

Prairie Pest Monitoring Network Weekly Updates – May 4, 2017 Otani, Olfert, Giffen

1. Greetings! The Weekly Update is back for the 2017 growing season in [Blog](#) and downloadable PDF formats!

Weather synopsis – Weather synopsis – We begin with a synopsis of the weather situation starting with the map below which reflects the Accumulated Precipitation received during the winter (Nov 1, 2016 to Mar 31, 2017) across the prairies (Figure 1).

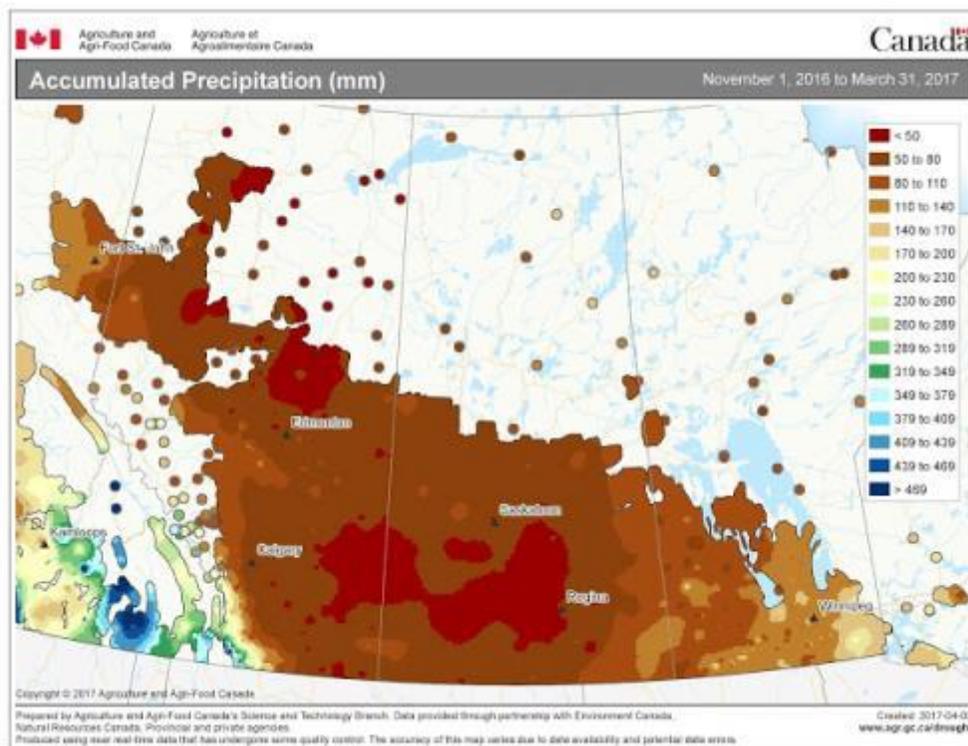


Figure 1. Accumulated precipitation across the Canadian prairies during the winter (November 1, 2016-March 31, 2017).

Average temperatures over the past month have been warmest across the southern prairies. April precipitation was greater across Manitoba and eastern Saskatchewan than western Saskatchewan or Alberta (Figure 2). Compared to last year at this time, April 2017 was approximately 2°C cooler with marginally greater precipitation than last year (prairie-wide average values; Figure 3).

