

Issue 5 – June 15, 2023

Manitoba Potato Report



Weekly Provincial Summary

- Above normal temperatures and lack of rains in most potato growing areas up until second week in June continue to be the highlights weatherwise so far.
- Planting in the province was finished on June 8.
- Ground operations – hilling, herbicide application, and dammer-diking are continuing.

Overview

- Potato planting was finished on June 8 compared to June 18 in 2022.
- Temperature highs have been 6-8°C warmer than last year at the same time.
- Just over 75% of fields have 50% or over emerged plants across the province.
- There are reports of early and active feeding of young emerged plants by Colorado potato beetle adults. Egg masses have now been reported.
- Grasshopper feeding at the edges of potato fields has also been reported.
- Late blight spore trap network has been set up in potato growing areas. Anyone interested in joining the spore trap network is quite welcome, especially those who make recommendations for late blight management on the farms.
- Regular weekly reports and other features will also be available at <http://www.mbpotatoes.ca/index.cfm>.

Ag Weather Data

Precipitation and Soil Moisture

- Precipitation (mm) since May 01 to June 11 has been scant for most of the province; and 20-30% of the normal in most of the potato growing areas of the province, with the exception of some western sites – Rivers, Shilo, Wawanesa and Carberry. (Fig.1, Table 1). Rivers and Shilo now have over 100% of the normal rainfall. Altona, Carman, St. Claude and Morden received practically no rainfall this past week. <http://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf>
- Lack of rains is leading to drying of 0-30 cm soil depth in many areas and the very dry areas have increased substantially in potato growing areas by June 11 (Fig. 2). <https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf>
- Some rains are forecast in the coming few days but hot weather continues. The long-term forecast is for a warm growing season.

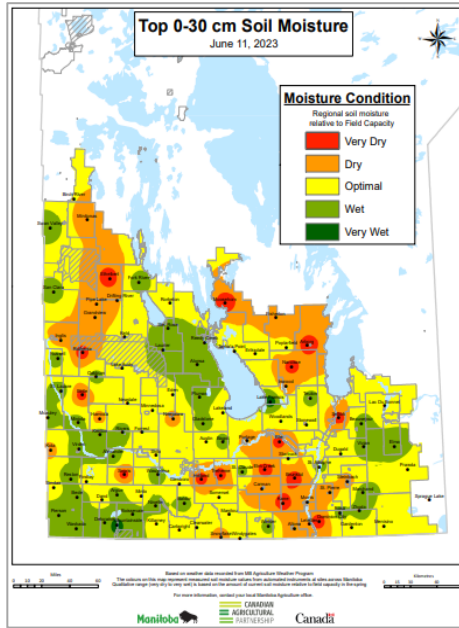
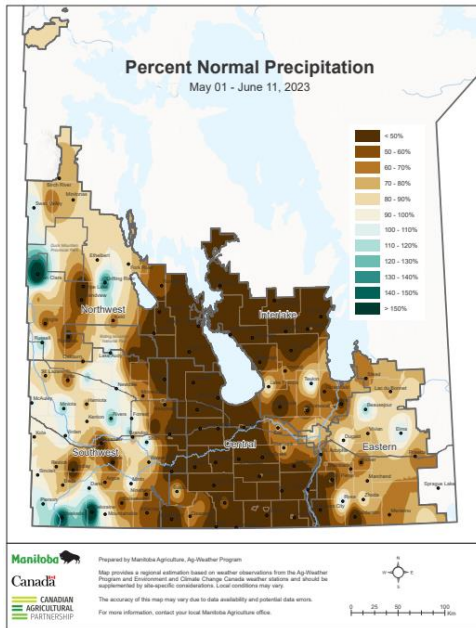


Fig.1.(far left) Rainfall (mm) in May to early June continues to be much below normal in much of potato growing areas.

Fig. 2. Soil moisture (0-30 cm depth) by mid-May is optimal to very dry in potato growing areas of Manitoba. The drier region has increased compared to last week.

