	Swan Lake	Victoria	-	-	-	-	-	-	No sample. Crop terminated.
Field 5-S	Glenora	Argyle	-	-	-	-	-	-	No sample. Crop terminated.
Field 6-S	Westbourne	Portage La Prairie	0	0	0	0	0	0	Thrips
Western Region									
Field 7-A	Wellwood	North Cypress-Langford	0	0	1	1	0	0	
Field 8-S	Carberry	North Cypress-Langford	0	0	0	0	0	0	Crop terminated.
Totals of 5 sites			0	0	8	8	0	0	

* 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.

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.