

# Issue 17– August 30, 2024

## Manitoba Potato Report



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### Provincial Summary

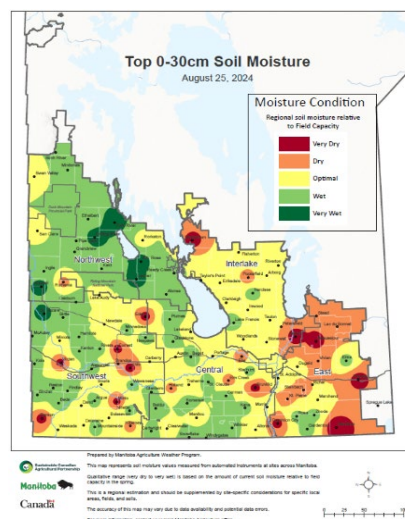
- There was widespread rainfall on August 14, 15 and 22 across Manitoba which improved the soil moisture in the top 30 cm zone. The cumulative precipitation from May 1 to August 25 is still above the 30-year normal, ranging from 107 to 166% of normal.
- With P-Days over 660 in all of agro-Manitoba, the potato crops are in rapid tuber bulking and some in tuber maturation stage. The tuber set is 8 to 18 per plant for various varieties and size profile is good.
- Harvesting for “direct from field to process” continues.
- There is no late blight reported yet in Manitoba, but reported from Wisconsin and Minnesota this week.
- “Potato early dying” is being reported from more fields, but it appears less severe than in 2023.
- Total aphid counts in the traps had a sharp increase again over last week. Many green peach aphids, and potato aphids were trapped this week, along with other aphids.
- 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 (Aug. 19 to 25) there was less rainfall in most potato growing areas of the province compared to last week (Table 1, Fig 1, 2), ranging from 2.7 mm (Carberry) to 19.9 mm (Rivers). [Province of Manitoba | agriculture - Weather Conditions and Reports \(gov.mb.ca\)](https://www.gov.mb.ca/agriculture-weather-conditions-reports).
- The cumulative rains from May 1 to Aug. 25 are still above the 30-year normal, ranging from 107% (Glenboro) to 166% (Winkler).at the selected sites (Table 1). <https://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>
- Widespread rains on Aug. 14, 15 and 22 recharged the top 30 cm soils in many potato growing areas. The 0-30 cm soil moisture with respect to the field capacity is now generally wet to optimal (Fig.1). [soil-moisture-30cm.pdf \(gov.mb.ca\)](https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf)

Fig. 1. Due to rainfall on August 14, 15, and 22, the soil moisture (relative to field capacity) in 0-30 cm zone has become mostly optimal to wet with a few areas still dry in potato growing areas.



Report compiled by Dr. Vikram Bisht  
Potato and Horticulture Crop Pathologist, Manitoba Agriculture  
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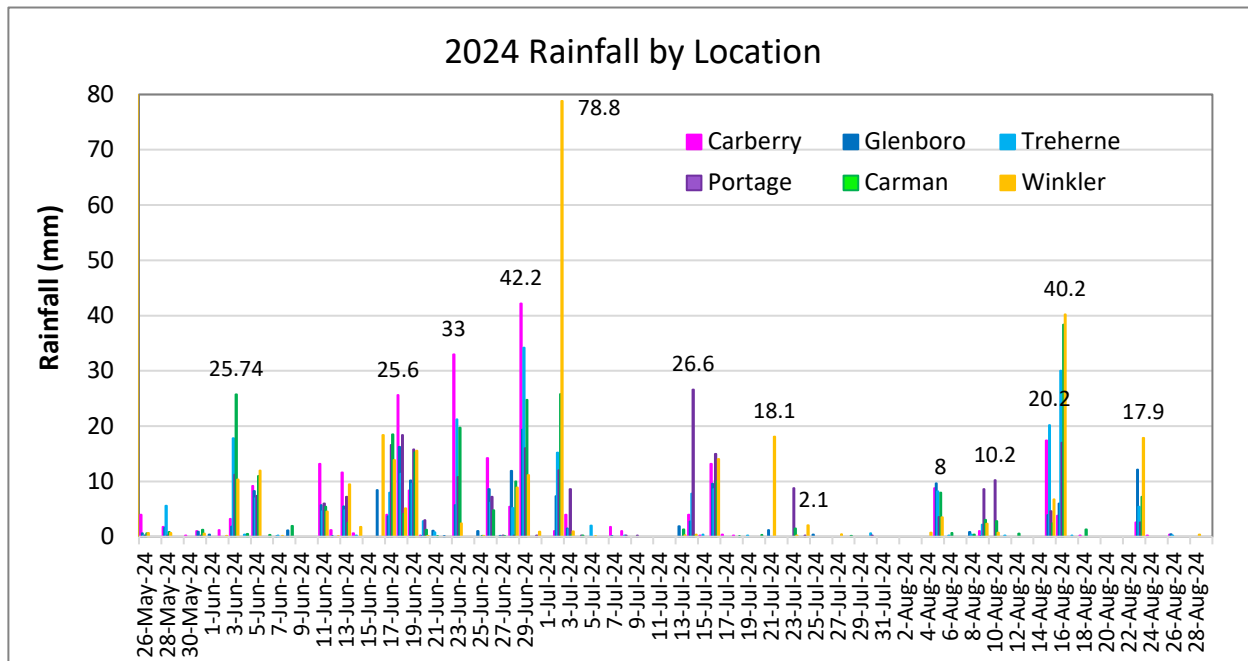


