Issue 7 – June 29, 2023

Manitoba Potato Report

Weekly Provincial Summary

- This week brought some normal temperatures and scattered rains in most potato growing areas. There were reports of hail damage too.
- Crops are being regularly irrigated where needed.
- Ground operations – hilling, herbicide application are nearly done, and early protective fungicide applications have begun before row closure.

Overview

- Crop is growing well and appears to be a week ahead of last year in tuberization.
- Temperature highs peaked at 37^{O}C in some south-east Manitoba stations.
- Scattered rains and thunderstorms with hail reported on June 20/21 and again on 27th.
- Late blight spore trap network has been set up at 17 sites. No late blight spores were trapped at any of the sites. European corn borers were not trapped last week. Low levels of aphids are starting to show up in 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 scattered rains and thunderstorms June 20-21 in some areas- the South West had fairly good rainfall. There were scattered rains and thunderstorms on June 27 bringing good moisture to more areas (not included in the June 19-26 data).
- Precipitation (mm) this week June 19-25 has been scattered across the province, amounts ranging from 4mm in Portage to 64mm in Wawanesa (Table 1). Western Manitoba sites received more rainfall, but only Rivers, Shilo and Wawanesa cumulative rains were above normal for the season; while Carberry reached up to 81% (Fig.1, Table 1). Most of the potato growing areas are still at or below 50% of the normal. *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 but the recent rains have improved soil moisture in western Manitoba to the wet category (Fig. 2). *https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf*
- There is a forecast for cooler temperatures but no rain in the coming few days.

Report compiled by Dr. Vikram Bisht, Manitoba Agriculture
Tel. (204) 745-5660 Fax (204) 745-5690
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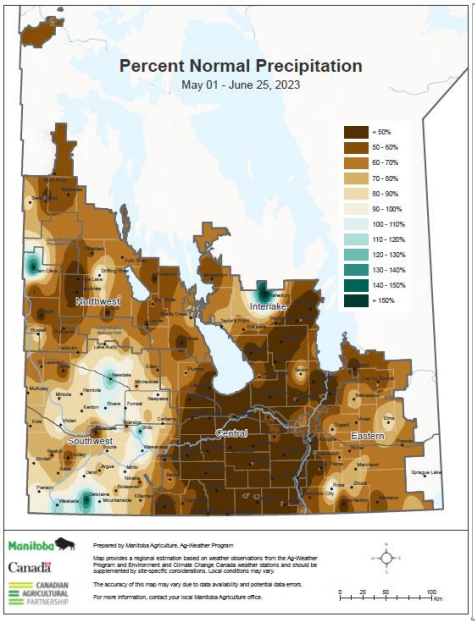

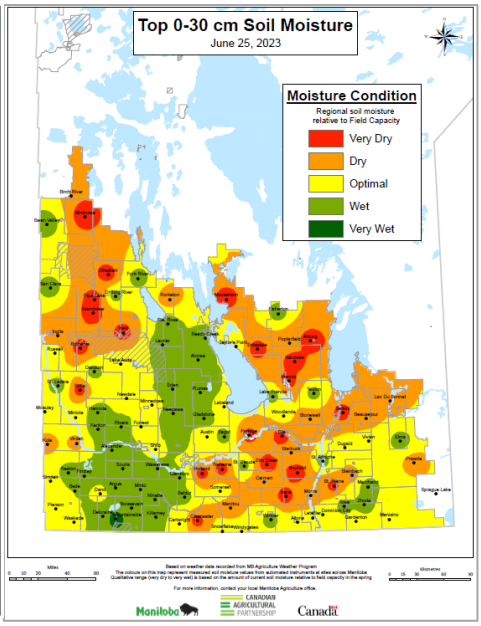

Fig.1.(far left) Rainfall (mm) in May to end of June continues to be much below normal in much of potato growing areas, except a few sites in western Manitoba.

Fig. 2. Soil moisture (0-30 cm depth) by June 25 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

- South-east of Manitoba potato growing areas, had extremely hot daytime high temperatures for the week (June 19-25). Temperatures were close to 37^{O}C, while the highs in other areas were similar to last week's 30s. The overnight minimum temperatures went up to 9 – 12.7^{O}C (Fig. 3, Table 1).
- The P-Days (Potato Days with base 7^{O}C) has reached 230 in many potato areas (www.mbpotatoes.ca) by June 28. The P-Days range from 100% above normal around Winkler to 120% in the western potato areas - indicating we continue to have a warm early season.

