

Issue 9 – July 13, 2023

# Manitoba Potato Report



## Weekly Provincial Summary

- This week was cooler than last week, with high temperatures ranging from 26 – 29°C. There were scattered rains in most potato growing areas.
- Crops are being regularly irrigated where needed.
- Early protective fungicide applications before row closure continues in full swing.

## Overview

- With cooler temperatures, the crops are doing well – peak of tuberization.
- Temperatures peaked at nearly 29°C in some south-east Manitoba stations.
- There were scattered but mostly sparse rains in the province, and ranged from 0.7 to 34 mm. Carberry area had thunderstorms on July 6.
- No late blight spores were trapped at any of the 17 sites from spore trap network. So far, the late blight risk values (DSVs) are low. A few European corn borers were trapped last week, and ECB stem injury is being reported. Still very low levels of aphids are being trapped in seed 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 were minor and scattered rains from, July 4-9 in the province, ranging from 0.7 mm in Altona to 34 mm in Holland (Table 1). There was a thunderstorm accompanied with hail reported in Carberry area.
- In spite of these rains, many potato areas are still below 50% of normal precipitation. Carberry (72%), Glenboro (80%) and Wawanesa (85%) are closer to normal; while only Rivers and Shilo continue to be above normal for rains so far (Table 1, Fig. 1). <http://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>.
- Recent rains have not created much change to the areas under “dry” category at 0-30 cm soil depth. Most potato growing areas have soils that are still in “optimal to dry category” based on field capacity of the soils (Fig. 2). <https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf>
- There is a forecast for cooler temperatures but very little rainfall in the coming few days.

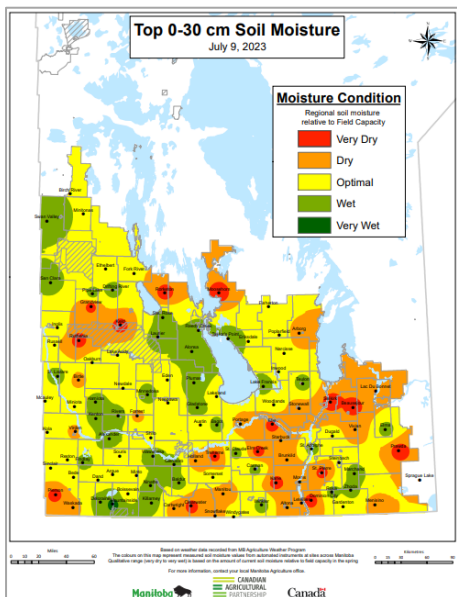
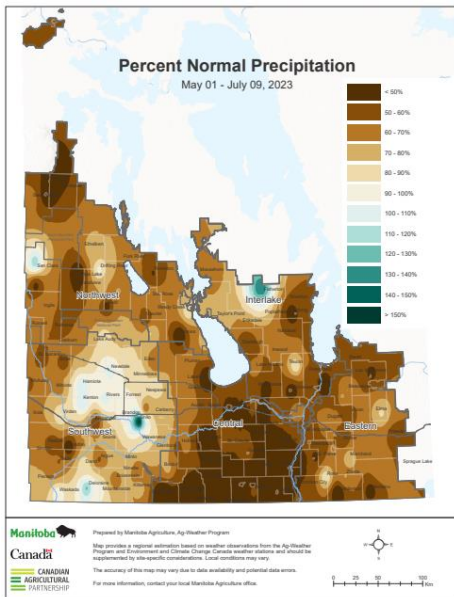


Fig. 1. (far left) Rainfall (mm) in May to early July continues to be much below normal in much of potato growing areas, except a few sites in western Manitoba.

Fig. 2. Soil moisture (0-30 cm depth) by early July has become generally drier, but ranges from wet to very dry in potato growing areas. Crop water demand for potatoes has increased.

### Temperatures – Air & Soil

- The daytime temperatures during the week were generally cooler than last week. For the Manitoba potato growing areas the daytime (max) temperatures ranged from 26 to 29°C. The over night minimum temperatures ranged from 6 to 9°C (Table 1).
- The P-Days (Potato Days with base 7°C has reached >325 in many potato areas ([www.mbpotatoes.ca](http://www.mbpotatoes.ca)) by July 12. The P-Days range from 100% above normal around Winkler to 115% in the western potato areas - indicating Manitoba has enough heat units for the potato crop (Fig. 3).

