

Manitoba Crop Pest Update

Issue 5: June 17, 2020



Summary

Insects: There are still some insecticide applications for cutworms and flea beetles occurring, although this is slowing down as canola advances, flea beetles die off, and cutworms move to the pupa stage. Some insecticide applications for grasshoppers have started. Trap counts for diamondback moth adults have increased substantially in the Eastern region in the last couple of weeks. Other insects that can potentially blow in from the south have not been noted yet. There has been no indication of soybean aphid or aphids in cereals, and sweep net sampling in the Carman area has failed to detect aster leafhoppers.

Weeds: Heat, wind, excess moisture have stressed plants, and allowed for them to get huge. Adjusting tank-mixes to control weeds is essential. And don't skimp on water to save time, as the weeds need all the herbicide efficacy possible in these conditions.

Entomology

Grasshopper Development Update:

Grasshopper hatch, based on models for migratory grasshopper, is expected to be about 66% complete overall. There can be great variation between locations though. Hatch rates in the table below range from 21% at Swan River to 89% at Winnipeg. Much of the Southwest and Central region should be about 75 – 80% of the hatch complete.

Table 1. Predicted grasshopper development as of June 14, 2020.

Location	% Hatch	% Eggs	% 1st Instar	% 2nd Instar	% 3rd Instar	% 4th Instar
Northwest						
Swan River	21.0	79.0	1.1	19.9	0.0	0.0
Roblin	26.0	74.0	12.1	14.0	0.0	0.0
Dauphin	72.0	28.0	45.5	26.0	0.5	0.0
Southwest						
Virden	74.8	25.2	44.7	26.7	3.3	0.0
Brandon	75.2	24.8	37.9	23.4	13.9	0.0
Minnedosa	74.8	25.2	43.4	26.6	4.8	0.0
Melita	86.3	13.7	47.4	23.3	15.5	0.0
Cartwright	73.6	26.4	42.0	31.2	0.3	0.0

Central						
Winnipeg	88.6	11.4	49.8	25.8	13.0	0.0
Portage La Prairie	74.3	25.7	39.2	24.6	10.4	0.0
Carman	82.8	17.2	26.2	38.7	17.9	0.0
Morden	83.7	16.3	21.8	37.3	19.4	5.1
Eastern						
Steinbach	54.5	45.5	21.1	24.8	8.6	0.0

Thanks to Ross Weiss – AAFC in Saskatoon for work on degree day modelling for migratory grasshopper.

Fields with Cereal Leaf Beetles Needed: We are once again trying to track down cereal fields with cereal leaf beetle to collect samples to assess levels of parasitism. If you notice cereal leaf beetle will in a field, please either collect a sample if you have a container with you, or contact John Gavloski at the contact information at the end of this report. The photos below show what cereal leaf beetle larvae look like, and their feeding injury.



The larvae often have fecal shields on their backs (as shown on the photo on the right), and are small (about 4-5 mm when fully grown). They can easily be confused for dirt or debris on the leaves.

Alfalfa weevil: Model simulations (June 14, 2020) estimate that 90% of the population is in the third or fourth instar. When scouting alfalfa, assess levels of alfalfa weevil and feeding damage.

Cutworms- How long will they persist. This past week there were reports of reseeding of oats and hemp because of cutworm feeding, and insecticide applications in several crops. As we get into the later part of June the cutworms will be turning into the pupal stage. Populations can be quite variable. A general guideline is that if most cutworms are an inch or more long, the population is close to pupating, and this needs to be factored into whether a control would be economical. Cutworm issues rarely go into July. More mature plants will also be more resilient to cutworm feeding. Warmer temperatures speed up cutworm development. Redbacked cutworms kept at 15°C took 65 days on average to complete their 6 larval stages, while at 25°C they completed their larval stages in 29 days.

