

Issue 16 – Aug 31, 2023

Manitoba Potato Report



Weekly Provincial Summary

- The week (Aug 21-27) was as warm as last week, with the high temperatures crossing 31°C in some potato areas, while overnight lows were about 2°C cooler.
- There was hardly any rainfall during this week in Manitoba; but the crop water demand was lower in the maturing potato crops.
- Crops are still being regularly irrigated where needed; it is time for tuber maturation. There is very low foliar disease on potatoes, but Verticillium wilt and black dot related early dying is showing up more.

Overview

- Daytime high temperatures ranged from 29.0 to 31.2°C at various weather stations.
- Compared to widespread rainfall last week in the province, very little rainfall was recorded this week (Aug 21-27).
- Crops are in maturation phase. Potato raw delivery to the processors is ongoing for 3 weeks “direct-from-field”. Yield estimates appear to be 10-15% higher than last year.
- The late blight risk this week again was moderate to high at various locations. No late blight has been reported in Manitoba. No late blight spores were trapped in Manitoba.
- Early dying in potato is increasing in severity and incidence in many potato fields.
- Aphid and European corn borer monitoring has been stopped for the season. Green peach and Potato aphid numbers were high in 2023 as compared to 2022. High numbers of these two aphid types could be a concern for PVY in seed potatoes.
- Regular weekly reports and other features will also be available at:
<http://www.mbpotatoes.ca/index.cfm>.

Ag Weather Data

Precipitation and Soil Moisture

- There was scant rainfall in the province from Aug 21 to 27, ranging mostly from 0.4 (Portage) to 8.3 mm (Carman) in Manitoba (Table 1).
- The lack of rains lowered cumulative precipitation for the growing season to much below normal, and mostly ranged from 29 to <70%; with the exception of Rivers (87%) being closest to normal (Table 1, Fig. 1).
<http://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>
- Due to lack of rains, the soil moisture status in the province has not changed much from last week’s generally optimum to very dry category at 0-30 cm soil depth across Manitoba (Fig. 2).
<https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf>

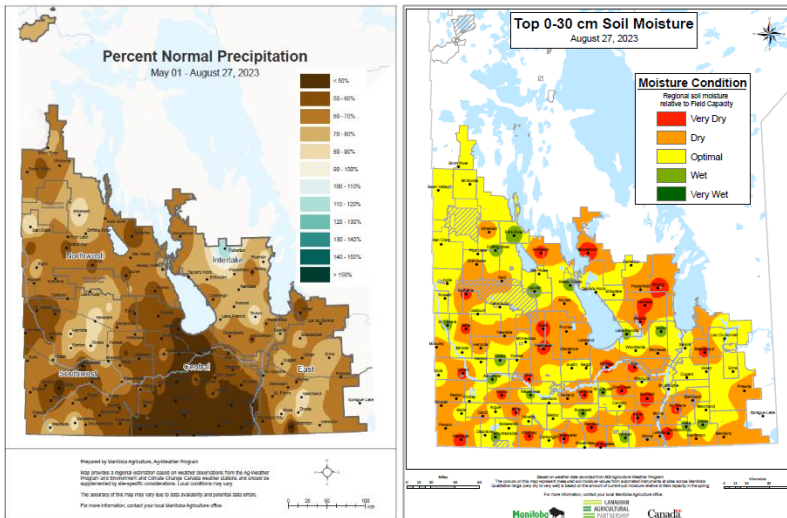


Fig. 1. (left). Rainfall (mm) in May to August 27 continues to be significantly below normal in most of the potato growing areas, generally <50 to 60% of normal.

Fig. 2. (right). Soil moisture (0-30 cm depth) by August 27 stayed similar to last week: optimum to very dry due to lack of rains in the week. Crop water demand for potatoes continues to be high, but has reduced compared to last week.

Temperatures – Air & Soil

- The daytime temperatures during the week were similar to last week. The high temperatures ranged from 29.0 to 31.2°C. The overnight minimums also were 2-3°C cooler than last week's, ranging from 4.7 to 8.9°C (Table 1).
- The P-Days (Potato Days with base 7°C and 30°C max) has reached 650 to 700 in different potato areas (www.mbpotatoes.ca) by August 27, indicating that the crops are in tuber maturation phase. The P-Days range from 100 to 110% above normal in the potato areas - indicating Manitoba has enough heat units for the potato crop.