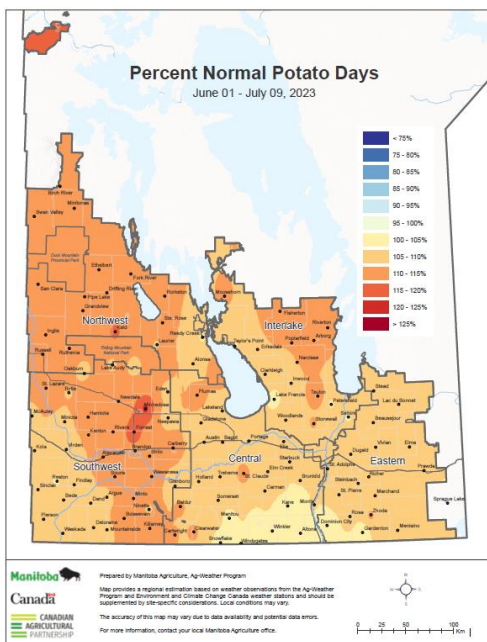


Fig. 3. Accumulated and Potato Heat Units (P-Days) as % of normal has reached 100 – 115 % of normal in the potato growing areas.

## Weather Data Summary for Selected Potato Site Station

Table 1. Manitoba Ag Weather Data – **July 4 to 9** 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 June 1- 26	2023 Rainfall (% of normal) from May 1
Altona	29.4	5.5	4.6	-	40	-	24
Austin	26.4	6.1	12.0	23.0	101	102.5	66
Bagot	26.7	5.8	16.3	22.5	90	105.6	59
Carberry EC	26.9	5.0	12.9	16.4	107	82.4	72
Carman	27.8	7.3	19.3	19.2	93	93.8	59
Cypress River	28.0	6.2	13.9	-	97	-	55
Glenboro	27.4	5.5	2.1	18.5	126	87.7	80
Holland	27.8	6.4	34.0	23.1	115	107.5	66
Morden	28.9	8.2	6.6	-	46	-	27
Portage EC	26.6	6.3	9.9	24.8	71	116.6	46
Rivers	26.4	6.5	4.8	19.8	144	89.1	103
Shilo	27.5	6.4	10.3	21.4	228	94.3	153
St. Claude	26.0	8.0	10.2	22.0	92	102.9	57
Treherne	28.1	5.1	10.9	23.9	53	107.1	32
Wawanesa	28.4	5.0	0.7	23.1	127	86.9	85
Winkler	28.3	6.0	8.0	22.3	90	97.4	53

\* Crop Water Demand: [cwd \(mbpotatoes.ca\)](http://mbpotatoes.ca)

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

## Agronomics

- In this week, July 4-9 – there have been scattered rains across Manitoba and isolated thunderstorms in Carberry area. Herbicide applications are complete. Fungicide applications continue.
- Crop water demand (CWD) for the week was generally NOT met by the rainfall for many potato growing areas in Manitoba (Table 1). Only in Holland the rainfall was more than the CWD for the week. The cumulative rainfall in western Manitoba was substantial enough from June 1 to 9 to meet the CWD in Rivers, Shilo, Carberry, Wawanesa, Glenboro and Holland.
- Supplemental irrigation and fertigation is being performed in many more fields.

## Crop Progress

- The plant stand and crop growth looks good across the province.
- Tuber formation is at different stages – from yet to produce initials to >4" size. This is the time to maintain good soil moisture to maintain high yield potential.
- Early planted fields are now showing tuber set numbers and good size for this time of the season (Fig. 4). Later planted fields – are now in early tuberization and enlargement (Fig. 5).
- Many fields have full canopy cover, and the within canopy microclimate allows the Botrytis spp. to infect and sporulate on lower leaves touching the wet/moist soils. Less frequent irrigation by higher volume could be better than frequent and low volume irrigation in keeping the microclimate drier.

- There was a band of thunderstorms on July 6, which caused hail damage in Carberry. Damage appeared to be minor. Preventative fungicide application after a thunderstorm and hail is recommended.



Fig. 4a-c. Good sizing in early planted fields.

Photos a: Orla Sheridan (Shilo Farms); b: Kurtis McKee (JP Wiebe Farms), c: Tavis Mangin (Simplot)

