Issue 12 – August 3, 2023

Manitoba Potato Report

Weekly Provincial Summary

- This week was hotter than last week, with high temperatures ranging from 30 – 35.3^{0}C.
- There was hardly any rainfall during the week in Manitoba, leading to dry soils, and affecting unirrigated crops.
- Crops are being regularly irrigated where needed and tuber bulking is progressing well.

Overview

- Temperature highs ranged from 30 to 35.3^{O}C at various Manitoba weather stations.
- There was hardly any rain in the province, ranging from 0 to 0.2 in most of Manitoba.
- No late blight spores were trapped at any of the 17 sites from the spore trap network. So far, the 7-Day late blight risk values (DSVs) are very low.
- Aphid monitoring suction trap catches are now significantly higher compared to last week, and the same time last year. Green peach aphid and Potato aphids were trapped; and could be a concern for seed potatoes.
- A few European corn borers (ECB) were trapped last week, and more ECB stem injury is being reported.
- Regular weekly reports and other features will also be available at *http://www.mbpotatoes.ca/index.cfm*.

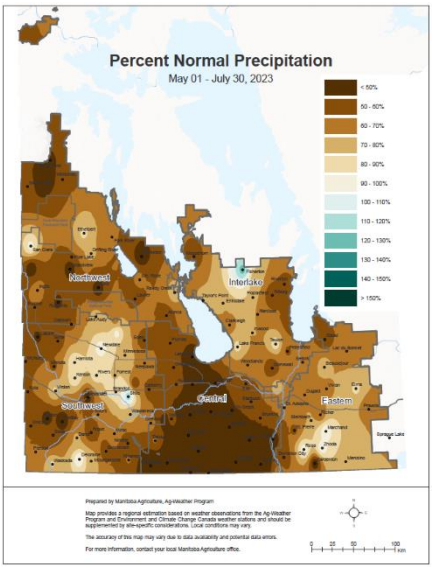
Ag Weather Data

Precipitation and Soil Moisture

- There were very scant rains in the province from July 24-30, ranging from 0 to 0.2 mm in most of Manitoba, except Altona in SE Manitoba, which got 15 mm in the week. (Table 1).
- These scant rains further brought down the % of normal precipitation at many sites in Manitoba, ranging from lows of 25-30% to mostly less than 60% of normal; while only Shilo (118%) was above normal (Table 1, Fig. 1). *http://www.gov.mb.ca/agriculture/weather/pubs/percent-normal-precipitation.pdf* .
- Lack of rain has created much bigger areas under the “dry to very dry” category at 0-30 cm soil depth (Fig. 2).
  https://www.gov.mb.ca/agriculture/weather/pubs/soil-moisture-30cm.pdf
- There is a 30% chance of rain showers by the weekend in some places.

Report compiled by Dr. Vikram Bisht, Manitoba Agriculture
Tel. (204) 745-5660 Fax (204) 745-5690
Subscribe to the weekly Potato Report

Manitoba



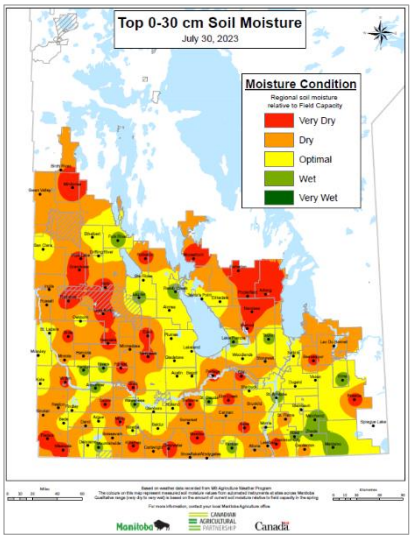


Fig.1.(far left) Rainfall (mm) in May to July 30 continues to be below normal in much of the potato growing areas, except a few sites in western potato areas of Manitoba.