Weather Data Summary for Selected Potato Site Stations

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

Table 1. Manitoba Ag Weather Data – Aug 21- Aug 27 for selected potato growing areas.

*Crop Water Demand: cwd (www.mbpotatoes.ca)

Region	Max Temp (°C)	Min Temp (°C)	Rain (mm) for the week	Crop Water Demand this Week	Rain (Since May 1) (mm)	Crop Water Demand Jun 1-Aug 27	2023 Rainfall (% of normal) from May 1 to Aug 27
Altona	29.0	7.4	8.0	-	95	-	34
Austin	29.0	8.9	3.9	16.2	173	286.8	65
Bagot	30.1	7.2	3.1	16.4	127	286.1	48
Carberry EC	29.3	6.3	2.9	14.3	147	237.2	57
Carman	31.2	8.5	8.3	16.1	157	258.9	59
Cypress River	30.3	7.7	2.1	-	142	-	48
Glenboro	29.8	6.9	2.8	14.3	161	252.5	61
Holland	30.1	6.8	2.1	19.5	154	312	53
Morden	31.2	8.5	5.6	-	80	-	29
Portage EC	30.5	6.8	0.4	19.6	115	327.9	43
Rivers	29.0	4.7	2.7	16.6	195	271.8	87
Shilo				No Data			
St. Claude	29.7	7.4	1.3	17.2	139	291	52
Treherne	30.5	6.7	1.8	18.4	94	304.7	35
Wawanesa	29.7	6.4	3.2	15.8	183	263.4	71
Winkler	30.7	7.1	7.2	14.4	128	276.4	46

Agronomics

- Crop water demand (CWD) for the week was 14.2 to 19.6 mm (nearly half) compared to last week's 29 to 39.1 mm. There was scant and scattered rainfall in the week to meet the week's CWD for potato growing areas in Manitoba (Table 1).
- Supplemental irrigation was needed in a few fields (Fig. 3).
- Preventative fungicide applications continue against early blight and late blight.
- P-Days are 100 to 110% of normal, and currently around 650 to 700 in most potato growing areas ([P-Days \(mbpotatoes.ca\)](http://mbpotatoes.ca)), which is suggesting rapid bulking and maturation phase. The day and night temperature differential is also good for bulking.



Fig. 3. Irrigation is still ongoing to meet the crop water demand. Last week had very scant rains across Manitoba.

Crop Progress

- Crops are turning lighter green to yellowish with maturity, and cooler overnight temperature.
- Tuber bulking and maturation is progressing well with warm days and cool nights. Delivery of raw material for processing “direct-from-field” is still continuing. Yields from these fields are termed “respectable” by the farms; some are estimating 10-15% higher than average yields.
- All seed fields have been desiccated to avoid virus transmission in to the seed from the high Green peach aphid and Potato aphid numbers.
- The warm weather is preventing harvest of some fields which may to be ready for putting storage. The main harvest may begin after the first week in September. Bringing warm tubers into storage can lead to storage issues.

Disease & Insect Pests Monitoring

- Verticillium wilt, which is an endemic problem in many fields, is appearing to be more widespread and severe as the crops are nearing maturity. In many fields these early dying plants are also infected with black dot disease on stems (Fig. 4 a, b). Black dot infected stems appear bleached/white-brown from a distance. There are marked differences between fields in incidence and severity of Verticillium early dying (Fig 5).

- Early blight continues to be reported from more fields on Rangers and early maturing varieties. Protective fungicide applications are continuing where needed.



Fig.4a, b, c. Early dying due to Verticillium wilt (a) and also black dot (b). Photos: Vikram Bisht, Manitoba Agriculture). c: Early dying with Verticillium and black dot. Photo: Kurtis McKee (JP Wiebe farms).



Fig.5. There are significant differences between fields, in early dying due to Verticillium wilt and black dot. (a) Field with very low incidence of early dying compared to (b) very high levels Photos: Vikram Bisht, Manitoba Agriculture).

Aphid monitoring has been stopped. Most fields being monitored have been terminated / desiccated. Seed potato fields are desiccated early to avoid the late August surge of aphids. High Green peach aphid (GPA) and Potato aphids (PA) were the highlight of 2023 and were much higher than in 2022.