Weeds

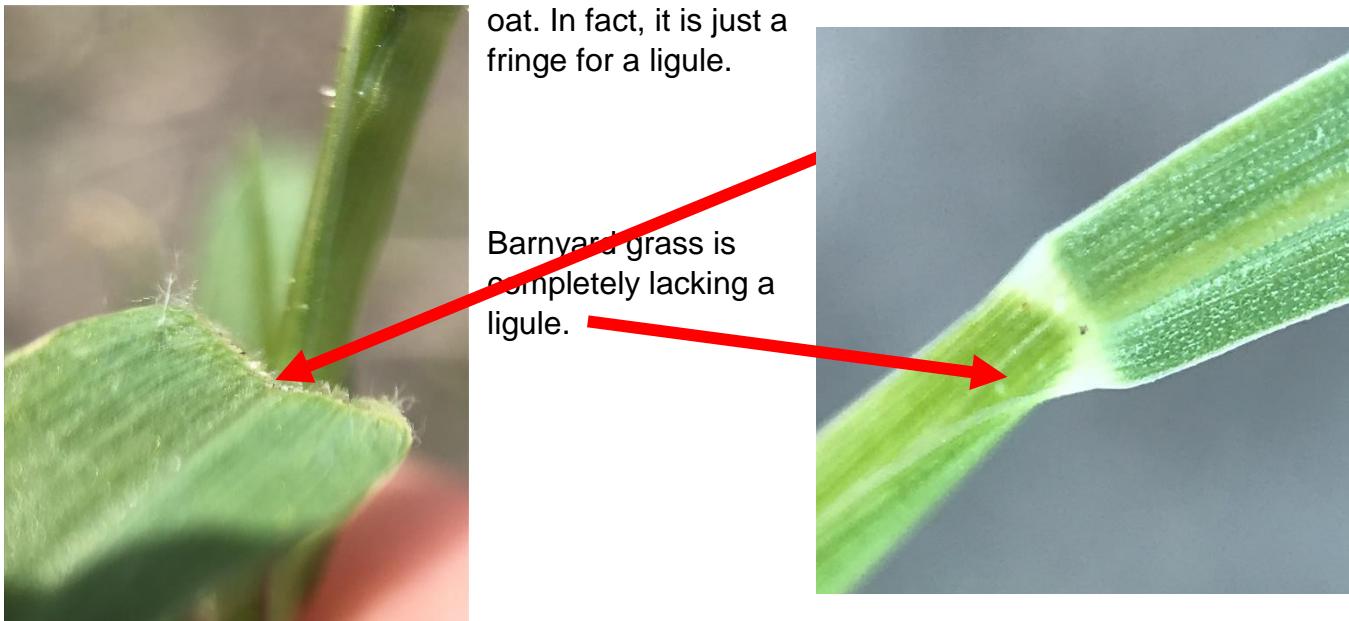
Grass identification:

Grassy weeds have been a hot button this past couple of weeks. In this particular wheat field, the grass is taking over in spots and with the challenge of assessing control options in a cereal crop, the identification was important. In order to identify this grass, not only did we need to ask about the auricle, ligule, sheath, and roots, it got to the point of needing to notice the keel on the sheath and the seed head to allow Doug Cattani to identify it at sloughgrass - *Beckmannia szyigachne*. It acts as a biennial, so it would have been there last fall as well. It just goes to show that we can never ask too many questions or notice too many details. The agronomist dug up a sample and sent it to us for the eventual identification.



Photos submitted by Amber Knaggs – Shur-Gro – no auricle, membranous ligule and fibrous root system were not enough to figure out this grass weed ID.

Differentiation of barnyard grass and yellow foxtail has also been a frequent question. The ligule on the foxtails is not as large as the ligule on the grass above or say a wild oat. In fact, it is just a fringe for a ligule.



How hot is too hot to spray a herbicide?

Use caution above 25°C – and keep the humidity in mind as well.

Check the label!!!!!! Or ask the manufacturer. And adding surfactants adds to the risk of crop injury.



Stressed plants will change their architecture to reduce exposure to the sun.

Avoid the heat of the day – stressed plants reduce overheating and excessive water loss by curling/rolling leaves (like the green foxtail in the picture), folding them up (like the lamb's quarters in the picture) or by wilting (angling their leaves to hang vertically) - which reduces the surface area exposed to the hot sun and reduces herbicide interception.

Systemic herbicides should be applied early in the morning, after plants have recovered from the heat of the previous day.

Contact herbicides are best applied in the evening after the temperature has decreased and when there will be several hours of moderate temperatures for the herbicide to take effect.

Forecasts

Diamondback moth. A network of pheromone-baited traps are monitored across the Canadian prairie provinces in May and June to determine how early and in what levels populations of diamondback moth arrive. Highest counts have been in the Eastern and Interlake regions. Counts in the Eastern region have climbed substantially in the last 2 weeks.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 17, 2020.

Region	Nearest Town	Trap Count
Northwest	The Pas	54
	Bowsman	23
	Bowsman	15
	The Pas	12
Southwest	Hamiota	10
	Brookdale	7
	Foxwarren	5
	Rivers	3

Central	Gladstone	57
	Kilarney	10
	Portage la Prairie	9
	Baldur, Ninga	8
Eastern	Lac du Bonnet	336
	Whitemouth	228
	Stead	228
	Beausejour	106
Interlake	Warren	179
	Vidir	82
	Balmoral	80
	Gunton	72

Levels are still relatively low in western Manitoba.

Highest counts have been in the Eastern and southern Interlake region.

Recent DBM counts in Eastern Region		
Location	May 31-June 6	June 7-13
Lac du Bonnet	8	291
Whitemouth	162	52
Stead	115	97
Beausejour	49	50

When scouting canola in the Eastern or South Interlake areas, make sure to assess what levels of diamondback moth larvae are like. Economic populations don't always develop when traps get levels like this, but scouting for diamondback moth larvae should be a part of field assessments when scouting canola.

