

# Manitoba Crop Pest Update

## Issue 7: July 3, 2019

### Summary

**Insects:** Grasshoppers continue to be managed along field edges, and in some fields. Thistle caterpillars are noticeable in some soybean fields and on some weeds; they are turning to pupae in some fields. Alfalfa weevil are a concern in some areas of the southwest.

**Diseases:** **Fusarium head blight** (FHB) fungicide timing is still a tough decision, as the window for appropriate stage closes on the early-seeded cereals. We're also thinking about canola as it has begun flowering. Do we use **Sclerotinia** fungicide now or should we wait until ascospores are blowing around? Have you seen apothecia? A few scouts have found them, but only in areas that have had wet soils for seven days.

**Weeds:** First pass weed control is essentially complete and second pass in wide-row crops such as corn and soybean is quickly progressing. In solid-seeded crops, the weed control window is basically over, but this is the time to be scouting for weed escapes that need to be mowed, hayed, silaged or tilled under to reduce seed set and problems in future years of crop production.

### Entomology

**Grasshoppers:** Spraying for grasshoppers continues around field margins, and in some cases whole fields. Grasshoppers have advanced to the third and fourth instar stage, which means egg hatch should be nearing completion and timing for control of juvenile grasshoppers is good.



This 4<sup>th</sup> instar nymph of two-striped grasshopper posed for this photo on July 2. Notice the wing buds. There is one more stage before it becomes an adult and can fly; the wing buds will be a bit longer but still not covering the abdomen in the fifth instar.

Some have been using foliar insecticides with longer residuals when doing field margins, and some have been using bran baits along margins.

Regarding insecticide choices for grasshoppers, a comment from an agronomist this week is to watch preharvest intervals on grasshopper control products. We have had a few instances where growers are wanting to spray for grasshoppers in their barley and some products have a 40-45 day preharvest interval, which we would be getting past to spray with these products.

A recently revised factsheet for grasshopper covering species identification, monitoring, thresholds and management strategies has been placed on the Manitoba Agriculture website at: <https://www.gov.mb.ca/agriculture/crops/insects/grasshoppers.html>

**Thistle Caterpillars:** Thistle caterpillar is a relatively large spiny caterpillar that is often high up on its host plants and is highly visible. There are some relatively high populations of thistle caterpillars this year, so this has created a lot of interest in how damaging they potentially could be to crops. In many instances they will be in plants like thistles and roundleaf mallow, but soybeans and sunflowers are also plants they will feed on. They do seem to have preferences. In one soybean field visited last week that had a lot of both thistle caterpillars and roundleaf mallow, the thistle caterpillars were almost all on the mallow and only a few on the soybeans. I have seen the same effect with thistles in the past.

There are suggested nominal thresholds for thistle caterpillars in soybeans and sunflowers. A suggested threshold for thistle caterpillars in soybeans is 25 to 30% defoliation of plants on average prior to bloom; 20% after bloom or pod set. In some literature you will see a nominal threshold in the prebloom stages of soybeans as 40% defoliation. Regardless of which is used, soybeans can handle a fair amount of defoliation before yield is significantly impacted. It would be very rare for a soybean field to on average have this level of defoliation from thistle caterpillar, although plants with caterpillars can certainly go beyond this. If anyone thinks they have economic levels of thistle caterpillars on soybeans or sunflowers, please let us know as we would be interested in tracking where these heavier populations are.



Thistle Caterpillar.

Photo by Kim Brown-Livingston,  
Cargill.

Many of the thistle caterpillars that we collected last week have now turned into pupae. So in some fields you may start seeing levels of larvae decline as they to pupae.

For more information, Manitoba Agriculture has a factsheet that covers the biology and thresholds for thistle caterpillars:

<https://www.gov.mb.ca/agriculture/crops/insects/thistle-caterpillar.html>



Thistle caterpillar pupa

**Alfalfa Weevil:** Alfalfa weevil populations have generally declined significantly over the past couple of years. But they are at levels causing noticeable feeding damage in some areas of the southwest currently.

For alfalfa for hay, harvesting at early bloom can significantly reduce alfalfa weevil populations. Larvae are killed by desiccation or starvation. When there are high densities of alfalfa weevil larvae, harvest at early bloom is the best compromise between yield and quality during haymaking. Raking postharvest stubble can further destroy surviving weevil larvae. Monitor larval feeding on the regrowth, as some larvae may move underneath windrows for shelter and feed on the new growth. For further information on identification, monitoring, thresholds and management of alfalfa weevil see:

<https://www.gov.mb.ca/agriculture/crops/insects/alfalfa-weevil.html>



**Clover Cutworms:** A few people have been noticing clover cutworms in canola and other crops. Generally not a concern, but they are getting to be larger larvae and in many ways look similar to bertha armyworm, which can be confusing. Clover cutworms are larger than bertha armyworms this time of year. Notice the pinkish stripe along the side, which also helps distinguish it from bertha armyworm.



Photo by Ami Sigurdson

## Plant Pathology



**Fig. 9.** White mold of soybean is an example of a disease with a monocyclic life cycle.  
(Courtesy Iowa State University)



Apothecia attached to the sclerote from which they grew.  
Photo credit: Todd Drummond

***Sclerotinia sclerotiorum*** is a destructive fungus with a wide host range, including nearly all broadleaf crops: canola, soybeans, peas, sunflowers, even flax. The keys to disease development are:

- Wet soils to allow the germination of resting bodies (sclerotes) as spore-producing machines (apothecia)
- Available free moisture on plants that stays for 24 hours, and
- Easily available sugars for the spores to colonize – usually petals or recently damaged leaves.