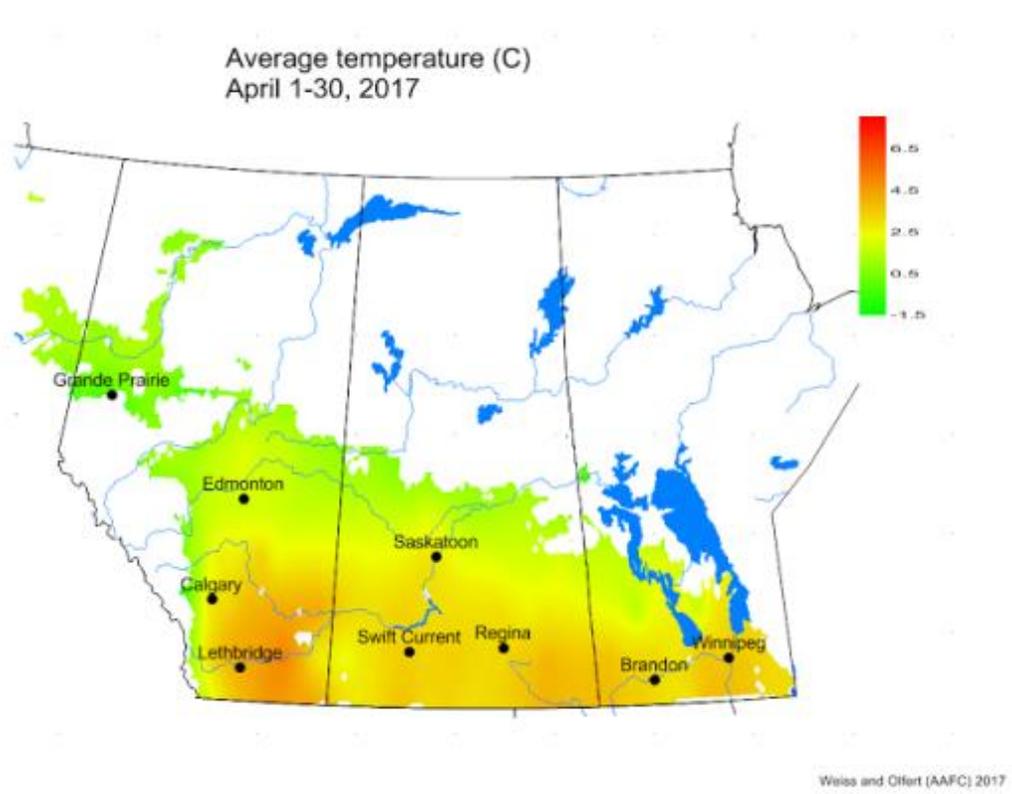


Figure 2. Average temperatures across the Canadian prairies the past 30 days (April 1-30, 2017).

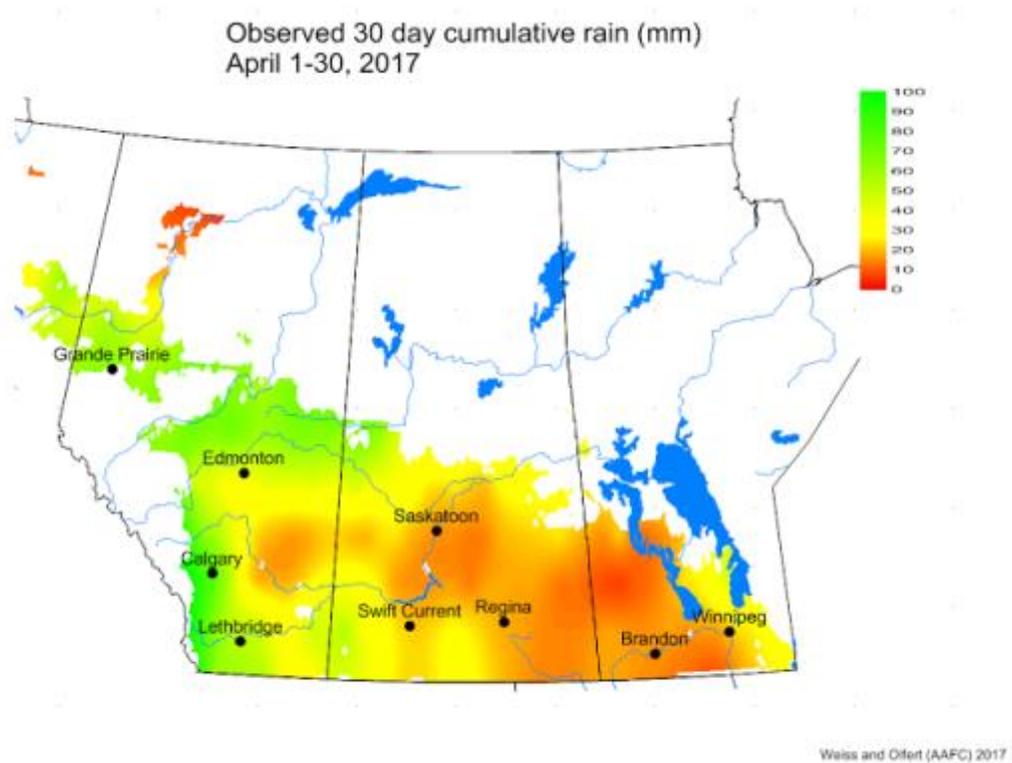
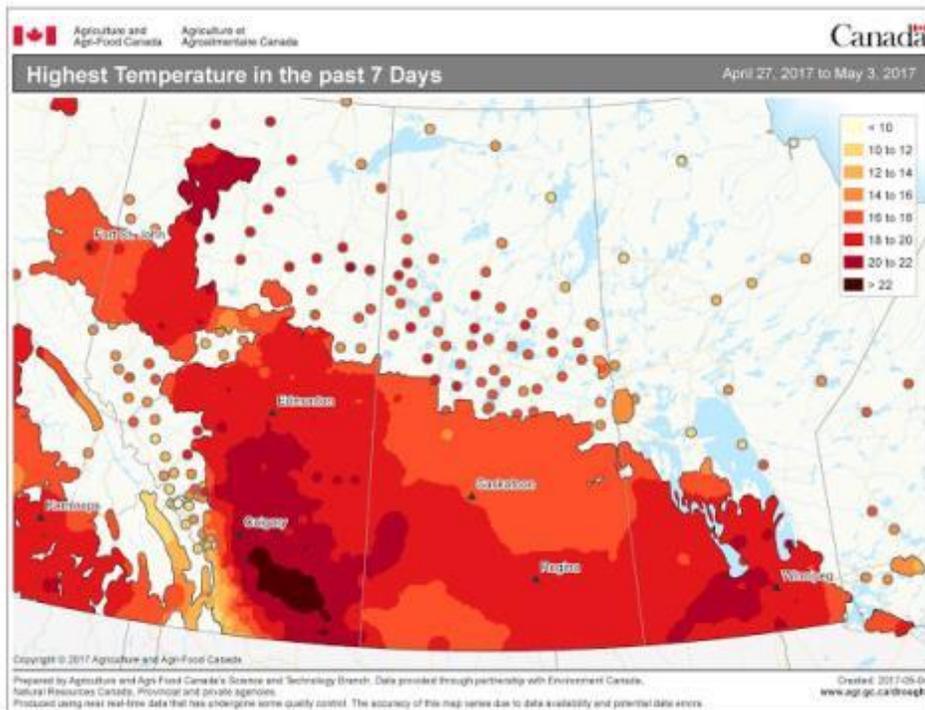