Temperatures – Air & Soil

- In the potato growing areas, daytime high (max) temperatures for the week (June 5-11) were close to 33°C and similar to last week; while the overnight minimum temperatures went down to 4.5-7 °C from 11-12°C last week (Fig. 3, Table 1). The daytime highs were around 6-8°C warmer than the same week in 2022.
- The GDD (Growing degree days with base 5°C) still is >125% above normal, indicating we have a very hot start to the season. The crops without irrigation are showing stress.
- As in last week, Winkler and Treherne continue to have cooler (~17°C) soil temperatures at 5 cm depth, while other selected sites, like Carberry and Carman continue to be the warmer around 24°C (Fig. 4).

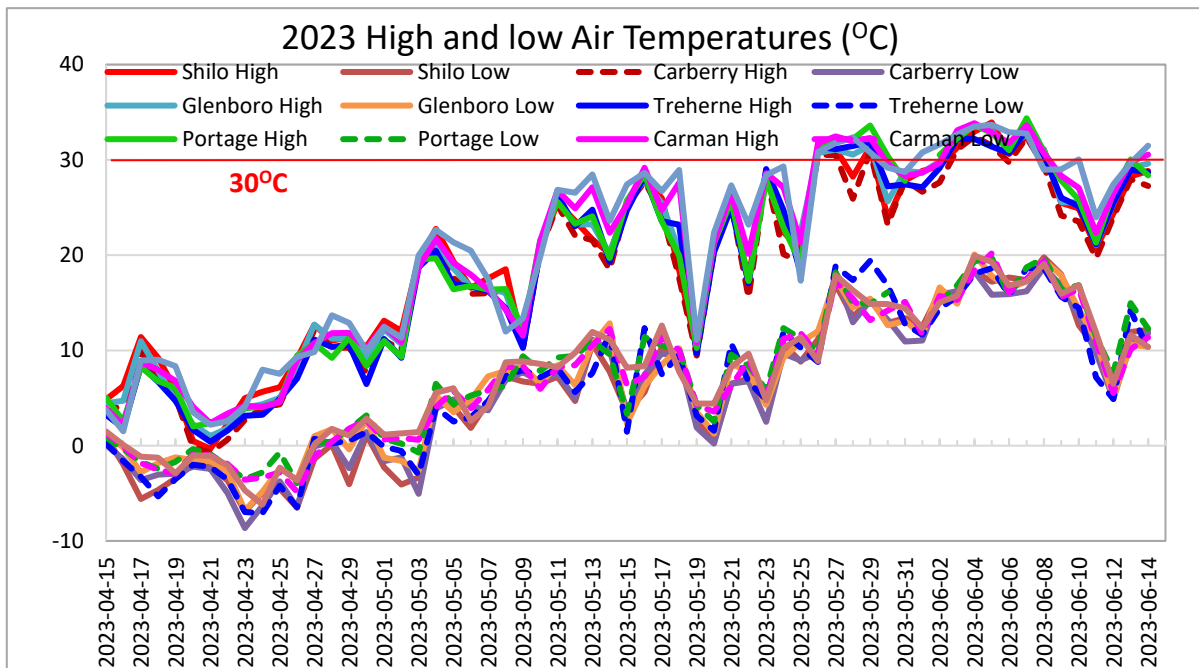


Fig. 3. High & Low Air Temps (May 1-June 4) across Manitoba continue to become warmer.

