

Issue 17 – September 7, 2023

Manitoba Potato Report



Weekly Provincial Summary

- The week (Aug 28-Sept 4) was warmer earlier in the week with the high temperatures crossing 36°C but later cooled down to low 20s in various potato areas.
- There was some rainfall on September 4 mostly in western Manitoba.
- Crop water demand is still high even in the maturing crops due to high temperatures.
- Crops are still being regularly irrigated where needed.
- Verticillium wilt and black dot related early dying is getting more severe.

Overview

- Daytime high temperatures ranged from 34.5 to 36.4°C at various weather stations on September 2-3, but cooled down to low 20s. Overnight lows were similar to last week.
- Compared to very little rainfall last week in the province, there was some recorded in the week (Aug 28-Sep 4), mostly in the western part of the province on September 4.
- Crops are in rapid bulking and maturation phase.
- Potato raw delivery to the processors is ongoing for 4th week “direct-from-field”. Yield estimates appear to be 10-15% higher than last year.
- Harvest for storages has just begun; about 2-3% harvested to-date.
- The late blight risk this week again was low for most of the province. No late blight has been reported in Manitoba.
- Early dying in potato is increasing in severity and incidence in many potato fields.
- 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 some rainfall in the province from Aug 28 to Sept 4, mostly in the western parts of the province (Table 1). On the 5th of September there were rains on the eastern parts of the province (data not included in the week’s report) (Fig 3).
- The cumulative precipitation for the growing season to-date is much below normal, mostly ranging from 28 to 70%; with the exception of Rivers (83%) being closest to normal (Table 1, Fig. 1).
<http://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>
- Due to scant 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>

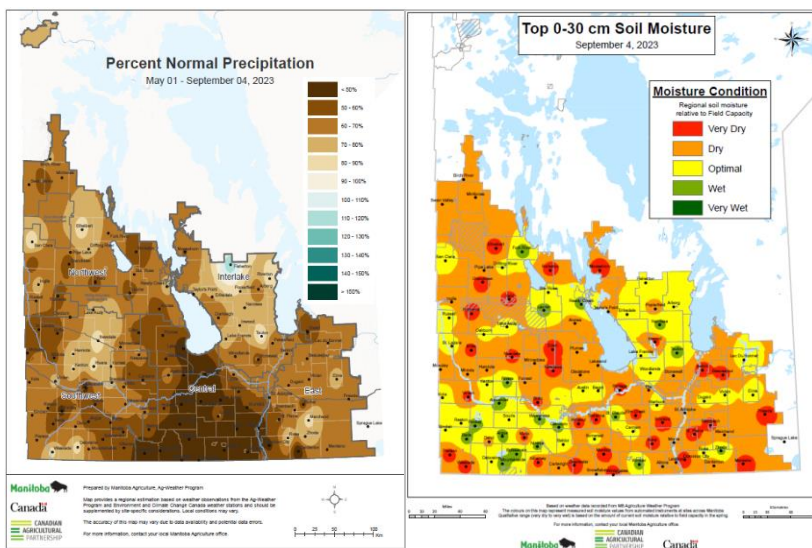


Fig. 1. (left). Rainfall (mm) in May to Sept 4 continues to be significantly below normal in most of the potato growing areas, generally <50 to 75% of normal.

Fig. 2. (right). Soil moisture (0-30 cm depth) by Sept 4 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.