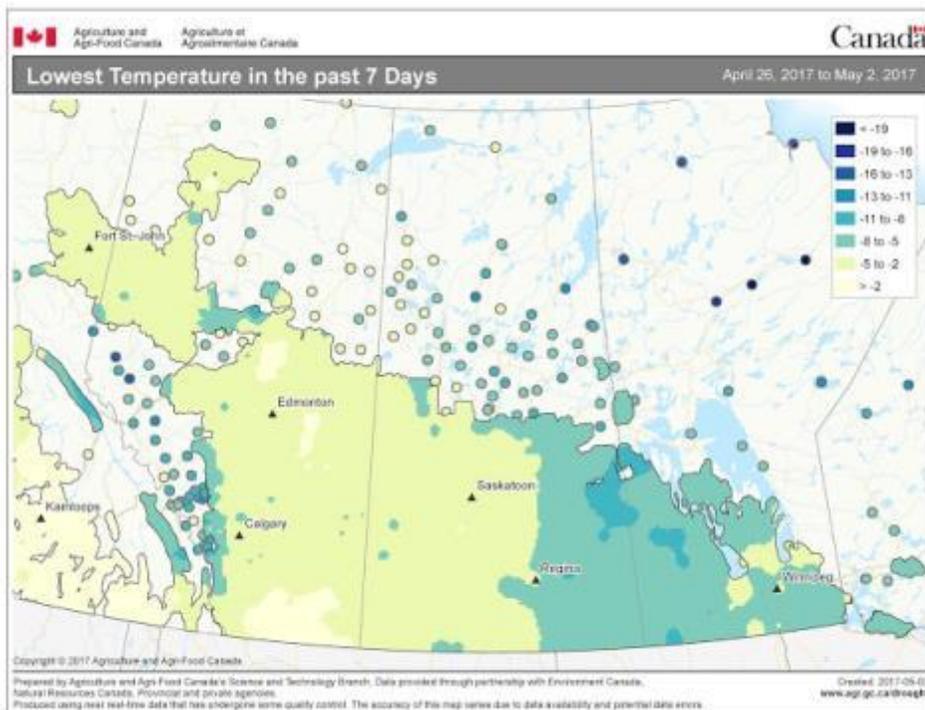
Figure 3. Cumulative precipitation across the Canadian prairies the past 30 days (April 1-30, 2017).