In canola, fungicides need to be applied before colonized petals are falling into the canopy (and to last long enough to protect the plants until most petals have fallen).

If it's been dry in your area, you may need to hold off for a later bloom stage.

## Weeds



### What post-emerge herbicide is killing my corn?

It makes sense that corn which has emerged and is seemingly growing well, must be impacted by a herbicide if it suddenly starts to die. The first question I always ask is: What do the roots look like? If it is herbicide injury, typically the roots will be stubby or impacted in some way. In this case, the impact was actually feeding damage from wireworms.

*Photo provided by Navneet Brar (Post doctoral fellow) Department of Plant Science*

**Suspicion of herbicide resistance:** There continue to be performance inquiry investigations that are being conducted for herbicides. While poor weed control may be due to herbicide resistance, there are application issues that will result in poor efficacy as well. Assuming that the answer is or is not herbicide resistance is not helpful for making future management decisions. Setting aside a patch of weeds to collect seed and test for herbicide resistance will help to make better informed decisions. In two field investigations of suspicious patches, both issues were application timing/rate and not herbicide resistance. How do I know? When the weeds were resprayed with the same herbicide, the weeds were controlled.

### Dicamba drift:

This is not new: in-season applications of dicamba can result in injuries to sensitive crops. High winds or no wind are times when spraying should not be conducted in order to prevent irreparably harming a non-target crop. Avoid inversions, avoid high winds, avoid late applications of dicamba or highly volatile herbicides, and be a good neighbor – own it if you sprayed it.



Photo provided by Jason Voogt,  
Field 2 Field Agronomy

## Forecasts

### Entomology:

**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.

Reminder: The trapping period is now complete and traps for diamondback moth can be removed.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of July 3, 2019.

Region	Nearest Town	Trap Count
Northwest	Bowsman	369
	Bowsman	320
	Birch River	212
	Swan Valley West	210
	Benito	111
Southwest	Shilo	43
	Justice / Carberry	31
	Souris	26
Central	Roland	69
	Elm Creek	64
	Altona	49
Eastern	Steinbach	258
	Tourond	108
Interlake	Balmoral	419
	Teulon	340
	Warren	205
	Gimli	203

Some traps in the Northwest, Eastern, and Interlake regions have some higher numbers. Of particular note, some traps in the Interlake and Northwest regions have cumulative trap counts over 300 moths. When canola in this region is being scouted make sure to look for diamondback moth larvae.

The first generation of diamondback moth larvae will be feeding on canola in the rosette through flowering stages. This first generation is usually not of economical concern unless levels are extremely high. It is later generations that are feeding when canola is in the podding stages that have the greatest potential to be economical.

**Bertha armyworm.** A network of pheromone-baited traps are monitored across the Canadian prairie provinces in June and July to determine levels of bertha armyworm adult moths, and forecast risk of there potentially being economic levels of larvae somewhere in the region. The traps do not determine risk for the field specifically that the trap is in.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of July 3, 2019.

Region	Nearest Town	Trap Count
Northwest	Ste. Rose	232
	Minitonas	82
Southwest	Souix Valley	15
	Elgin	15
Central	Halbstadt	74
	Altona	34
Eastern	Beausejour	34
	River Hills	23
Interlake	Balmoral	23
	Teulon	20

0-300 = low risk  
 300-900 = uncertain risk  
 900-1,200 = moderate risk  
 risk 1,200+ = high risk

So far trap counts are all in the low risk range, with highest counts being in the northwest.

**Weeds:** Surveillance for Tier 1 Noxious Weeds in Manitoba will begin in August. Waterhemp has been confirmed in two new fields, there are likely others that will be confirmed. Tier 1 Noxious Weeds must be destroyed, not just controlled in order to prevent the spread of these weeds. When in doubt, find out about a weed, as noxious weeds tend to be highly invasive.

### Identification Quiz:

**Question:** These “egg-like” things were found in a cluster on a soybean leaf recently. What are they?



Photo by Julie Gullett – Manitoba Pulse and Soybean Growers

**Answer:** These are not eggs, but pupal cases of a species of parasitic wasp; likely *Cotesia*. *Cotesia* will often lay dozens of eggs in its caterpillar host, and because the larvae are all the same age they emerge from their host at the same time, and quite quickly form these clusters of pupal cases, often high on a plant. In previous years when we have had high levels of armyworms in the cereals we would see a lot of these clusters on the cereal heads. Given where this cluster was found and the caterpillars we have been seeing in the soybeans, there is a good chance these had parasitized a thistle caterpillar larva.



These three images are all related. They illustrate a multi-host disease that we've covered in a previous edition of the Crop Pest Update.

Can you name the disease and its hosts? Answer next week ...

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**Compiled by:**

John Gavloski, Entomologist  
Manitoba Agriculture  
Phone: (204) 750-0594

David Kaminski, Field Crop Pathologist  
Manitoba Agriculture  
Phone: (204) 750-4248

Tammy Jones, Weed Specialist  
Manitoba Agriculture  
Phone: (204) 750-1235

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.