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 19 to 25** 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	37.3	13.4	18.3	-	32	-	25
Austin	30.5	11.4	**28.9**	18.4	50	48.7	43
Bagot	30.8	10.7	**22.6**	19.0	49	51.5	42
Carberry EC	29.6	11.5	**57.4**	14.6	91	41.7	81
Carman	37.0	10.6	9.1	19.8	27	49.0	22
Cypress River	30.9	10.0	19.2	-	43	-	32
Glenboro	30.9	10.3	**40.3**	15.2	65	44.8	55
Holland	30.4	10.2	15.5	18.9	45	51.7	34
Morden	37.1	12.7	14.4	-	36	-	27
Portage EC	30.4	12.7	4.0	22.5	27	58.9	23
Rivers	27.0	11.3	**33.9**	15.7	115	44.2	**110**
Shilo	27.5	10.5	**58.5**	14.8	142	44.0	**127**
St. Claude	33.5	12.6	11.3	20.8	33	51.9	27

Treherne	31.0	9.0	8.1	18.8	29	49.8	24
Wawanesa	28.5	9.7	**64.4**	13.9	119	40.4	**106**
Winkler	36.4	10.3	13.8	20.5	35	49.1	26

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

Agronomics

- In this week, June 19-25 and 2 days since – there have been scattered rains across Manitoba. Herbicide applications are ongoing in later planted fields. Some fields are showing mottling due to post emergence metribuzin+rimsulfuron herbicide application when hot (Fig 3). Rimsulfuron could be responsible for mottling when the conditions are cloudy.
- Crop water demand (CWD): Weekly rainfall is generally not meeting the CWD (Table 1) and supplemental irrigation is needed in most production areas.
    - However, in the previous week, many potato areas received more rains than the crop water demand - mostly in western Manitoba like Rivers, Shilo, Carberry, Wawanesa, Glenboro, and also central Austin, and Bagot.
- Supplemental irrigation and fertigation is being done in early planted fields.

Fig.3. Herbicide mottle on leaves in a field after metribuzin + rimsulfuson spray when hot. Photo: Vikram Bisht (Manitoba Agriculture).

Crop Progress

- The plant stand and crop growth looks good across the province.
- Most early planted fields have full ground cover between rows, especially in 34" row spacing. Many fields which are still not closed in between rows, would allow a good canopy coverage with protective fungicide (Fig. 4).
- Tuber formation is at different stages – from yet to produce initials to >2" size. (Fig. 5a, b). Early planted fields (mostly in the western side of the province) are showing good tuberization. Mid-May planted fields have various levels of tuberization. This is the time to maintain good soil moisture to maintain high yield potential.
- Early June hot days have led to a few incidences of heat runners in some fields.
- There was a band of thunderstorms on June 27 again after June 21, which caused hail damage in a few fields in Carberry and Melbourne. Damage appeared to be minor (Greg Dyck, Crop Care).

Fig. 4. Good plant stands and row closure in early planted fields Photo: Vikram Bisht (Manitoba Agriculture).

Fig 5 a,b. Tuber sizing up to 2"+ in some early planted fields. Photos courtesy: a: Kurtis McKee (JP Wiebe Farms), and b: George Moir (Marginet Farms).

Disease & Insect Pests Monitoring

- There are minor incidences of blackleg and wilting of emerged plants (Fig 6a)
- Early blight is increasing in quite a few Ranger's fields, especially in the lower canopy (Fig. 6b), Russet Burbank field nearby is showing no early blight (Fig 6c).
- Normally, around 300 P-day value (potato heat units) protective fungicides for early blight control are recommended. But 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. It is currently around 230 P-day value in most potato growing areas (P-Days (mbpotatoes.ca).
- Colorado Potato Beetles (CPB) new egg masses and emerging larvae are being reported from southern parts (mainly) and fewer incidences from other parts of Manitoba. Monitoring for CPB eggs and larvae may be needed for effective control (Fig 7).
- **Wireworm was reported in newly formed tuber** (Fig 8) from western Manitoba.
- Aphid monitoring suction traps have been set up in seed fields. Aphid sample from three sites were received. Very low aphid numbers have been trapped this week (Table 2). Potato leafhoppers are being also seen in many areas, though not in all aphid traps.

