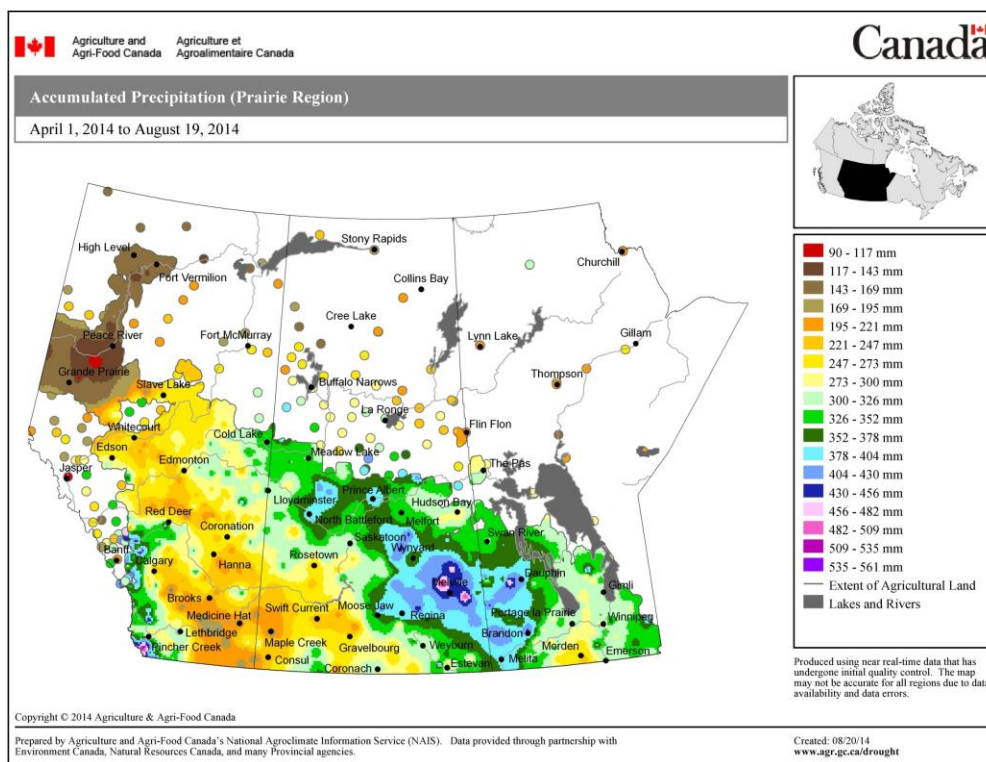


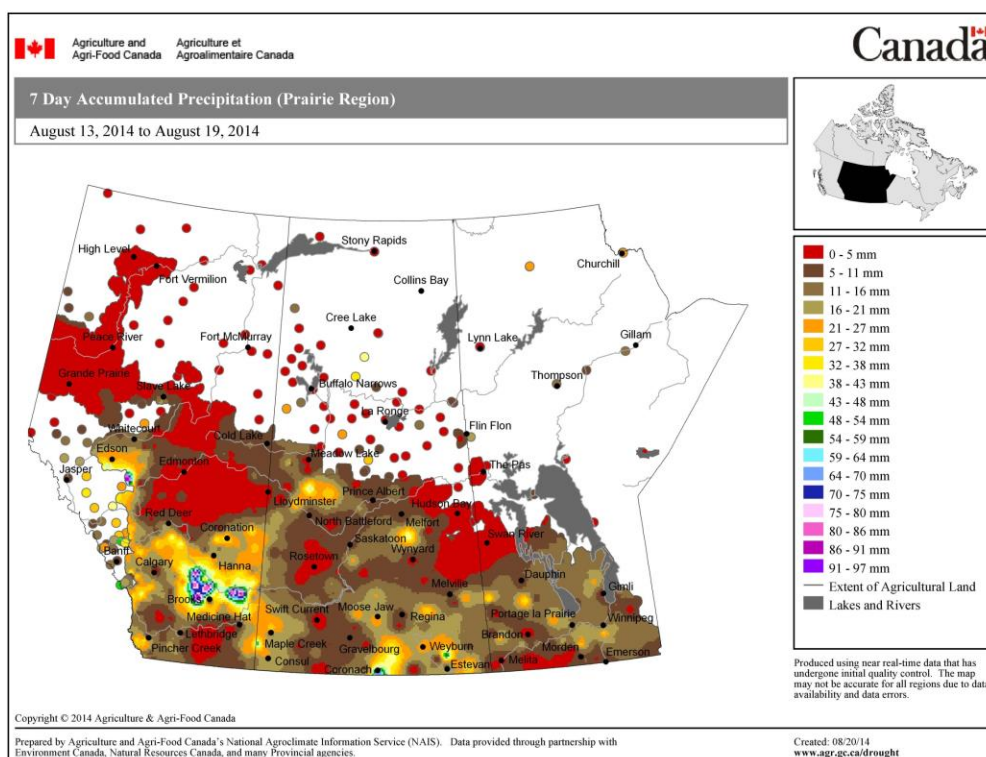
Prairie Pest Monitoring Network Weekly Updates – August 20, 2014