The map below reflects the Highest Temperatures occurring over the past 7 days across the prairies.



The map below reflects the Lowest Temperatures occurring over the past 7 days across the prairies.



The maps above are all produced by Agriculture and Agri-Food Canada. Growers may wish to bookmark the [AAFC Drought Watch Maps](#) for the growing season.



2. 2016 Wind Trajectories - High altitude air masses originate from southern locations and continuously move northerly to Canadian destinations. Insect pest species such as Diamondback moth and Aster leafhoppers, traditionally unable to overwinter above the 49th parallel, can utilize these air masses in the spring to move north from Mexico and the United States (southern or Pacific northwest). Data acquired from Environment Canada is compiled by Olfert et al. (AAFC-Saskatoon) to track and model spring high altitude air masses with respect to potential introductions of insect pests onto the Canadian prairies.

THE WEEK OF MAY 1, 2017: Wind trajectory data processing by AAFC-Saskatoon Staff began in April. Reverse Trajectories track arriving air masses back to their point of origin while Forward Trajectories predict favourable winds expected to arrive across the Canadian Prairies for the week of May 1, 2017:

Reverse trajectories (RT)

Wind trajectories have been monitored since April 1 this year. To date, winds have originated predominantly from the USA - Pacific Northwest (PNW). Overall results indicate that eastern locations on the prairies have had fewer of these winds than western locations (Figure 1). Over the last week (April 25- May 1, 2017), Lethbridge has had significantly more RT's from the Pacific Northwest than either SK and MB sites (Figure 2).