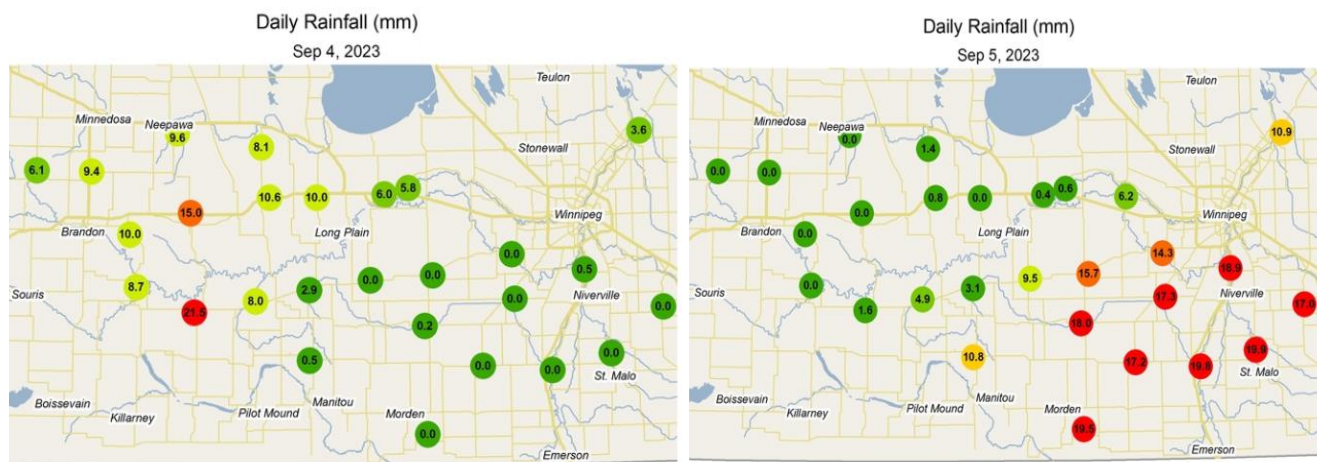


Fig. 3. Interestingly, most of Manitoba received rain on Sept 4 (left) on western side and on Sept 5 (right) on the eastern side.

Temperatures – Air & Soil

- The daytime temperatures during the week were higher than last week. The high temperatures ranged from 34.5 to 35.5°C. The overnight minimums also were similar to last week's, ranging from 5.1 to 8.0°C (Table 1).
- The P-Days (Potato Days with base 7°C and 30°C max) has reached 720 to 770 in different potato areas (www.mbpotatoes.ca) by September 5, 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.
- Soil temperatures at 30 cm depth have reduced from highs in the first week of August, but are still close to 20°C by September 4 (Fig 4). Warm soils with high moisture favour pink rot and Pythium leak diseases.

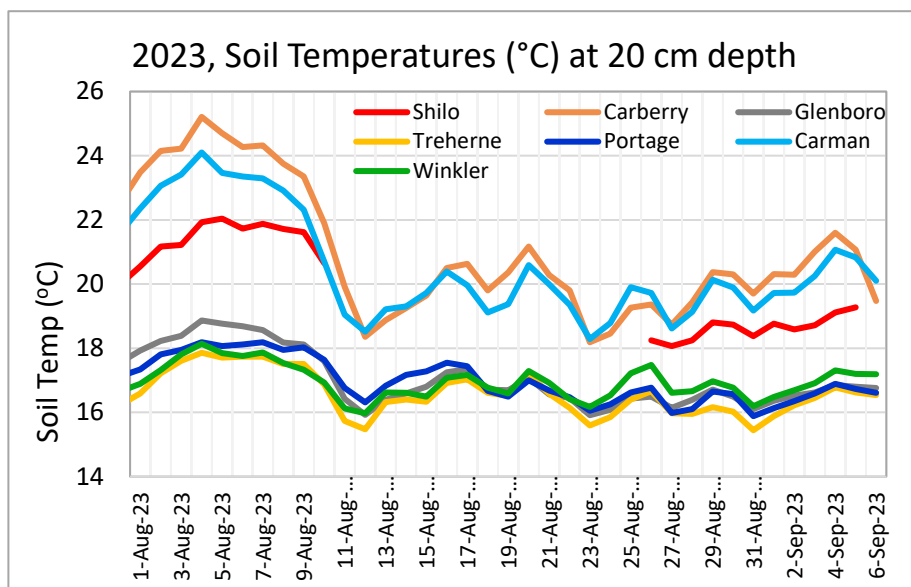


Fig.4. Soil temperatures at 30 cm depth at selected potato areas weather stations, are now 16-20°C. Generally, Carberry was the warmest and Treherne the coolest of the stations in this graph.

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 28- Sept 4 for selected potato growing areas.

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	34.5	5.9	0	-	95	-	33
Austin	35.6	7.7	10.6	43.1	184	329.9	67
Bagot	35.4	5.8	9.9	40.7	137	326.8	50
Carberry EC	36.0	6.5	12.6	38.2	160	275.4	58
Carman	36.4	6.0	3.0	40.9	160	299.8	58
Cypress River	35.5	5.7	11.9	-	153	-	50
Glenboro	36.2	5.9	21.5	41.6	183	294.1	66
Holland	35.9	6.6	8.0	50.3	162	362.3	53
Morden	36.5	7.1	0.4	-	80	-	28
Portage EC	35.8	8.0	4.5	46.9	119	374.8	44
Rivers	35.2	8.0	6.5	46.8	201	318.8	83
Shilo	34.6	7.6	13.1	42.7	*	283.7 *	*
St. Claude	35.0	7.5	0.0	45.3	139	336.3	50
Treherne	36.2	7.3	2.9	45.2	97	349.9	35
Wawanesa	35.8	5.1	9.2	42.8	192	306.2	70
Winkler	36.2	5.5	0.3	47.2	128	323.6	44

* Shilo weather station was down from Aug 10 to 24.