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

Temperatures – Air & Soil

- The daytime temperatures during the week were quite hot, reaching 35.3 °C in Morden; while most other stations recorded 30-34.8 °C. This was much warmer than last week. The overnight minimums were slightly cooler than last week's, ranging from 4.8 to 8.6°C (Table 1).
- The P-Days (Potato Days with base 7°C) has reached >480 in many potato areas (www.mbpotatoes.ca) by August 2. The P-Days range from 95% 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 – **July 24 - 30** for selected potato growing areas.
' Crop Water Demand: cwd (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- Jul 30	2023 Rainfall (% of normal) from May 1 to July 30
Altona	33.9	8.0	15.5	-	68	-	31
Austin	31.6	8.1	0.0	29.1	108	183.3	54
Bagot	32.0	6.6	0.0	26.7	97	184.1	49
Carberry EC	31.9	4.8	0.0	25.2	108	147.2	55
Carman	34.4	6.2	0.0	28.0	99	165.6	50
Cypress River	33.3	5.9	0.2	-	99	-	50
Glenboro	31.1	5.8	0.3	30.5	132	159.9	64
Holland	32.9	8.2	0.3	35.9	123	194.1	54
Morden	**35.3**	8.2	0.0	-	53	-	25
Portage EC	33.2	8.6	2.6	38.4	85	213.5	43
Rivers	29.9	4.9	0.6	29.8	149	164.1	84
Shilo	32.9	6.1	0.0	32.6	**234**	175.7	118
St. Claude	33.6	8.2	0.1	33.0	95	187.6	45
Treherne	33.8	5.5	0.0	32.8	60	193.4	28
Wawanesa	32.7	5.2	0.2	32.6	142	166.0	72
Winkler	**34.8**	6.6	0.0	29.5	99	176.6	47

Manitoba

Agronomics

- In this week, July 24-30 – there have been scant rains across Manitoba. Preventative fungicide applications continue against early blight, botrytis and late blight.
- Crop water demand (CWD) for the week was NOT met by the rainfall for all potato growing areas in Manitoba (Table 1). The cumulative rainfall in Manitoba was not enough from May 1 to July 30 to meet the cumulative CWD in all stations, except Shilo.
- Supplemental irrigation and fertigation is being applied in many more fields.
- P-Days are currently around 480 and above in most potato growing areas *(P-Days (mbpotatoes.ca)* suggesting strong bulking phase.

Crop Progress

- The plant stand and crop growth looks good across the province. In many fields, plants are settling down on the the ground.
- Tuber bulking is progressing well with warm days and cool nights. Formation is at different stages; and many with fields at 6" size.
- Even late planted fields are now showing good tuber set numbers and good size profile. Some seed fields have been desiccated and other fields are 1 -2 weeks away from top-killing.
- Some fields will soon be ready for off-field dispatch for processing.

Disease & Insect Pests Monitoring

- Early blight continues to be reported from more fields and is being managed well. Interestingly I am not seeing much early blight in the Russet Burbank variety. Protective fungicide applications are continuing where needed. *Alternaria solani* spores are being trapped by passive spore traps.
- Some leafspots (minor incidents) of atypical early blight symptoms are being reported; these will be checked for causal agents; physiological leafspotting has been speculated. Colletotrichum, and Alt solani and Alt species have been isolated.
- Aster leafhoppers (ALH) and Potato leafhoppers (PLH) are being reported from more areas,
- Aphid monitoring suction **trap catches increased significantly** in two of three seed production regions. The total numbers are significantly higher than last week; and also much higher than at the same time in 2022. If this trend continues, we could be setting a record in number of aphids trapped,in southern Manitoba. Green peach aphids (GPA) were trapped at two sites and Potato aphids (PA) at all 3 sites (Table 2). Potato Aphids were also trapped in central potato growing areas. Both GPA and PA are efficient vectors of PVY. **Use of Aphid Oil and insecticide for aphids will be very important at this time. Some sites did not have enough sample, and low numbers could just be a result of low sample volume.**
    - Research work from New Brunswick has shown the success of early Aphid Oil use in combination with insecticides. This combination when regularly used showed significant reduction in % PVY numbers in fields.
- European corn borer damage to potato stems continues to be reported from western Manitoba, but the incidences appear to be minor and insecticide application is not recommended. Western Manitoba has high trap numbers (Table 3) as in previous years; Melbourne had the highest trap counts (2 years in a row).