Fig. 2. There were frequent rains in May and June, on July 2-3, but relatively less from mid-July to end of July; until Aug. 14 and 15. Supplemental irrigation was needed from early July to most of August.

- Since mid-July there has been very little rainfall in most potato growing areas, until widespread rains on Aug. 14, 15, and 22. These rains have improved the soil moisture especially in the top 30 cm zone.

### Temperatures – Air and Soil

- Daytime high temperatures from Aug. 19 to 25 were 2-4 °C warmer than the previous week, ranging from 29.2 °C (Rivers) to 32.7 °C (Winkler). Both Rivers and Winkler were the coolest and warmest of the selected sites last week also. Overnight lows were generally around 2 to 6 °C warmer than last week, and ranged from 10.9 °C (Rivers) to 14 °C and over in Altona, Portage and St. Claude (*Table 1*).
- Total accumulated heat units for potato growth, P-Days (Potato Physiological days) from June 1 (50% potato emergence) to Aug. 25 was mostly 105 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 Aug. 25, the cumulative P-Days ranged from around 660 in Rivers, Shilo and Carberry to around 705+ in the Gladstone, Portage and St. Claude areas (*P-Days (mbpotatoes.ca)*). This heat range indicates that potato crops which emerged by June 1 are in rapid bulking and maturation stages.
- 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 slightly to 17-23 °C by Aug. 25. At 20 cm soil depths the temperatures peaked around Aug. 1 (18-25 °C) and have cooled to 16-22 °C by Aug. 25. Under such warm soil conditions, the risk of Pythium leak and Phytophthora pink rot increases 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 19.3 mm (Carman) to 31.6 mm (Holland).

- According to the Environment and Climate Change Canada (ECCC) current weather forecast, some precipitation was forecast for August 31 at a few potato sites in SE Manitoba, but sunny in rest of the province from Aug. 30 to Sept. 4. The forecast for temperature highs are in mid to high 20s °C and overnight lows in the teens from Aug. 30 to Sept. 4. [Manitoba - Weather Conditions and Forecast by Locations - Environment Canada.](#)
- The conditions for spraying are poor from Aug. 29 to 31 for large periods of the days, in many areas due to strong winds [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 losses and health problems.

**Table 1. Manitoba Ag Weather Data –August 19 - 25**

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	31.8	14.0	6.5	NA	356	130
Austin	30.0	13.7	5.5	25.0	359	<b>138</b>
Bagot	30.0	13.7	5.7	23.4	365	<b>140</b>
Carberry EC	30.3	13.0	2.7	24.0	338	<b>131</b>
Carman	30.4	13.7	7.1	19.3	379	<b>144</b>
Cypress River*						
Glenboro	30.1	12.9	12.5	23.7	280	<b>107</b>
Holland	30.8	12.8	8.4	31.6	338	<b>117</b>
Morden*						
Portage EC	29.7	14.2	3.6	28.8	334	<b>129</b>
Rivers	29.2	10.9	19.9	30.8	298	<b>134</b>
Shilo	30.2	12.4	5.1	30.0	364	<b>142</b>
St. Claude	29.4	13.9	4.2	22.5	340	<b>129</b>
Treherne	29.2	13.6	5.5	23.0	348	<b>132</b>
Wawanesa	30.2	12.8	6.2	24.0	324	<b>126</b>
Winkler	32.7	13.7	17.8	25.7	447	<b>166</b>