Otani, Giffen, Weiss, Olfert

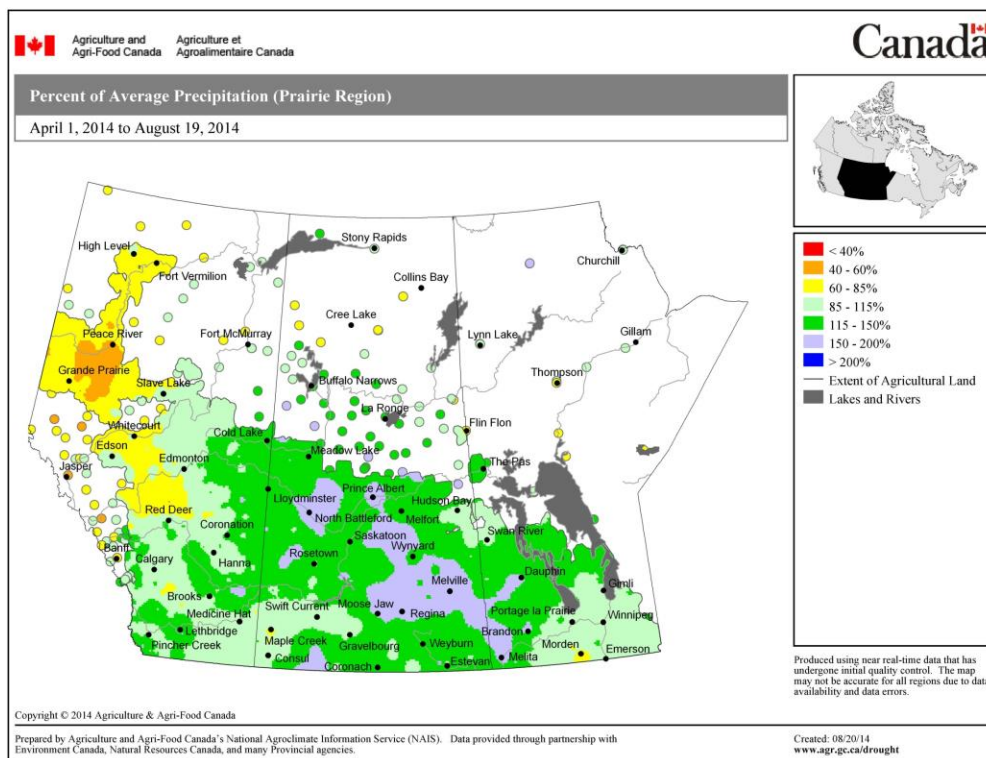
1. Weather synopsis – Below is the **Accumulated Precipitation for the Growing Season** (i.e., April 1- August 19, 2014):