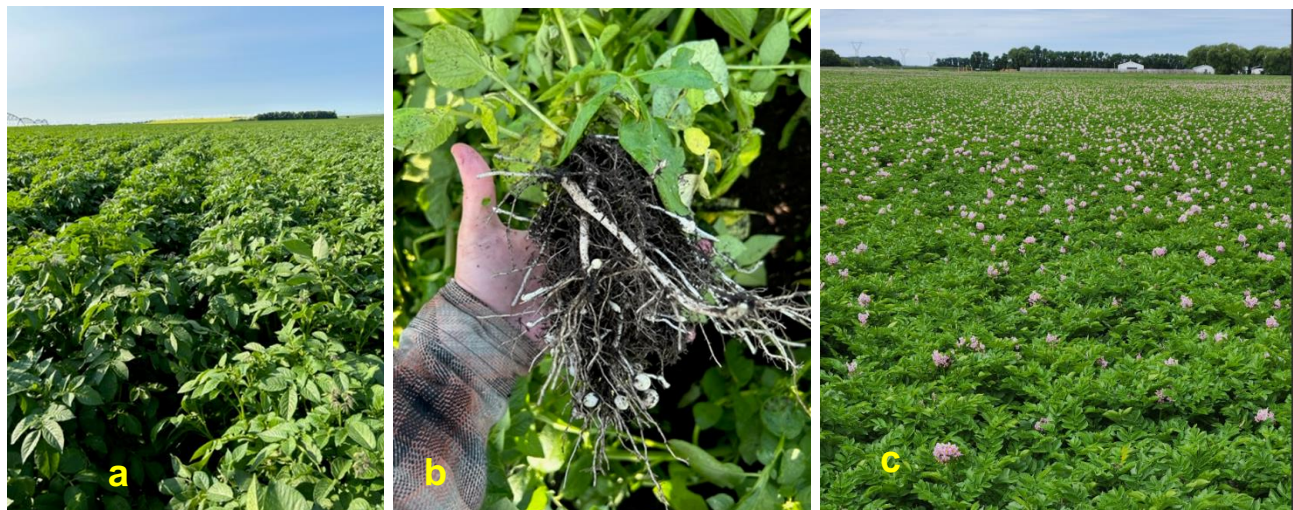


Fig. 5a-c. Early and late May planted crops. Crop canopy is fully covering the between-row space. a & b: Late May planted Russet Burbank seed crop and early tuberization – Photos Tegan Penner (Swansfleet Farms); c: Early planted Rangars – Photo: Kurtis McKee (JP Wiebe Farms).

## Disease & Insect Pests Monitoring

- Early blight continues to be reported from more fields (Fig. 6) but not a serious issue yet. Protective fungicide applications are continuing where needed. *Alternaria solani* spores are being trapped by passive spore traps.
- Normally, around 300 P-day value (potato heat units) protective fungicides for early blight control are recommended. It is currently around 315 P-day value in most potato growing areas (P-Days)

([www.mbpotatoes.ca](http://www.mbpotatoes.ca)). With increasing early blight on Rangers, and the between-row canopy closure expected soon, it is time to have some fungicide coverage in the lower canopy.

- European corn borer damage to potato stems has started and is being reported (Fig. 7) from western Manitoba.
- Aphid monitoring suction trap catches still show low populations; and no Green Peach Aphid or Potato Aphid have been recovered (Table 2).
- Aster leafhoppers and purple top symptoms with narrow leaves have been reported. Similar symptoms may sometimes be caused by Rhizoctonia stem & root infections. (Fig. 8).



*Fig. 6. Early blight has continued to remain at low levels. Photo: Orla Sheridan (Shilo Farms)*



*Fig. 7. a: Various stages of ECB injury to the potato stem – a: wilting top is a sign of ECB larval caused wilting; b: larval boring in potato stem leads to twig / branch tip wilt. Photos: Kurtis McKee (JP Wiebe Farms).*



Fig. 8. Purple leaf top and narrow leaflets caused by Aster leafhopper. Photo: Orla Sheridan (Shilo Farms).

Table 2. Weekly Aphid Report – Week 3 (July 4-10) 2023

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphids	Total *	ALH	PLH	Comments
<b>Southern Region</b>									
Field 1, H-20-2	<b>Winker</b>	Stanley	0	0	1	1	0	0	Thrips present in suction sample
Field 2, K-16-6	<b>Carman</b>	Dufferin	0	0	0	0	0	0	Not functioning, samples were very empty
Field 3, S-29-2	<b>Winkler</b>	Rhineland	0	0	1	1	0	0	Was not functioning
<b>Central Region</b>									
Field 4 J-9-6	<b>Swan Lake</b>	Victoria	0	0	0	0	0	0	More body parts than whole insects
Field 5 J-25-3	<b>Glenora</b>	Argyle	0	0	0	0	0	0	Soldierflies present again
Field 6 M-32-13	<b>Westbourne</b>	Portage La Prairie	0	0	0	0	0	0	Few thrips present
<b>Western Region</b>									
Field 7, A-12-14	<b>Wellwood</b>	North Cypress-Langford	0	0	1	1	0	0	
Field 8, SP	<b>Carberry</b>	North Cypress-Langford	0	0	0	0	0	0	Lots of debris

\* 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.