European Corn Borer (ECB) monitoring using Delta traps has been stopped for the season. ECB damage to potato stems is still seen at low levels from western Manitoba, but the incidences are minor.

Late Blight Monitoring

- Late blight risk forecasting is provided on a regional basis on www.mbpotatoes.ca. Due to widespread rains in Manitoba, the 7-Day Disease Risk values are pointing to moderate to high risk of disease, if the inoculum were present (Fig. 6).
- From late blight spore trapping network of 17 passive Spornado traps:
 - **No late blight spores were detected in the samples processed in the 10th week of collection** (Aug 21-27). (Table 2).
 - With moderate to high risk conditions, scouting for the disease in low lying and wind protected areas is critical.
 - Early blight disease has been reported from many locations. PCR testing for early blight (*Alternaria solani*) spores was surprisingly negative for all sites last week; but some sites are positive this week, even though disease is present at different severities in almost all locations.

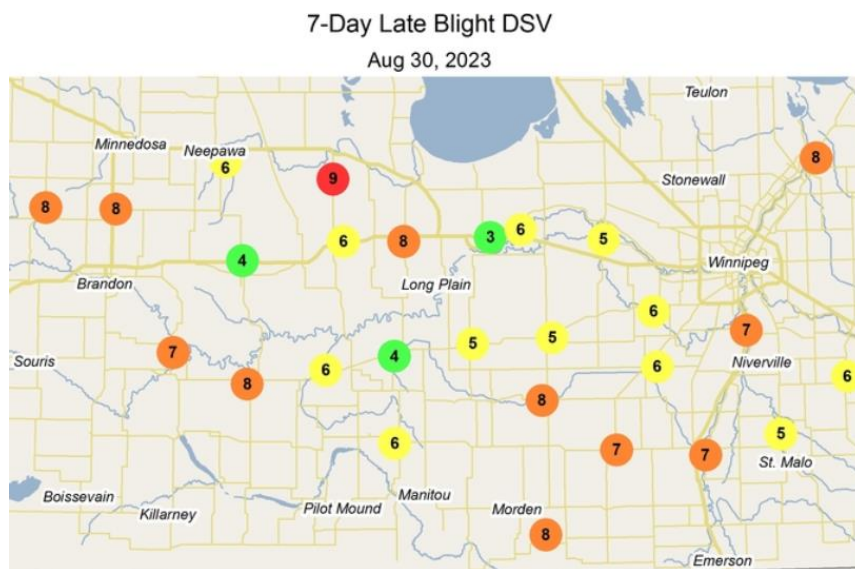


Fig. 6. 7-day cumulative late blight DSVs up to Aug 30 indicate moderate to high risk conditions for late blight disease, if the inoculum were present.

Table 2: Phytophthora infestans spore trapping and PCR results Week 11 (Aug 214 – Aug 27).

Spore Trap Locations	Pi spores	Early blight (spore #s)	Comments
Shilo – OS	N/A		
Wawanesa –SG LF12	Negative	Positive (509,000) <i>Last week: Negative</i>	
Douglas – MW F362	Negative	Negative	
Field W22-Carberry N –SS F369/ 371	N/A		
Field 31C – Carberry N – SS F465 /462	N/A		
Carberry N – AU F319	N/A		
Carberry South – MW F456	Negative	Negative	
Carberry North – MW F457	Negative	Negative	
Brookdale – KJ F465	Negative	Negative	
Cypress River – SG F194	Negative	Positive (703,000) <i>Last week: Negative</i>	
Melbourne – SG F192	Negative	Positive (664,000) <i>Last week: Negative</i>	
Treherne – JG F461	N/A		
Portage – HB F464	Negative	Negative	
McDonald / Portage - SG/KPPA F459	Negative	Negative	
Bagot – DM-Delta F463	Negative	Positive (272) <i>Last week: Negative</i>	
Carman – VB/AB	Negative	Negative	
Winkler /TSC	N/A		

- In the coming few days, there is a forecast for rains (30 to 60% probability) in parts of Manitoba. Forecast for high temperatures in the 30s°C this weekend, and then cool down to 20s. Warm and moist soils can favour pink rot and leak diseases in fields with previous history. Planning for their management in storage should be considered for fields with history of these diseases.

If you suspect late blight in your area, please contact vikram.bisht@gov.mb.ca