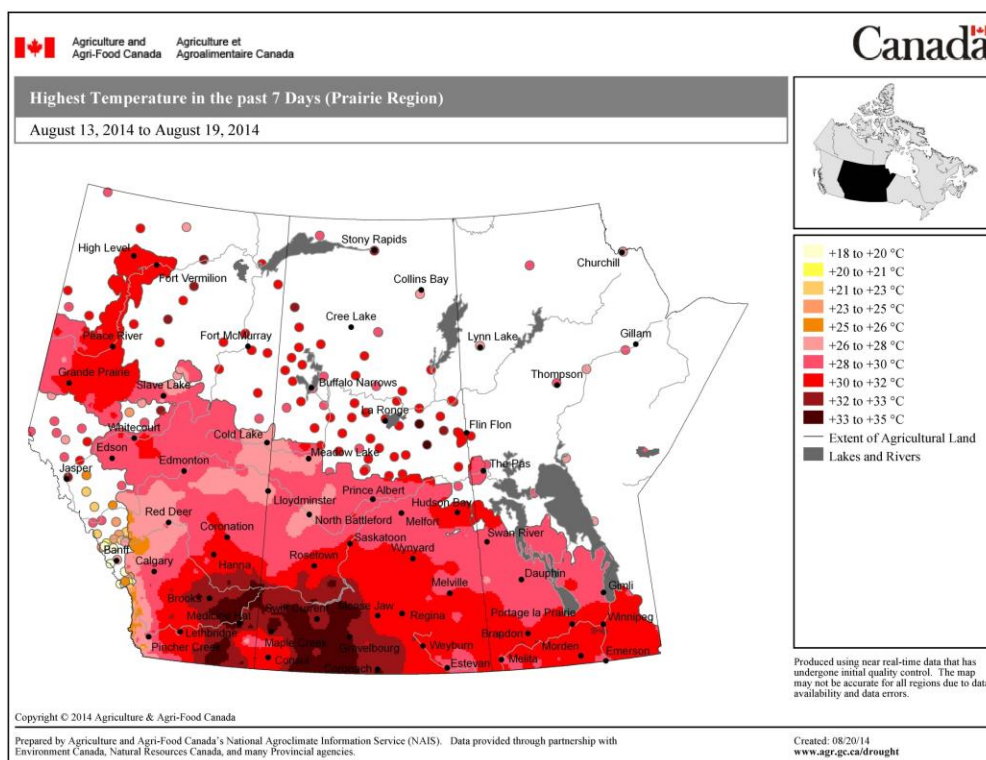
Below is the **Accumulated Precipitation the Past 7 Days** (i.e., August 13-19, 2014):



The map below shows the **Percent of Average Precipitation** for the growing season (April 1-August 19, 2014):