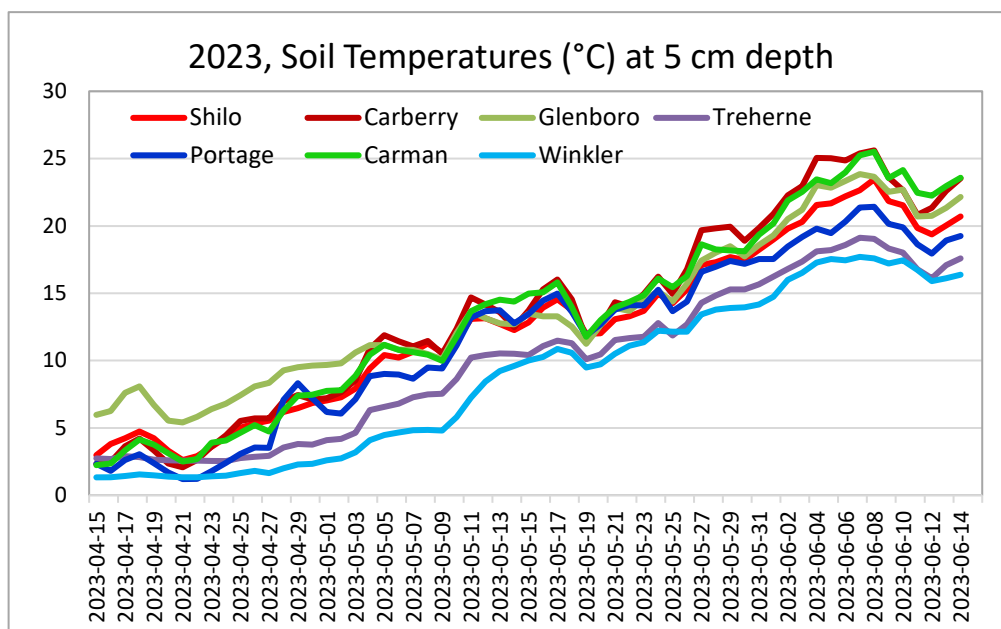


Fig. 4. Soil temperatures by June 11 have continued to warm up to 25°C but cooled down a bit this week.

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 – June 5 to 11 for selected potato growing areas.

Region	Max Temp (°C)	MinTemp (°C)	Rain (mm) for the week	Rain (Since May 1) (mm)	2023 Rainfall (% of normal) from May 1
Altona	32.5	5.7	0.9	14	16
Austin	33.2	5.8	3.7	19	25
Bagot	33.1	6.6	4.1	25	32
Carberry EC	33.4	5.5	14.5	33	47
Carman	33.6	5.5	0.0	17	22
Cypress River	33.3	4.3	3.3	21	25
Glenboro	32.7	5.0	7.9	22	29
Holland	32.8	4.1	10.9	26	32
Morden	32.5	7.0	0.0	21	25
Portage EC	32.3	6.9	3.8	23	31
Rivers	32.0	8.3	64.4	82	126
Shilo	32.5	6.3	41.9	84	117
St. Claude	32.0	6.8	0.0	22	28
Treherne	33.1	4.9	0.6	20	26
Wawanesa	32.9	4.6	28.0	53	74
Winkler	32.9	4.5	2.1	21	24

Rains were substantial in Rivers, Shilo and Wawanesa.

Agronomics

- The last planting in Manitoba was completed on June 8.
- Hilling and pre-emerge herbicide applications and dammer-diker operations are ongoing.
- Lack of rainfall and hot day time temperatures are heating up the soil surface. Close to 34°C air temperatures in the first week of June coincided with a lot of emerging sprouts. Severe heat crinkling is showing up in many fields across the province (Fig. 5a,b). The symptoms are being confused as Group 4 herbicide damage.
- Sprouts emerging through such hot soils in the first week of June, were apparently scorched and turned dark brown to black. Burning off of the emerging sprouts has led to branching of the sprouts below ground. (Fig. 6a,b).
- Soil surface temperature of 62°C was recorded at 2 pm on a south-facing potato hill in Carberry on June 14 (Fig. 7a), while it was only 22.6°C at 5 inches depth between two plants (Fig. 7b). It is possible that many others areas had extremely hot top 1" soil and could damage the emerging sprouts during the first week in June.
- Many fields are now being irrigated to provide some cooling effect.