For more Manitoba weather information, visit: [www.gov.mb.ca/agriculture/weather](http://www.gov.mb.ca/agriculture/weather)

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

## Crop Progress

- Warm days and cool nights are favorable for tuberization, especially with good soil moisture. Tuber set has been fairly good, ranging from 8-20 per hill (Fig. 3). Crops are in rapid tuber bulking stages and are over 10 oz size in many fields (Fig. 4).
- 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.
- On some farms ten to twelve fungicide applications have been made so far along with a few insecticide applications, mostly for Colorado potato beetles. In seed crops 4 to 5 insecticide applications along with petroleum oils have been applied. Seed crops desiccation has started, but due to a slow start, many seed crops have not been terminated yet.
- Harvest for “direct from field” to processing plant continues.





Fig.3: Tuber set appears good in many fields. Photos: Orla Sheridan (Shilo Farms).



Fig.4: Tuber set is generally very good, with varying levels of bulking. Photo: Leon Jarvis (Simplot).

## Disease Monitoring

- Early blight (EB) spores in Spornado traps were much lower this week, compared to last week's substantially high *Alternaria solani* trap counts (Table 2). It appears the rains on Aug. 14, 15, and 22 have favoured high sporulation and dispersal. Early blight is now prevalent in most of Manitoba, and the spore production continues. Ranger Russets and early maturing varieties are showing high levels, reaching mid to top of canopy.
- Potato early dying (PED) is being observed in many areas, the disease became more apparent after 2-3 weeks of high temperatures and low rainfall in many areas of the province. However, the 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 added N-deficiency stress. Lack of N makes plants more prone to PED.

# 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://www.mbpotatoes.ca).
- Currently, the **cumulative 7-Day DSV numbers on Aug. 29**, suggest moderate to high risk of late blight in Manitoba, if the inoculum was present. (Fig. 5).
- 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, and does not replace scouting.
- The tenth week of cassette collections from the spore traps was on Monday, Aug. 26. Results from the PCR testing are included in table 2 below.
  - No late blight (*Phytophthora infestans*) spores were trapped in the week (Aug. 19-26) (Table 2).
  - Depending on the location, the spore numbers of *Alternaria 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 Aug. 14, 15 and 22, which may have favoured high sporulation and dispersal.
- Late blight risk maps, P-Days, and SprayCast maps are available at <http://www.mbpotatoes.ca/index.cfm>.

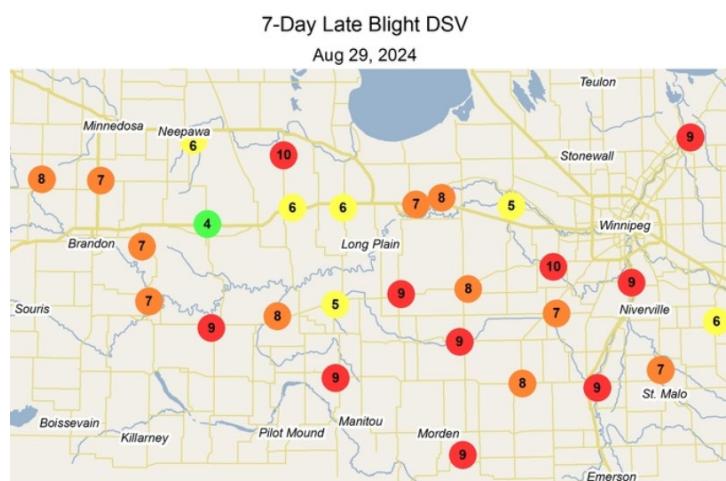


Fig. 5. 7-day cumulative DSVs for the week suggest that conditions have led to moderate to high risk of late blight, in the presence of inoculum.

Table 2: *Phytophthora infestans* and *Alternaria solani* spore trapping – PCR results – week 10 (August 19-26).