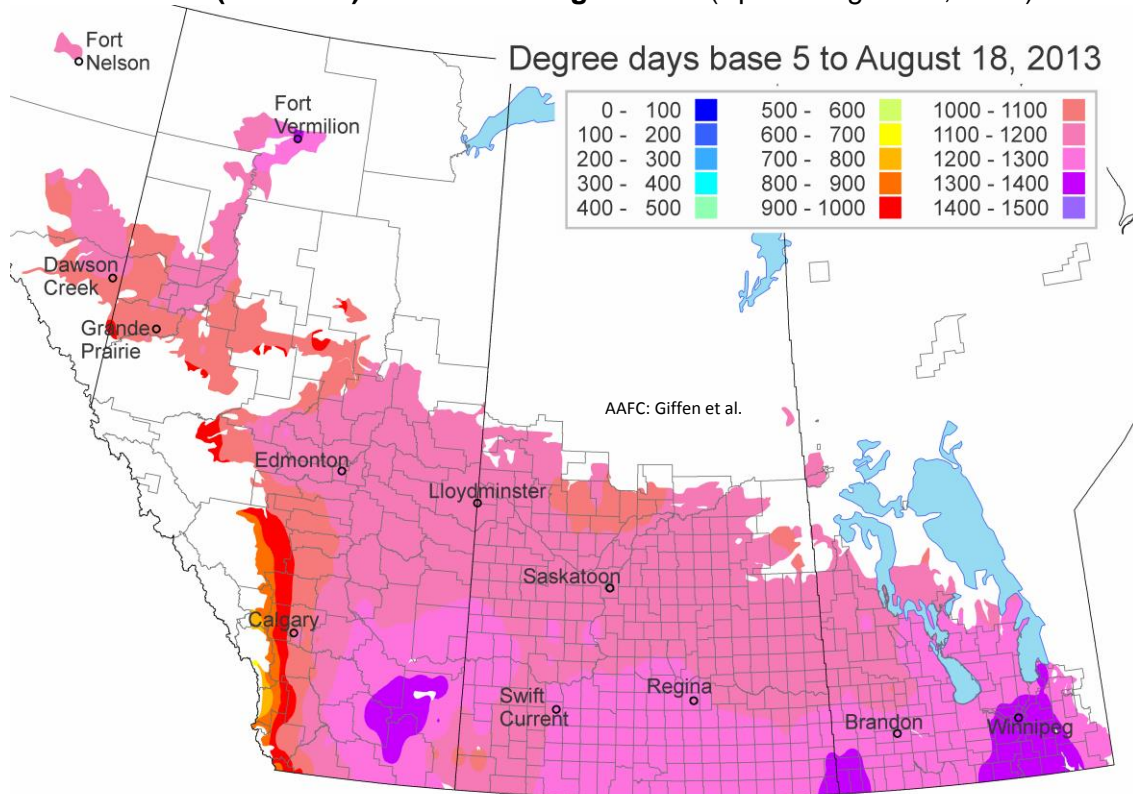


The map below reflects the **Highest Temperatures across the Prairies the past 7 Days** (i.e., August 13-19, 2014).

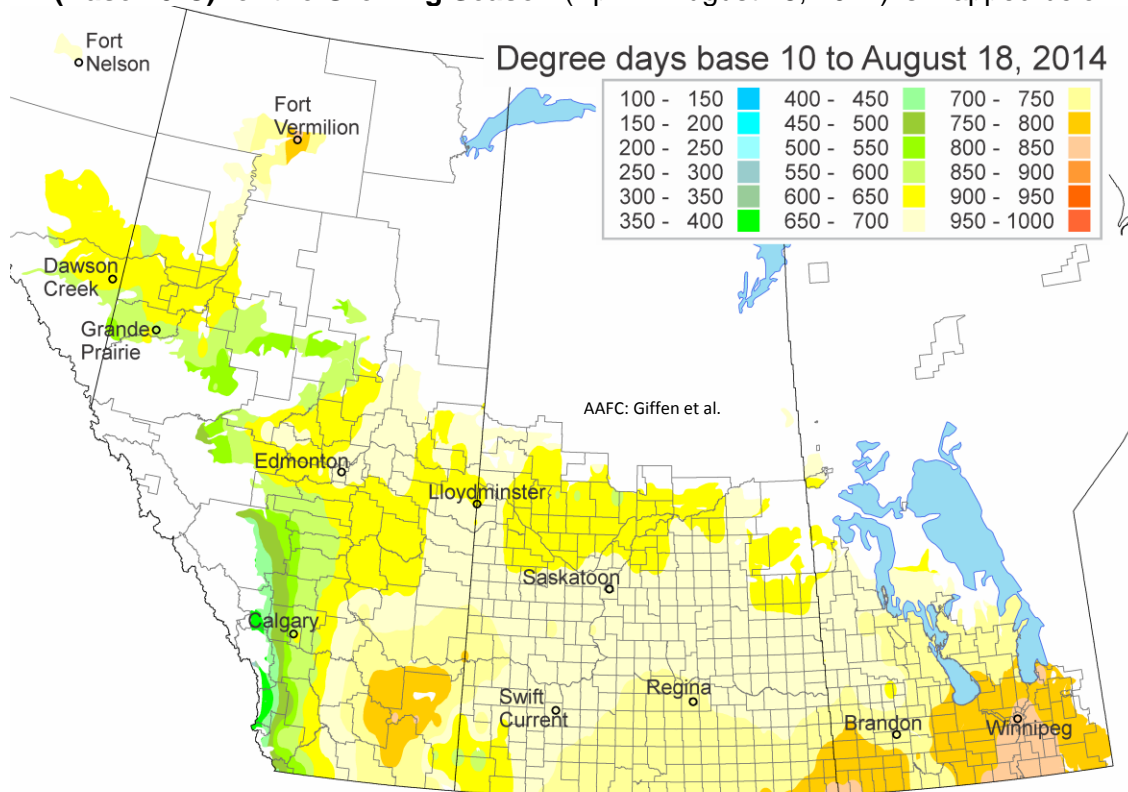




Growing degree day (GDD) estimates reflect the growing season, in terms of heat accumulation, across the prairies. Below is the **GDD (Base 5°C) for the Growing Season (April 1-August 18, 2014)**:



While the **GDD (Base 10°C) for the Growing Season (April 1-August 18, 2014)** is mapped below:





2. Insect Development and Simulation Outputs – Model outputs are now completed for the 2014 growing season. Thank you to the dedicated AAFC-Saskatoon Staff who compiled data, generated and mapped the output data, plus provided weekly summaries for the various insect pest species during the 2014 season!