Table. 2. Weekly Aphid Report – Week 7 (July 24-30) 2023

Field #	Town	RM	Green Peach Aphid	Potato Aphid	Other Aphids	Total *	ALH	PLH	Comments
Southern Region									
Field 1, H-20-2	**Winker**	Stanley	0	**21**	180	201	**1**	**4**	Lots of thrips
Field 2, K-16-6	**Carman**	Dufferin	1	**8**	63	**72**	**6**	0	Some thrips. Crop terminated.
Field 3, S-29-2	**Winkler**	Rhineland	1	**4**	54	59	2	2	Lots of thrips
Central Region									
Field 4 J-9-6	**Swan Lake**	Victoria	0	**9**	129	138	0	0	Not enough liquid in pans. Many thrips
Field 5 J-25-3	**Glenora**	Argyle	0	**11**	157	168	2	2	Lots of thrips
Field 6 M-32-13	**Westbourne**	Portage La Prairie	0	**0**	1	**1**	0	0	Not enough trap liquid received
Western Region									
Field 7, A-12-14	**Wellwood**	North Cypress-Langford	0	0	31	31	1	0	No pan liquid. Lots of thrips
Field 8, SP	**Carberry**	North Cypress-Langford	0	0	0	0	0	0	Suction trap? Pans- very little glycol

* *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.

European Corn Borer monitoring (ECB) has been going on since June 26. Stem borer injuries were being reported by early July and there were increasing reports in mid-July (Fig. 3). The ECB adult moths are still showing up in late July (Table 3). Insecticide application is not recommended. The late July numbers appear similar to 2022 at this time.

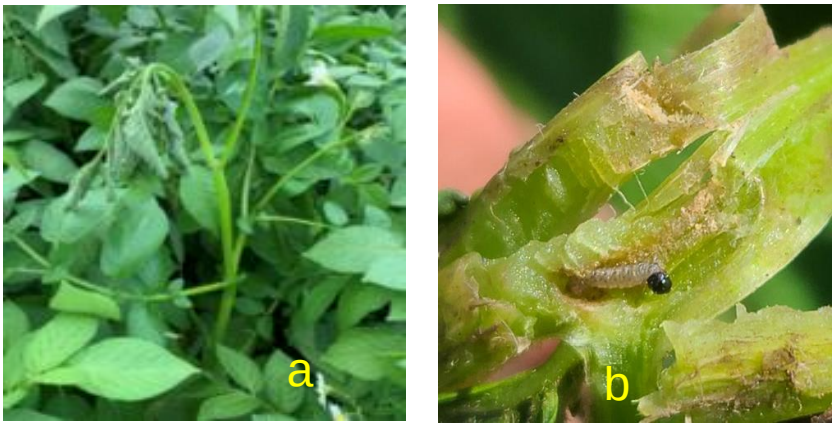


Fig. 3. European Corn borer on potato stem: a, Wilting top indication of borer hole damage (Vikram Bisht, Manitoba Agriculture); b: ECB larva inside potato stem (Kurtis McKee, JPW Farms)

Manitoba

Table 3: ECB counts in Delta traps in various potato fields of Manitoba

	Delta Trap Location	June 26 - July 10	July 10 - July 17	July 17 - July 23	July 24 - July 30
1	Carberry 24 D – SP	23	18	6	17
2	Carberry 113 SE – SP	10	1	16	-
3	Carberry 113 NE – SP	4	8	1	-
4	Carberry 31 C – SP	0	0	0	0
5	Carberry W22 – SP	3	2	2	1
6	Carberry N – MCDC offsite	11	No sample	13	-
7	Carberry – S (MW)	7	9	-	20
8	Douglas (MW)	9 (+0 NY)	3 (& 5 NY)	-	2
9	Sydney (Heritage)	N/A	2	0	1
10	Cypress River	5	16	5	2
11	**Melbourne**	**23**	**31**	**21**	**28**
12	Wawanesa	0	1	2	4
13	Portage	0		3	-
14	Carman (JG)	3	2	10	7