Fig. 6a. Minor incidences of blackleg is seen in some fields. b, Early blight in lower canopy of Rangers, but not in Russet Burbank (c). Photos: Vikram Bisht (Manitoba Agriculture)

Fig. 7. Various stages of CPB are now seen in many fields. a: adults and egg masses, b: egg mass about to hatch; c: Early instars of the beetles. Photos: Vikram Bisht (Manitoba Agriculture).

Fig. 8. Wireworm entry into a young tuber. Photo courtesy: Kurtis McKee (JP Wiebe Farms).

Manitoba

Table. 2. Weekly Aphid Report – Week 2 (June 19-25) 2022

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphids	Total *	A L H	P L H	Comments
Southern Region									
Field 1, H-20-2	**Winker**	Stanley	-	-	-	-	-	-	-
Field 2, K-16-6	**Carman**	Dufferin	0	0	3	**0**	0	0	Suction trap was not functioning for unknown time
Field 3, S-29-2	**Winkler**	Rhineland	-	-	-	-	-	-	--
Central Region									
Field 4 J-9-6	**Swan Lake**	Victoria	-	-	-	-	-	-	-
Field 5 J-25-3	**Glenora**	Argyle	-	-	-	-	-	-	-
Field 6 M-32-13	**Westbourne**	Portage La Prairie	0	0	4	**4**	0	8	Thrips present in low numbers
Western Region									
Field 7, A-12-14	**Wellwood**	North Cypress-Langford	-	-	-	-	-	-	-
Field 8, SP	**Carberry**	North Cypress-Langford	0	0	1	1	0	0	-

* *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. 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.
    - **No late blight spores were detected in the samples processed in the 2nd week of collection (Jun 19 to 25).**
    - PCR testing for early blight (*Alternaria solani*) spores was positive for some sites this week.
    - Last week early blight was observed at one or two sites but spores were not reported from any PCR testing.

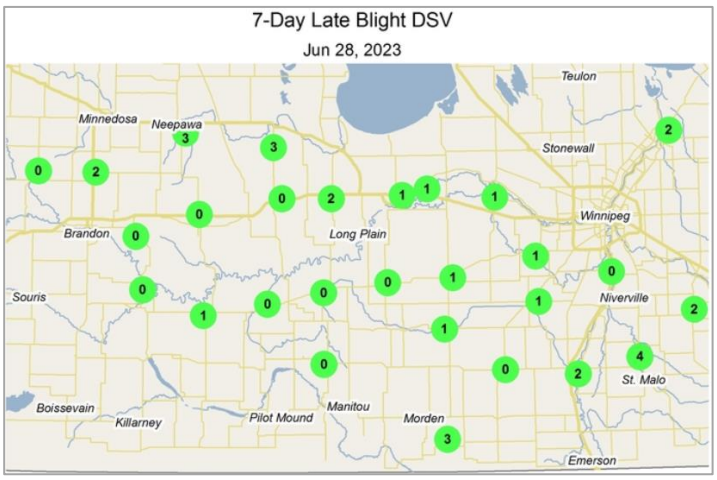

Fig. 9. Late blight risk values are currently very low. Late Blight (mbpotatoes.ca)

Sporonado passive spore traps for late blight spores have been set up at sites across Manitoba to provide early warning of possible late blight risk. Early blight (*Alternaria solani*) spores were also checked at some sites. Second week's (June 19-25) PCR test results for presence of *Phytophthora infestans* (Pi) late blight spores are **negative** at all sites submitted (Table 2). Early blight disease and *Alternaria solani* spores were recorded in some sites.

Table 2: Phytophthora infestans spore trapping and PCR results **Week 2 (July 19-25).**

Spore Trap Locations	Pi spores	Early blight (spore #s)	Comments
Shilo - OS	Negative	Negative	
Wawanesa -SG	Negative	Positive (952)	Early blight seen
Douglas – MW	Negative	Positive (?)	
Wellwood / Carberry North-SS	Negative	Positive (140)	
Field 35A-Carberry N -SS	Negative	Negative	
Carberry N – AU	Negative	Positive (4200)	
Carberry South - MW	Negative	Positive (?)	
Carberry North - MW	Negative	Positive (?)	
Brookdale – KJ	Negative	Negative	
Cypress River - SG	Negative	Negative	
Melbourne - SG	Negative	Positive (3160)	
Treherne - JG	N/A	--	
Portage - HB	Negative	Negative	
McDonald / Portage - SG/KPPA	Negative	Negative	
Bagot – DM-Delta	Negative	Negative	
Carman – VB/AB	Negative	Negative	
Winkler /TSC	Negative	Negative	

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