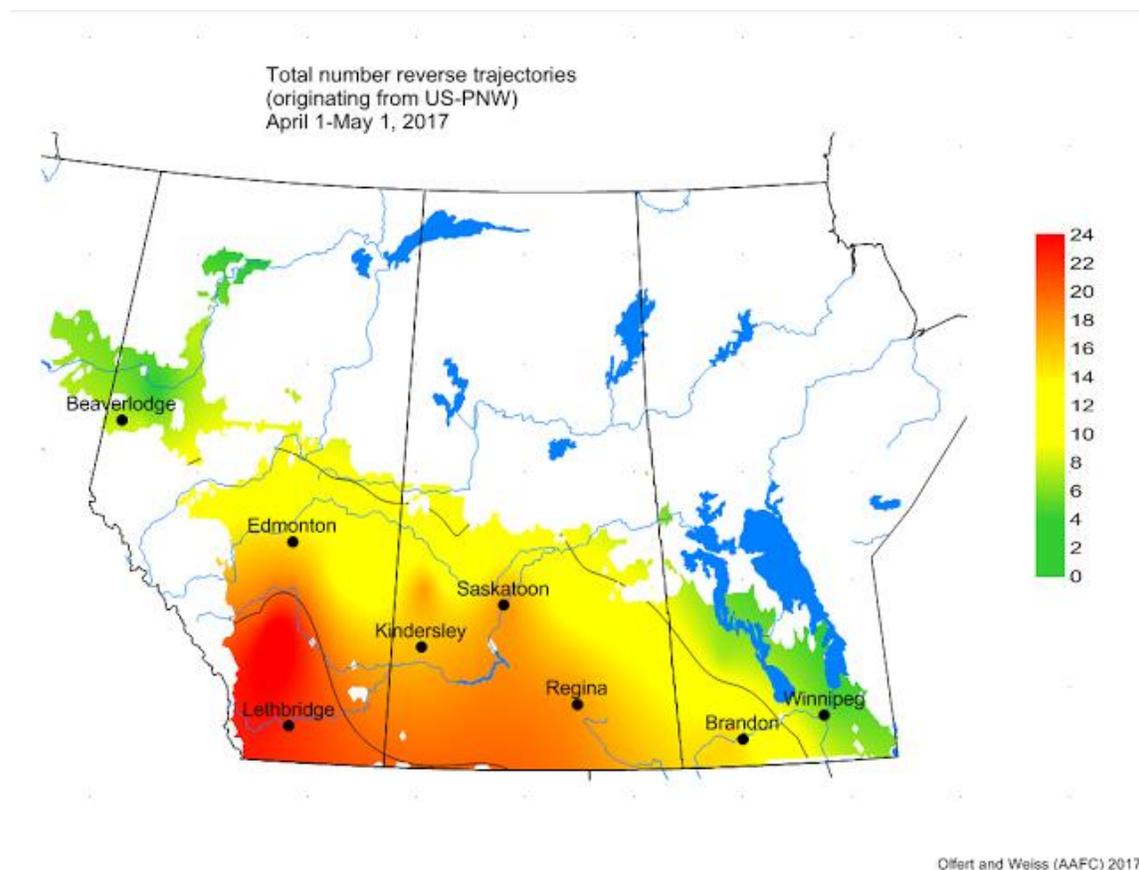


Figure 1. Summary of reverse trajectory wind data (PNW) for the prairies April 1-May 1, 2017.

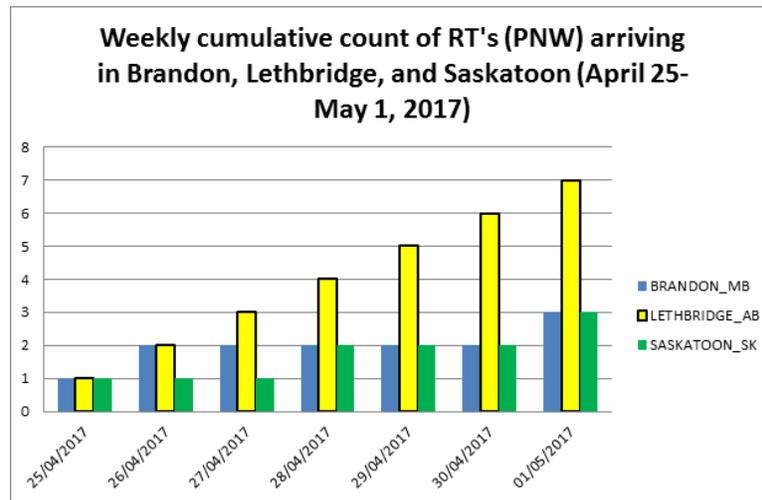


Figure 2. Based on results for specific locations (Brandon, Saskatoon, Lethbridge), Lethbridge has had significantly more RT's from the Pacific Northwest than SK and MB.

Forward trajectories (FT)

Forward trajectories that were predicted to cross the prairies from the southern USA and Mexico have been limited so far. There were a few isolated days of winds from Santa Maria and Imperial Valley, CA. and from Mexicali, Mexico in mid-April.

Weather forecasts (7 day):

Winnipeg: https://weather.gc.ca/city/pages/mb-38_metric_e.html

Brandon: https://weather.gc.ca/city/pages/mb-52_metric_e.html

Saskatoon: https://weather.gc.ca/city/pages/sk-40_metric_e.html

Regina: https://weather.gc.ca/city/pages/sk-32_metric_e.html

Edmonton: https://weather.gc.ca/city/pages/ab-50_metric_e.html

Lethbridge: https://weather.gc.ca/city/pages/ab-30_metric_e.html

Grande Prairie: https://weather.gc.ca/city/pages/ab-31_metric_e.html

3. Diamondback moth (*Plutellidae: Plutella xylostella*) - Pheromone traps attracting male Diamondback moths have been deployed across the prairies.



Biological and monitoring information for DBM is posted by [Manitoba Agriculture, Food and Rural Development](#), [Saskatchewan Agriculture](#), [Alberta Agriculture and Forestry](#), and the [Prairie Pest Monitoring Network](#).

More information about Diamondback moths can be found by accessing the pages from the new "Field Crop and Forage Pests and their Natural Enemies in Western Canada: Identification and Field Guide". View [ONLY the Diamondback moth page](#) but remember the guide is available as a free downloadable document as both an [English-enhanced](#) or [French-enhanced](#) version.