3. Lygus Bugs (*L. lineolaris*, *L. keltoni*, *L. borealis*, *L. elisus*) – Remember, hot dry weather favors the buildup of lygus bug populations. The **economic threshold for lygus bugs in canola is applied at late flower and early pod stages**. Biological and monitoring information related to lygus bugs can be accessed by [clicking here](#) or you can access [Manitoba](#), [Alberta](#) or [British Columbia](#) fact sheets.



Figure A. Adult *L. lineolaris* (5-6 mm long).



Figure B. Fifth instar *Lygus* nymph (3-4 mm long).

Continue to monitor in canola until seeds within the pods are firm. Sample the crop for lygus bugs on a sunny day when the temperature is above 20°C and the crop canopy is dry. Monitoring should be performed using a standard insect sweep-net (38 cm diameter) using ten 180° sweeps. Count the number of lygus bugs (adults plus nymphs) in the net then repeat the sampling in another 5-10 locations within the field.

The economic threshold for lygus bugs in canola covers the end of the flowering (Table 1) and the early pod ripening stages (Table 2). Once the canola seeds have ripened to yellow or brown, the cost of controlling lygus bugs may exceed the damage they cause in which case insecticide application is not recommended.

Table 1. Economic thresholds for lygus bugs in canola at late flowering and early pod stages (Wise and Lamb 1998).

Control costs		Late flower to early pod (Canola crop stages 4.4-5.1 ¹)						
\$/ac	\$/ha	Economic Injury Level ²						
\$8.00	\$19.77	8	6	5	4	4	3	3
\$10.00	\$24.71	10	8	7	6	5	4	4
\$12.00	\$29.65	12	9	8	7	6	5	5
\$14.00	\$34.59	14	11	9	8	7	6	5
\$16.00	\$39.54	16	13	10	9	8	7	6
\$18.00	\$44.48	18	14	12	10	9	8	7
\$20.00	\$49.42	20	16	13	11	10	9	8
Canola value	\$/bu	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00
	\$/tonne	\$352.42	\$440.53	\$528.63	\$616.74	\$704.85	\$792.95	\$881.06

¹ Canola crop stage estimated using Harper and Berkenkamp 1975).

² Economic thresholds are based on an assumed loss of 0.1235 bu/ac per lygus bug caught in 10 sweeps (Wise and Lamb. 1998. The Canadian Entomologist. 130: 825-836).

**Table 2. Economic thresholds for lygus bugs in canola at pod stage (Wise and Lamb 1998).**

Control costs		Early pod (Canola crop stages 5.2 ¹)						
\$/ac	\$/ha	Economic Injury Level ³						
\$8.00	\$19.77	11	9	7	6	5	5	4
\$10.00	\$24.71	14	11	9	8	7	6	5
\$12.00	\$29.65	16	13	11	9	8	7	7
\$14.00	\$34.59	19	15	13	11	10	9	8
\$16.00	\$39.54	22	18	15	13	11	10	9
\$18.00	\$44.48	25	20	16	14	12	11	10
\$20.00	\$49.42	27	22	18	16	14	12	11
Canola value	\$/bu	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00
	\$/tonne	\$352.42	\$440.53	\$528.63	\$616.74	\$704.85	\$792.95	\$881.06

³ Economic thresholds are based on an assumed loss of 0.0882 bu/ac per lygus bug caught in 10 sweeps (Wise and Lamb. 1998. The Canadian Entomologist. 130: 825-836).

4. Pre-Harvest Intervals (PHI) – Reminder: Please factor in the **PHI which is the minimum number of days between a pesticide application and swathing or straight combining of a crop.** The PHI recommends sufficient time for a pesticide to break down and a PHI value is both crop- and pesticide-specific. Adhering to the PHI is important for a number of health-related reasons but also because Canada's export customers of canola strictly regulate and test for the presence of trace residues of pesticides.