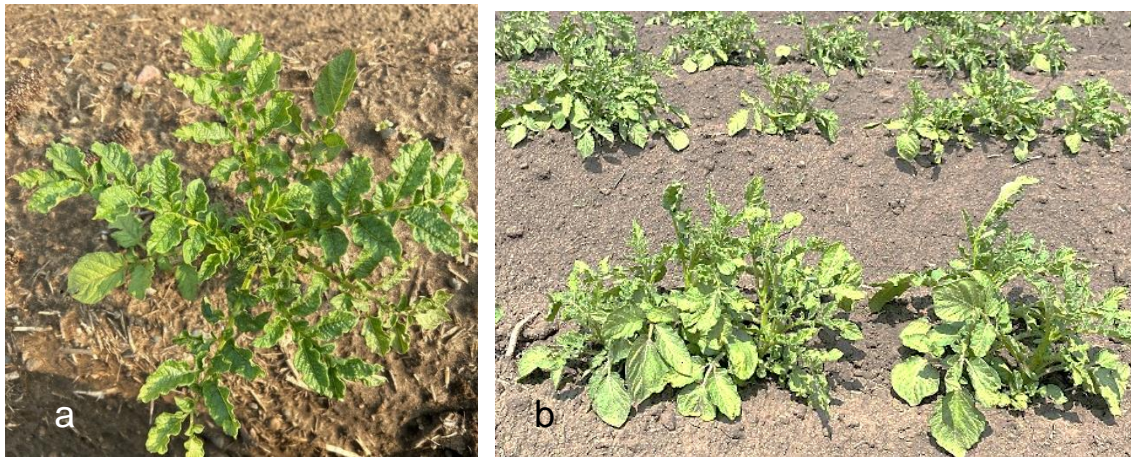


Fig. 5a,b. Severe heat crinkling can be seen in many fields. Photo courtesy: a: Orla Sheridan (Shilo Farms), b: Vikram Bisht (Manitoba Agriculture).

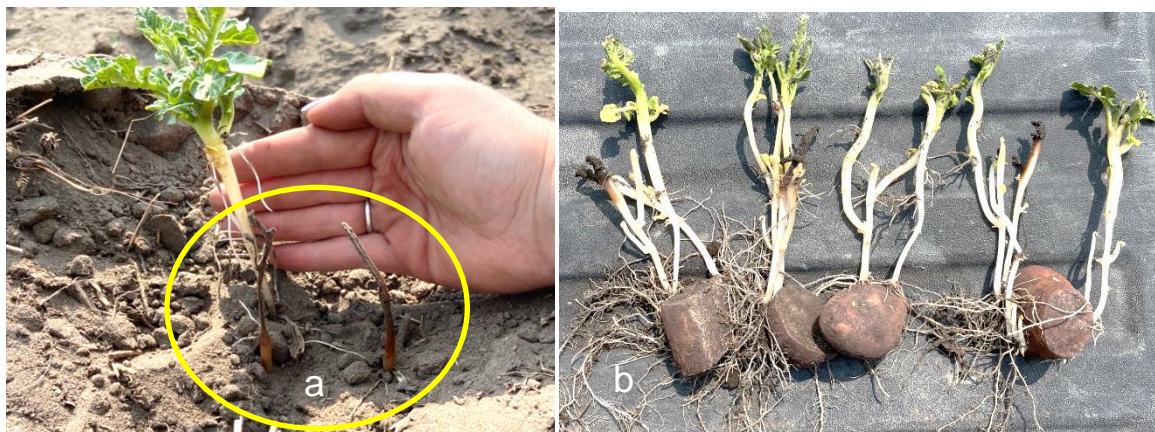


Fig. 6a,b. Hot soil surface (>50°C) has resulted in damage to emerging plants or sprouts. Photo courtesy: a: Janelle Lavich (ChoiceAgri), b: Tavis Mangin (Simplot).