4. Cutworms (Noctuidae) – NEW - Just in time for spring scouting! A new field guide is now available to help growers scout and manage Cutworms! ***Cutworm Pest of Crops*** is now available for free in either [English](#) or [French](#) and is featured at our **new [Cutworm Corner!](#)** Also be sure to check the [Insect of the Week](#) throughout May - it highlights cutworms through May. Be sure to read more about [Pale western cutworms](#).



Several species of cutworms can be present in fields. They range in colour from shiny opaque, to tan, to brownish-red with chevron patterning. Cutworm biology, species information, plus monitoring recommendations are available in the [Prairie Pest Monitoring Network's Cutworm Monitoring Protocol](#). Also refer to [Manitoba Agriculture and Rural Initiatives](#) cutworm fact sheet which **includes action and economic thresholds for cutworms** in several crops.

Keep an eye on fields that are “slow” to emerge, are missing rows, include wilting or yellowing plants, have bare patches, or appear highly attractive to birds – these are areas warranting a closer look. Plan to follow-up by walking these areas later in the day when some cutworm species move above-ground to feed. Start to dig below the soil surface (1-5 cm deep) near the base of a symptomatic plant or the adjacent healthy plant. If the plant is well-established, check within the crown in addition to the adjacent soil. The culprits could be [wireworms](#) or cutworms.

For Albertans..... If you find cutworms, please consider using the Alberta Pest Surveillance Network's “[2017 Cutworm Reporting Tool](#)”. Once data entry occurs, growers can [view the live 2017 cutworm map](#) which is updated daily.

5. Cereal leaf beetle (*Oulema melanopus*) - As of May 1, 2017, the CLB model indicates that oviposition has begun in the Lethbridge and Swift Current areas.

Lifecycle and Damage:

Adult: Adult cereal leaf beetles (CLB) have shiny bluish-black wing-covers (Fig. 1). The thorax and legs are light orange-brown. Females (4.9 to 5.5 mm) are slightly larger than the males (4.4 to 5 mm). Adult beetles overwinter in and along the margins of grain fields in protected places such as in straw stubble, under crop and leaf litter, and in the crevices of tree bark. They favour sites adjacent to shelter belts, deciduous and conifer forests. They emerge in the spring once temperature reaches 10-15 °C and are active for about 6 weeks. They usually begin feeding on grasses, then move into winter cereals and later into spring cereals.



Figure 1. Adult *Oulema melanopus* (~4.4-5.5 mm long).



Egg: Eggs are laid approximately 14 days following the emergence of the adults. Eggs are laid singly or in pairs along the mid vein on the upper side of the leaf and are cylindrical, measuring 0.9 mm by 0.4 mm, and yellowish in colour. Eggs darken to black just before hatching.

Larva: The larvae hatch in about 5 days and feed for about 3 weeks, passing through 4 growth stages (instars). The head and legs are brownish-black; the body is yellowish. Larvae are usually covered with a secretion of mucus and fecal material, giving them a shiny black, wet appearance (Fig. 2). When the larva completes its growth, it drops to the ground and pupates in the soil.



Figure 2. Larval stage of *Oulema melanopus* with characteristic feeding damage visible on leaf.

Pupa: Pupal colour varies from a bright yellow when it is first formed, to the colour of the adult just before emergence. The pupal stage lasts 2 - 3 weeks. Adult beetles emerge and feed for a couple of weeks before seeking overwintering sites. There is one generation per year.

Fact sheets for CLB are published by the province of [Alberta](#) and available from the [Prairie Pest Monitoring Network](#). Also access the [Oulema melanopus page](#) from the new "Field crop and forage pests and their natural enemies in western Canada - Identification and management field guide".

6. Grasshopper Simulation Model Output – The grasshopper simulation model will be used to monitor grasshopper development across the prairies. Weekly temperature data collected across the prairies is incorporated into the simulation model which calculates estimates of grasshopper development stages based on biological parameters for *Melanoplus sanguinipes* (Migratory grasshopper).

As of May 1, 2017, model output predicted embryological mean development was 56%; the greatest development was predicted to be across the southern prairies. Embryological development was very similar to long term averages (57%) though marginally slower than 2016 (62%).

Reminder - The Prairie Pest Monitoring Network's 2017 Grasshopper Forecast Map (Figure 1) was released in January. While spring temperatures, soil moisture conditions, and precipitation can all have an impact on overwintered grasshopper eggs, growers in areas highlighted orange or red in the map below should be vigilant as nymphs begin to hatch this season.