In 2013, the Canola Council of Canada created and circulated their "[Spray to Swath Interval Calculator](#)" which was intended to help canola growers accurately estimate their PHI. Other PHIs are described in your provincial crop protection guides and remember that specific crop x pesticide combinations will mean different PHIs.

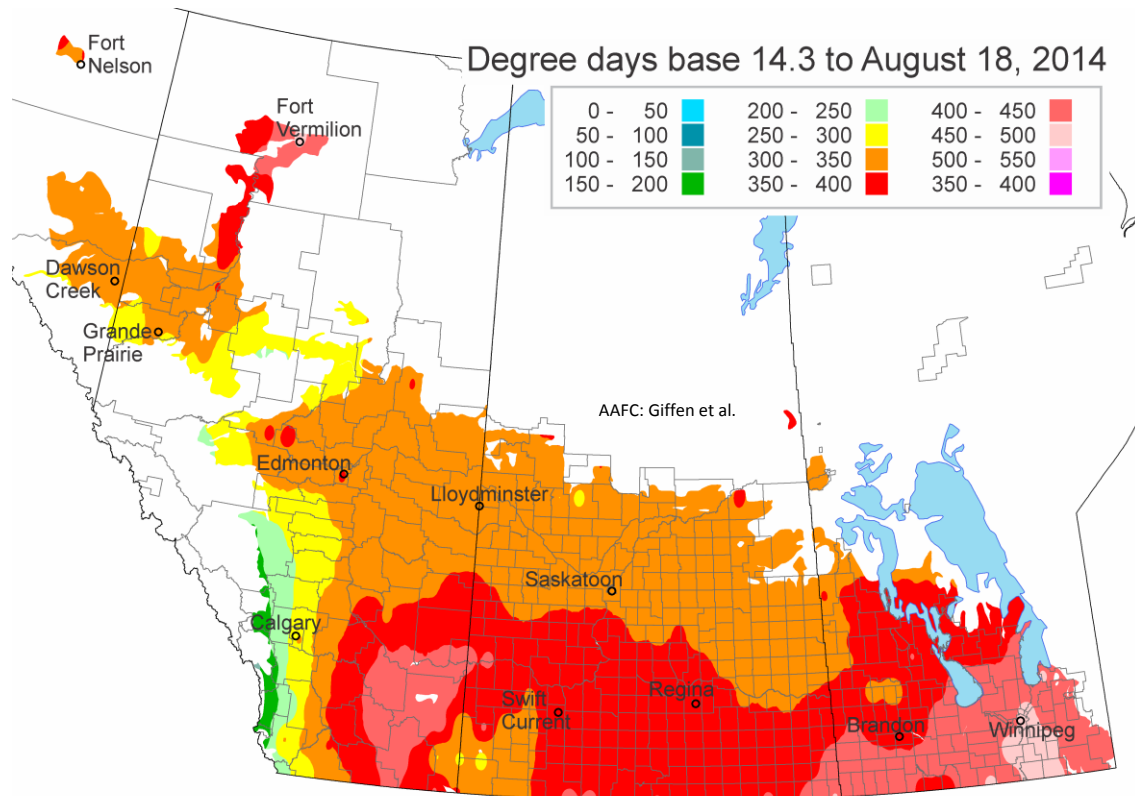
5. Crop Reports - The following provincial websites now have their Crop Reports posted so click the links to find their weekly updates:

- Manitoba's Crop Report: <http://www.gov.mb.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html>
- Saskatchewan's Crop Report: <http://www.agriculture.gov.sk.ca/crop-report>
- Alberta's Crop Report: [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sdd4191](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sdd4191)

Link here to access the USDA's [Weekly Weather and Crop Bulletin](#).



6. West Nile Mosquito (*Culex tarsalis*) - As of this week, a total of **two birds collected in Saskatchewan tested positive for West Nile** (click [here](#) to view reports posted by the Canadian Wildlife Health Cooperative). Areas highlighted in red on the map below have accumulated sufficient heat units for *C. tarsalis* to fly. Remember to apply DEET if you are outdoors!