Soil Structure and Fertility Problems

Revenge of the Clods:

Oh some Manitoba farmers are being punished for being just that little bit early in tilling and seeding into "soils on the wet side" in 2020. We continue to see some fields with sidewall compaction and seed furrows or bands opening up (photos below).

Additionally those fields with some preplant tillage generated some tough clods particularly in the wheel tracks that continue to show uneven and spotty emergence.

Much of these problems would have been remedied with timely rainfall to melt and mellow clods, rather than the baking conditions we experienced.

Seed slots reopening (photo B. Sabourin)



Poor establishment in preplant banding tracks

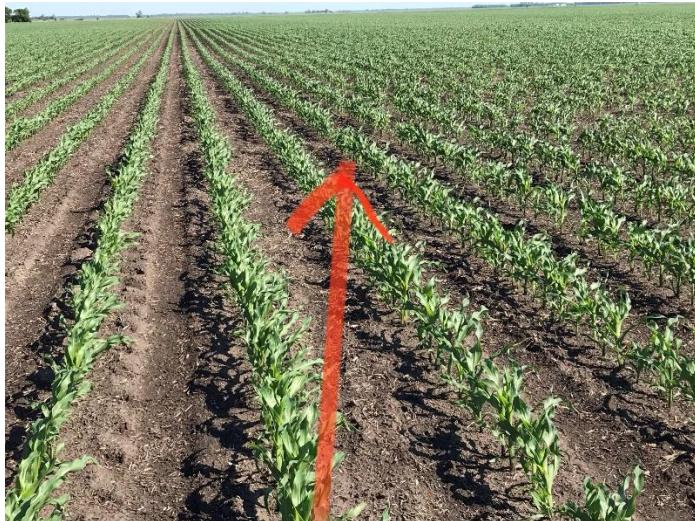


Uneven emergence in cloddy seedbed

Crop Stand Injury from Preplant Bands

I've been expecting to see crop stand injury from preplant banded fertilizer in row crops. Most of what we have seen are problems from the resulting cloddy seedbeds (as mentioned above). But the photo below shows the impact of preplant banded nitrogen and sulphur on corn on lighter textured soils. Fortunately, this grower banded on an angle so relatively few plants are affected. But the angled pattern of lost plants is discernable.

Preplant bands of fertilizer are in same direction as red arrow. Bands are 15" wide of nitrogen and sulphur. (photo credit A. Knaggs)



Iron Deficiency Chlorosis (IDC) in Soybeans

Some soybean fields are displaying iron chlorosis as they develop to the trifoliolate stages (photo below). It can be triggered by soil conditions of either high carbonates (free lime) or salinity, or a combination of both. Currently the symptoms are likely prompted by salinity since only some soils are saturated to the point that carbonates cause this response.

No action can be taken at this point other than to map the most sensitive areas and to avoid stressing plants further (some herbicides may accentuate IDC). Next time soys are to be seeded in that field, plan to use more tolerant varieties or an at-seeding iron chelate application in the worst areas.



Purple corn means phosphorus deficiency – Right? Probably Not.

There are reports of purpling corn – which is a sign of stress in the corn crop. Sugars are just not being metabolized as fast as they are made by photosynthesis. Something may be impairing the plants ability to take up nutrients and normal growth. The problem could be:

- Cool, wet soils
- Soil compaction
- Fertilizer, disease or insect injury to roots
- Certain herbicide residues impairing roots
- Low P soils – often after a crop of canola where mycorrhizae levels are low
- Wind injury – kinked leaf tips will purple up as photosynthesis continues but sugars can't be translocated away to the rest of the plant

This purpling should still prompt an investigation to see which of the above causes is the culprit, so you can plan for future corn crops. More in <http://cropchatter.com/why-is-my-corn-purple-2/>

Purple corn:

Compaction

Wind injury

Herbicide residue

P deficiency after canola



Wind and sand-blasting recovery

Winds continue to plague field spraying operations but generally plants are recovering from earlier sandblasting injury.

Corn

June 8

June 11

June 15



Dry beans

June 11



June 16



Identification Quiz:

Question: An agronomist was finding quite a few of the insect larvae in the photo below in a barley field; some cutworms were also being found. What is this larva? Should they be worried?



Photo by Jennifer Anderson
- Advantage Coop

Hints:

- There are no prolegs.
- Note the 2 appendages coming from the back of the abdomen.

Answer: Don't worry. Be happy. These are larvae of ground beetles (Carabidae). There are many different species of ground beetles, 983 species in Canada, and just like with the adults, appearance of the larvae varies between species. They are predators.

Question: What weed has this amazing cotyledon shape?



Answer: Lanceleaf sage. This is the second year that I have had this question – it was much easier to answer this time around.



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To **report observations** on insects, plant pathogens, or weeds that may be of interest or importance to farmers and agronomists in Manitoba, please send messages to the above contacts.

To be placed on an **E-mail list** so you will be notified immediately when new Manitoba Crop Pest Updates are posted, please contact John Gavloski at the address or numbers listed above.