Spore Trap Locations	Pi spores	Early blight (spore #s) max	Spornado Sr. No.	Spore #s vs last wk
Rivers – SS (WL21)	Negative	8,480,000	H002	Higher
Shilo – MW	Negative	1,860,000	H362	Lower
Douglas – MW	Negative	37,500	F456	Lower
Wellwood – SS – 32-12	Negative	1,320,000	F462	Lower
Carberry N – HW#5 – SS	Negative	1,220,000	F371	Lower
Carberry N - Acad- HC	Negative	4,770,000	H381	Lower
Carberry South (B) – MW	Negative	318,000	F467	Lower
Glenboro – MW	Negative	27,500,000	F362	Higher
MacGregor – SG	Negative	41,900	H361	Lower



Melbourne – SG	Negative	1,020,000,	F194	Higher
Treherne – CC	Negative	9,290,000	F 461	Lower
Cypress River – CC	Negative	<b>6,350</b>	F 464	Lower
Bagot – DM-Delta	Negative	167,000	F463	Lower
Portage – SG	Negative	1,210,000	F192	Lower
Carman – SG	Negative	643,000	LF-12	Lower
Stephenfield – VB	Negative	87,600	F459	Lower

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

### **Two reports of Late Blight from outside Manitoba:**

1. Amanda Gevens (Aug. 28): **Tomato late blight was confirmed today on foliar and fruit tissues (Fig. 6) from a plant sample submitted from the western edge of Dane County, Wisconsin.** Work on strain / genotype identification will be conducted soon. The lesions appear to be roughly one week-10 days old. This was first noted as possible sunscald as the symptoms on tomato fruit can appear to be dark brown, sunken, and 'dry' under some conditions. The tell-tale sign of late blight is the white sporulation growing in some areas of the lesions. This is the first confirmation of late blight on tomato or potato in Wisconsin for 2024.



Fig. 6. First report of late blight in Wisconsin in 2024, on tomato fruits, apparently 10-day old lesions on fruits..

2. **Late blight has been confirmed in Minnesota – Aug. 29** – Andy Robinson (NDSU). Strain identification will be done as soon as possible.

## **Insect Pests Monitoring**

- Suction and pan traps for **aphid monitoring** have been set up in eight seed potato fields across the province. Weekly monitoring is in the tenth week. Samples were received from seven out of eight sites. At one site the seed crop had been top-killed.
- The week's aphid count from seven sites was 554, over double of last week's 248 total count from all eight sites (Table 3). Catches in the pans were higher than the suction traps.
  - There were 10 **Green peach aphids (GPA)** and 12 **potato aphids (PA)** trapped from mostly in south and central seed potato sites.

- Potato-colonizing aphids can spread the PVY to cleaner fields from nearby high levels of inoculum. Some commercial non-seed fields appear to have very high percentage of virus infected plants. Spraying with protective parafinic oils along with insecticide is recommended. Protection is necessary while the foliage remains green.
- Many seed fields have been top-killed or will be soon. It is best to protect the green foliage from aphid infestation until they are completely desiccated, to prevent issues in post-harvest tests.
- MN/ND aphid trap counts dropped compared to the previous week. The only aphid species with a significant drop this week was soybean aphids. Most other vector species numbers were down slightly from last week with the exception of buckthorn, black bean and potato aphids.
- Aster leafhoppers (ALH) and potato leafhoppers (PLH) were trapped in many seed fields.

Table 3. Weekly Aphid Report – Week 10 (Aug. 19 - 26) 2024

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphid	Total *	ALH	PLH	Comments
<b>Southern Region</b>									
Field 1-H	<b>Winker</b>	Stanley	5	6	331	342	1	3	Lots of thrips
Field 2-K	<b>Stephenfield</b>	Dufferin	0	4	68	72	0	1	Lots of thrips
Field 3-S	<b>Winkler</b>	Rhineland	3	0	42	45	0	0	
<b>Central Region</b>									
Field 4-S	<b>Swan Lake</b>	Victoria	0	1	13	14	1	2	
Field 5-S	<b>Glenora</b>	Argyle	-	-	-	-	-	-	No sample. Crop terminated.
Field 6-S	<b>Westbourne</b>	Portage La Prairie	2	0	21	23	0	5	Lots of thrips
<b>Western Region</b>									
Field 7-A	<b>Wellwood</b>	North Cypress-Langford	0	1	4	5	3	0	0
Field 8-S	<b>Carberry</b>	North Cypress-Langford	0	0	53	53	1	15	0
<b>Totals of 8 sites</b>			<b>10</b>	<b>12</b>	<b>532</b>	<b>554</b>	<b>6</b>	<b>26</b>	

\* 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](mailto:vikram.bisht@gov.mb.ca), or 204-745-0260.