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

Agronomics

- Crop water demand (CWD) for the week (8 days) was 42 to 47 mm. This week's rainfall was not sufficient to meet the CWD. (Table 1).
- Supplemental irrigation was still needed in many fields.

- P-Days are 100 to 110% of normal, and by September 4 were around 715 to 760 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.

Crop Progress

- After a few hot days, the high temperatures have dropped into low 20s. With warm days and cool nights tubers are bulking and maturing well. Many fields are turning lighter green to yellow (Fig 5).
- Delivery of raw material for processing “direct-from-field” is still continuing.
- Harvest for storage has just begun in the western parts of Manitoba potato areas, and major harvesting will start before the weekend, around September 8.
- Harvest has been going on for a few days in the southern parts of Manitoba, where fresh and seed potatoes are also grown.
- The warm weather earlier had prevented harvest of some fields. Bringing warm tubers into storage can lead to storage issues.



Fig.5. There is variability in tuber set and size. Many fields are still very healthy looking (very little early dying due to *Verticillium* wilt and black dot. Photos: Orla Sheridan (Shilo Farms).

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 (Fig. 6). A survey for early dying status in various fields is being conducted using drone imaging. Fields with varying levels of disease can be observed (Fig. 7).
- In many fields these early dying plants are also infected with black dot disease on stems, which appear late in the season via air borne infection, and also white mold infected stems with sclerotia development. (Fig. 8)



Fig.6. There are many fields with severe incidences of early dying due to *Verticillium* wilt and black dot. Photos: (a) Orla Sheridan (Shilo farms), (b) Janelle Lavich (Choice Agri).



Fig.7. Drone images of healthy field and a field with severe incidence of early dying. Photos: Vikram Bisht (Manitoba Agriculture).



Fig.8. a: Black dot infection on upper parts of stem indicate aerial dispersal of inoculum and favourable conditions (warm and moist/wet stems). b: Minor incidences of white mold disease in stems, are now producing sclerotia potato vines. Photo: a: Vikram Bisht, Manitoba Agriculture), b: Janelle Lavich (Choice Agri).

Late Blight Monitoring

- Late blight risk forecasting is provided on a regional basis on www.mbpotatoes.ca. Due to scant rains during the week, hot daytime temperatures and strong drying winds, the 7-Day Disease Risk values are pointing to very low risk of disease, if the inoculum were present (Fig. 8).
- From late blight spore trapping network of 17 passive Spornado traps:
 - **No late blight spores were detected during the season in Manitoba.**
- Since most fields are close to harvest and the early blight disease has not been to be very severe, fungicides especially directed to EB control may not be needed anymore. PCR testing for early blight (*Alternaria solani*) spores was surprisingly inconsistent for many of the Manitoba sites.

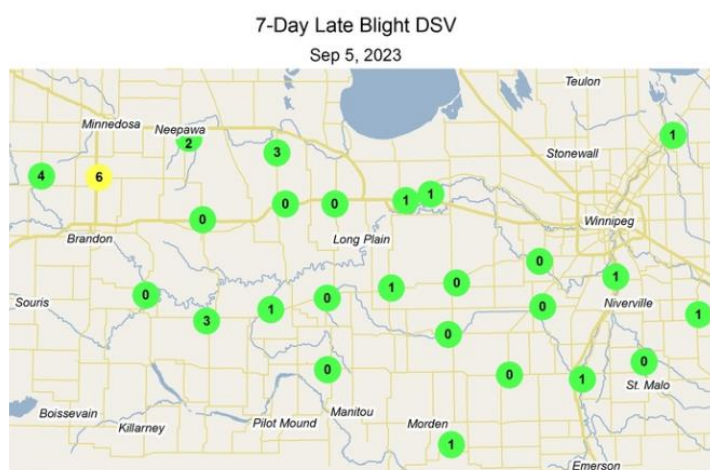


Fig. 8. 7-day cumulative late blight DSVs up to Sept 4 indicate very low risk conditions for late blight disease, if the inoculum were present.

- In the coming week, there is no rain forecasted for the potato growing areas of Manitoba. Forecast is for high temperatures in the low 20s°C this weekend, and minimums forecast around 6°C.

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