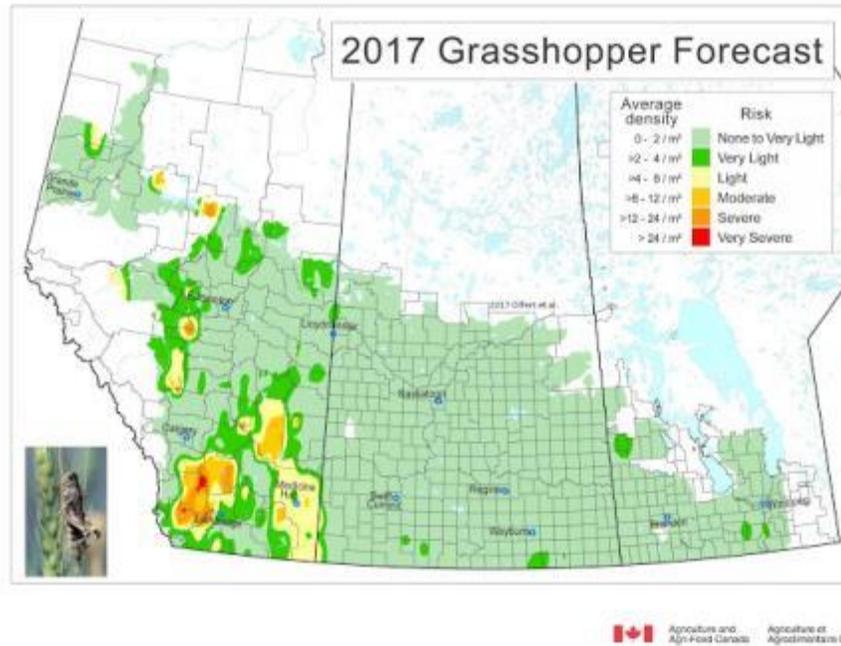


Figure 1. Prairie Pest Monitoring Network's 2017 Grasshopper Forecast Map.

Biological and monitoring information related to grasshoppers in field crops is posted by [Manitoba Agriculture, Food and Rural Development](#), [Saskatchewan Agriculture](#), [Alberta Agriculture and Forestry](#), the [BC Ministry of Agriculture](#) and the [Prairie Pest Monitoring Network](#). Also refer to the [grasshopper pages](#) within the new "Field Crop and Forage Pests and their Natural Enemies in Western Canada: Identification and management field guide" as an [English-enhanced](#) or [French-enhanced](#) version.

7. Monarch Butterflies (*Danaus plexippus*) - We again track the migration of the Monarch butterflies and they move north by checking the [2017 Monarch Migration Map!](#) A screen shot of the map has been placed below as an example (retrieved 04May2017) but follow the hyperlink to check the interactive map!



8. And finally.....It's time to scout! On the prairies we're out in fields. It's a little different for folks in Newfoundland and Labrador! Here's the link to the [first iceberg report for the 2017 season](#)! A screen shot is below!

IcebergFinder.com
90% of them are underwater.
Find the rest here.

Iceberg Alert: May 3, 2017

Welcome to the first iceberg report for the 2017 season! You may have heard from [various news outlets](#) that the icebergs have arrived as we recently welcomed a massive iceberg in the community of Ferryland! But the Ferryland iceberg isn't the only glacial giant clinging to our shores, and it certainly won't be the last this season. Icebergs have been detected in the following areas:

Labrador Region:	6 icebergs detected	View Map >
Western Region:	12 icebergs detected	View Map >
Central Region:	12 icebergs detected	View Map >
Eastern Region:	19 icebergs detected	View Map >
Avalon Region:	66 icebergs detected	View Map >

Follow us on Twitter: [@icebergtweets](#)

Report a Berg Share your iceberg sightings with us.

Newfoundland
Labrador

9. Questions or problems accessing the contents of this Weekly Update? Please e-mail either [Dr. Owen Olfert](#) or [Jennifer Otani](#). Past and present "Weekly Updates" are very kindly posted to the Western Forum website by webmaster, Dr. Kelly Turkington. Please [click here](#) to link to that webpage.