# Late Blight Monitoring

## Information

- Late blight risk forecasting will be provided on a regional basis. Please refer to the risk maps on [www.mbpotatoes.ca](http://www.mbpotatoes.ca). Currently, due to warm and dry conditions, the 7-Day Disease Risk values are very low (Fig. 9).
- A network of 17 passive Spornado traps for late blight spores, has been set up across potato growing areas of Manitoba to provide early warning of possible late blight risk. Early blight (*Alternaria solani*) spores are also checked at some sites.
  - **No late blight spores were detected in the samples processed in the 4th week of collection (July 1 to 10).**
  - PCR testing for early blight (*Alternaria solani*) spores was positive for some more sites this week, suggesting that risk of early blight infections is increasing.

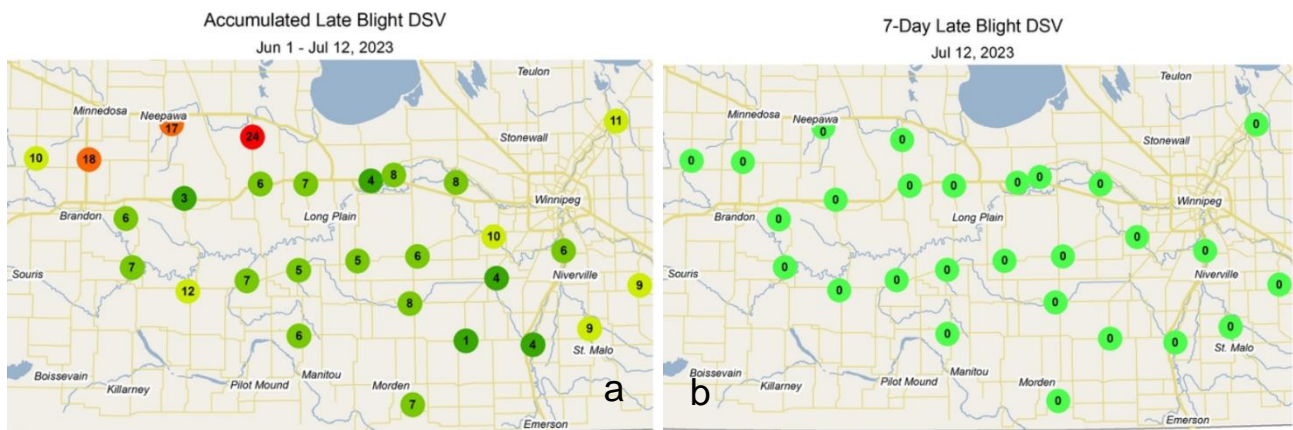


Fig. 9. The cumulative DSVs from June 1 to July 12 are still well below 18 in all potato growing areas in Manitoba. The 7-Day DSVs indicated very low risk of late blight by July 12.

**Fourth** week's (July 1-10) PCR test results for presence of *Phytophthora infestans* (Pi) late blight spores are **negative** at all sites submitted (Table 3). Early blight disease and *Alternaria solani* spores were recorded in some more sites.

Table 3: *Phytophthora infestans* spore trapping and PCR results **Week 4 (July 1-10).**

Spore Trap Locations	Pi spores	Early blight (spore #s)	Comments
Shilo - OS	Negative	Negative	Early blight seen
Wawanesa -SG	N/A	N/A	Early blight seen
Douglas – MW	Negative	Negative	Early blight seen
Wellwood / Carberry North-SS	Negative	<b>Positive (3780)</b>	
Field 35A-Carberry N -SS	Negative	<b>Positive (555)</b>	
Carberry N – AU	Negative	<b>Positive (550)</b>	
Carberry South - MW	Negative	<b>Positive (401)</b>	
Carberry North - MW	Negative	<b>Positive (2200)</b>	

Brookdale – KJ	Negative	Negative	
Cypress River - SG	Negative	Negative	
Melbourne - SG	Negative	<b>Positive (7)</b>	Early blight seen
Treherne - JG	N/A	N/A	
Portage - HB	N/A	N/A	
McDonald / Portage - SG/KPPA	Negative	Negative	
Bagot – DM-Delta	N/A	N/A	
Carman – VB/AB	Negative	Negative	
Winkler /TSC	Negative	<b>Positive (98)</b>	

Please mark your calendar to attend “Herbicide Injury to Potato and Rotation Crops” field demonstration:  
July 21, 2023, 9:30 – 11:30 AM, Carberry MCDC offsite Research Plots



If you suspect late blight in your area, please contact [vikram.bisht@gov.mb.ca](mailto:vikram.bisht@gov.mb.ca)