The Public Health Agency of Canada posts information related to West Nile Virus in Canada and their website can be accessed by clicking [here](#).

7. Questions or problems accessing the contents of this Weekly Update? Please e-mail or call either Owen.Olfert@agr.gc.ca (tel. 306-385-9355) or Jennifer.Otani@agr.gc.ca (tel. 780-354-5132). Past and present “Weekly Updates” are kindly posted to the Western Forum website by webmaster, Dr. Kelly Turkington. Please [click here](#) to link to that webpage.



8. Previous topics:

- a. **Flea Beetles** (Chrysomelidae: *Phyllotreta* species) – Fact sheets for flea beetles in canola are posted by [Manitoba Agriculture, Food and Rural Development](#), and [Saskatchewan Agriculture](#). Helpful images produced by Dr. Julie Soroka (AAFC-Saskatoon) exemplifying percent of cotyledon leaf area consumed by flea beetles are posted at [Canola Watch](#).
- b. **Cutworms** (Noctuidae) – **Cutworm reports came out of central Alberta and Manitoba this past week.** Cutworm biology, species information, plus monitoring recommendations are available at the Prairie Pest Monitoring Network's [Cutworm Monitoring Protocol](#). Also refer to these cutworm-specific fact sheets ([Manitoba Agriculture, Food and Rural Initiatives](#), [Alberta Agriculture, Food and Rural Development](#)).
- c. **Wind trajectories Related to Diamondback Moth (DBM) and Aster Leafhopper Introductions** – Completed for the season. Please refer to earlier [Weekly Updates](#) for details related to backward and forward trajectories associated with air parcels moving over western Canadian locations.
- d. **Diamondback Moth (*Plutella xylostella*)** – The **Action Threshold for DBM in canola is applicable at pod stage and is 200-300 larvae/m² or 20-30 larvae per 0.1 m².** Please refer to **fact sheets for DBM** posted by [Manitoba Agriculture, Food and Rural Development](#), [Saskatchewan Agriculture](#), [Alberta Agriculture and Rural Development](#), and the [Prairie Pest Monitoring Network](#).
- e. **Pea Leaf Weevil (*Sitona lineatus*)** – Link here for the [Pea leaf weevil monitoring protocol](#) with photos of related weevils).
- f. **Swede Midge (*Contarinia nasturtii*)** – Link here for the PPMN's [swede midge monitoring protocol](#). The Ontario Canola Growers post swede midge information [here](#) and canola management recommendations for swede midge in Ontario are posted by [Rebecca Hallett and Brian Hall](#).
- g. **Cabbage seedpod weevil (*Ceutorhynchus obstrictus*)** – **Reminder:** Correct sampling methods by clicking [here](#) or you can link to either the [Alberta](#) or [Saskatchewan](#) fact sheets for detailed biological and pest management information including the economic threshold.
- h. **Cereal Leaf Beetles (*Oulema melanopus*)** – Fact sheets for CLB are posted by [Alberta Agriculture, Food and Rural Development](#), and [BC Ministry of Agriculture](#), and the [Prairie Pest Monitoring Network](#).
- i. **Cereal leaf beetle biological control agent (*Tetrastichus julis*)** - The arthropod biological control agent **attacking the cereal leaf beetle**, is described in a **NEW Agriculture and Agri-Food fact sheet** which can be accessed by linking [here](#).
- j. **Grasshoppers** - Biological and monitoring information for grasshoppers can be linked by clicking [here](#) or you can access fact sheets produced by the provinces of [Manitoba](#), [Saskatchewan](#), [Alberta](#) or [British Columbia](#).
- k. **Wheat Midge (*Sitodiplosis mosellana*)** – Wheat midge biology and monitoring information can be located by clicking [here](#) or linking to your provincial fact sheet ([Saskatchewan Agriculture](#), [Alberta Agriculture and Rural Development](#)).
- l. **Bertha Armyworm (*Mamestra configurata*)** – Provincial fact sheets describing the biology and related pest management information for bertha armyworm are posted by [Manitoba Agriculture, Food and Rural Development](#), [Saskatchewan Agriculture](#), [Alberta Agriculture, and Rural Development](#), or [BC Ministry of Agriculture](#).