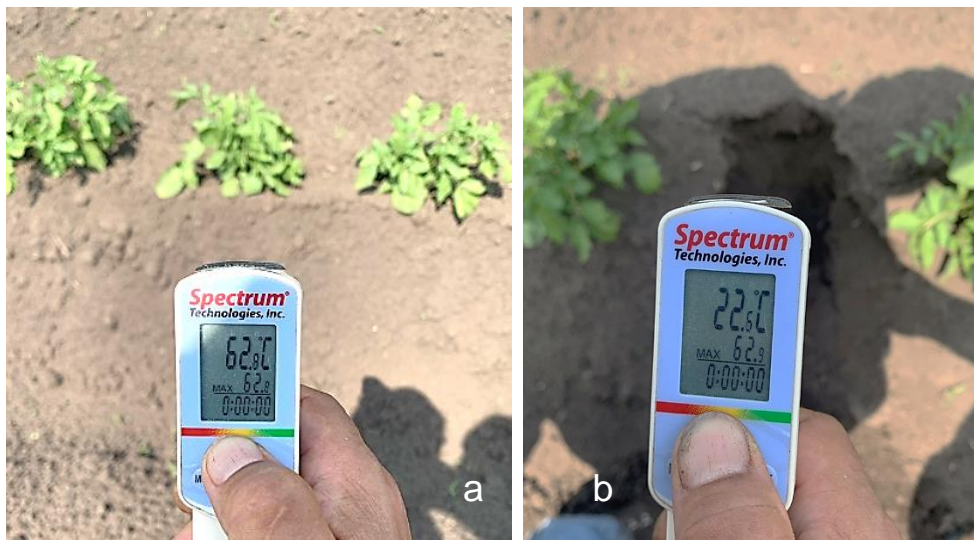


Fig. 7a,b. Soil temperatures taken on June 14 at 2pm in Carberry. a) soil temperature at the surface on the south side of potato hill. b) soil temperature at 5" depth. Photos: Vikram Bisht (Manitoba Agriculture).

Crop Progress

- Just over 75% of fields are showing $\geq 50\%$ emerged plants.
- Good plant stands can be seen in many fields. Some early planted fields have within-row plants touching (Fig. 8a,b) but still a few days away from canopy cover between rows.
- Early planted fields (mostly in the western side of the province) are showing good tuber initial formation and early tuberization (Fig. 8c). This is the time to maintain good soil moisture.



Fig. 8a,b,c. Good plant stands in early planted fields, a: Recently emerged Russet Burbank plants. Photo courtesy: Janelle Lavich (ChoiceAgri), b: Early planted field with plants touching within rows Photo: Kurtis McKee (JP Wiebe Farms), c: Early tuberization, Photo: Janelle Lavich (ChoiceAgri).

Disease & Insect Pests Monitoring

- Soft rot and dry rot on seed pieces has been reported as cause of poor emergence in a couple of fields.
- Surprising to find early blight this early in the season in western part of Manitoba, even with such hot and dry conditions (Fig. 9a,b). Normally, early blight shows up around 300 P-day value (potato heat units) and needs protective fungicides. It is currently around 100 P-day value in most potato growing areas ([P-Days mbpotatoes.ca](http://mbpotatoes.ca)).
- Colorado Potato Beetles (CPB) have showed up early, and in high numbers at some locations. Adult feeding on newly emerged plants and new egg masses has been reported from southern parts of Manitoba (Fig. 10). Monitoring for CPB eggs and larvae may be needed for effective control.
- Grasshopper feeding at the edges of potato fields has also been reported (Fig. 11).
- Aphid monitoring suction traps have been set up in seed fields.