Late Blight Monitoring

Information

- Late blight risk forecasting is provided on a regional basis on www.mbpotatoes.ca. Currently, the 7-Day Disease Risk values are very low indicating low risk for late blight disease (Fig. 4). However, the cumulative DSVs from June 1 to July 30 show that a few potato station sites are near or above the critical value of 18 – Rivers, Glenboro, High Bluff and Carman.
- 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 being monitored.
    - **No late blight spores were detected in the samples processed in the 7th week of collection (July 24-30). (Table 4).**
    - Early blight disease has been reported from many locations. PCR testing for early blight (*Alternaria solani*) spores was positive for some sites this week

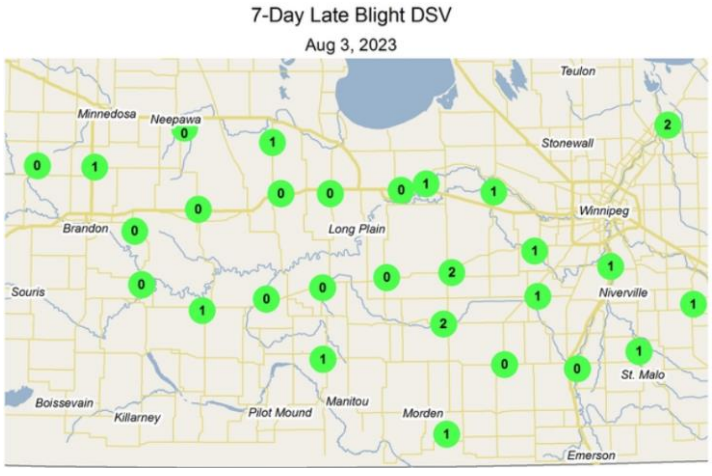


Fig. 4. The 7-Day DSVs (July 24-Aug 3) indicated very low risk of blight.
The cumulative DSVs from June 1 to July 30 are near or above critical value of 18 in many potato growing areas in Manitoba.

Manitoba

Seventh week's (July 24-31) PCR test results for presence of *Phytophthora infestans* (Pi) late blight spores are **negative** at all sites submitted (Table 4). Early blight disease and *Alternaria solani* spores were recorded in some sites with significantly high spore count compared to last week.

Table 4: Phytophthora infestans spore trapping and PCR results **Week 7 (July 24-31).**

Spore Trap Locations	**Pi spores**	**Early blight (spore #s)**	**Comments**
Shilo – OS	Negative	Negative	Early blight seen
Wawanesa –SG LF12	Negative	Negative	Early blight seen
Douglas – MW F362	Negative	**Positive (530,000)**	Sample not recd
Field W22-Carberry N –SS F369/ 371	Negative	**Positive (759,000)**	
Field 31C – Carberry N – SS F465 /462	Negative	**Positive (241,000)**	
Carberry N – AU F319	Negative	**Positive (486000)**	
Carberry South – MW F456	Negative	Negative	Sample not recd
Carberry North – MW F457	Negative	**Positive (72,300)**	Sample not recd
Brookdale – KJ F465	-	-	No sample
Cypress River – SG F194	Negative	**Positive (341,000)**	
Melbourne – SG F192	Negative	Negative	Early blight seen
Treherne – JG F461	Negative	**Positive (59,500)**	
Portage – HB F464	Negative	Negative	
McDonald / Portage - SG/KPPA F459	Negative	Negative	
Bagot – DM-Delta F463	Negative	**Positive (59,500)**	Early blight in area
Carman – VB/AB	Negative	Negative	
Winkler /TSC July 17 – 20	Negative	**Positive (1 million)**	Early blight in area

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