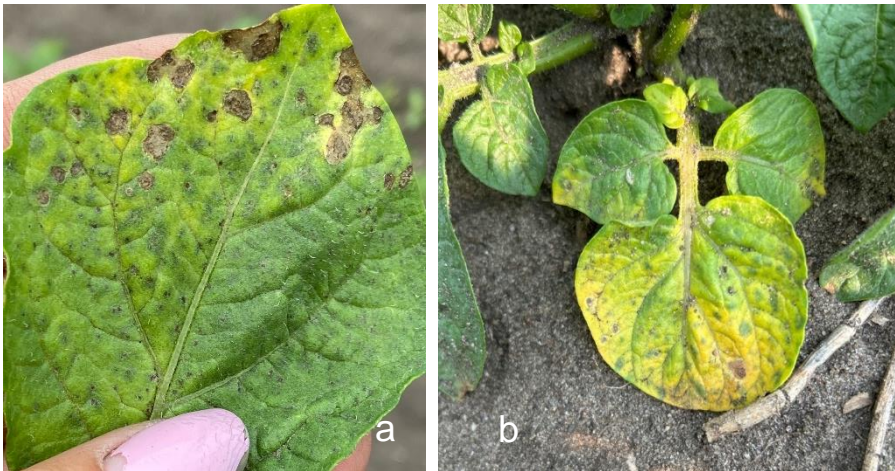


Fig. 9a,b. Early blight on Ranger Russet. Photos courtesy: Janelle Lavich (ChoiceAgri), b: Orla Sheridan (Shilo Farms)

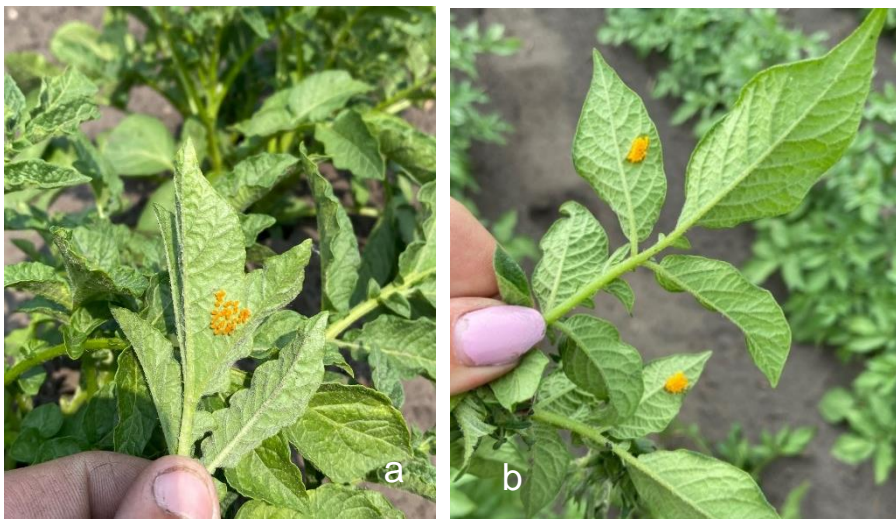


Fig. 10a,b. Egg masses of Colorado potato beetles are being observed in some fields. Photos courtesy: a: Harrison Loewen (KR CropCheck), b: Janelle Lavich (ChoiceAgri).



Fig. 11. Grasshopper damage along the edges of potato field. Photo courtesy: Kurtis McKee (JP Wiebe Farms)

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. Currently, due to warm and dry conditions, the 7-Day Disease Risk values are very low.
- Late Blight Monitoring will occur again this year with weekly updates when plant stage and conditions are optimum for disease transmission.
- A network of passive Spornado traps for late blight spores (Fig. 12), has been set up across potato growing areas of Manitoba. Anyone interested in joining the spore trap network is quite welcome, especially those who make recommendations for late blight management on the farms.
- If you suspect late blight in your area, please contact vikram.bisht@gov.mb.ca



Fig. 12. Passive Spornado spore trap set up at the edge of a potato field. Photo: Vikram Bisht (Manitoba Agriculture).