

Manitoba Insect and Disease Update

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To report observations on insects or plant pathogens that may be of interest or importance to Farmers and agronomists in Manitoba, please send messages to the above contact address.

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

June 15, 2012

Recent Insect and Plant Pathogen Activity

Small Grains

There have been suspected cases of **Physiological Leaf Spot (PLS)** in winter wheat around the province. PLS is not caused by a pathogen, so fungicides will not be effective at controlling these symptoms – a lack of response to fungicides can be indicative of PLS. Symptoms are associated with low chloride levels in the plant and soil and PLS is favoured by cool and wet conditions that promote vigorous plant growth. Symptoms can range from small chlorotic flecks to larger lesions with dark centres. These symptoms are easily confused with Septoria leaf blotch or tan spot (Figure 1). For more information regarding PLS, check out this article written for the Manitoba Co-Operator by Pam de Rocquigny, MAFRI cereal specialist:
<http://www.manitobacooperator.ca/news/is-it-tan-spot-or-physiological-leaf-spot-in-your-winter-wheat/1001460801/>



Figure 1. Example of symptoms of PLS that closely resemble tan spot (Photo: Smiley et al. 1993)

Barley Yellow Dwarf Virus/Aster Yellows: There have been reports of symptoms in cereal crops that could be related to Barley Yellow Dwarf Virus (BYDV) or Aster Yellows (AY). These two diseases will both cause chlorosis of the leaf tissue and may result in stunted plants. Remember that BYDV is spread by cereal aphids and AY is spread by leafhoppers. Consider what populations of insects have been

observed in the field to aid you in proper disease diagnosis. The Crop Diagnostic Lab does not have a lab test for these two diseases and diagnoses will be based on visual symptoms – information regarding insect populations is essential when submitting samples to the lab.

Armyworms and thrips are currently being found in small grains, but at levels currently well below economic concern. Young larvae of armyworms (*Mythimna unipuncta*) are being found in cereals and forage grasses in the Starbuck / Fannystelle area. As far as we know, our armyworm population blows in from the south as moths each year. When scouting cereals and forage grasses, it is good to look on the ground, and under debris on the ground, to see if armyworms may be present. Note that this is not bertha armyworm, which does not feed on cereal crops.

Thrips have been noticed in some barley fields in eastern Manitoba, but so far at low levels. Several per stem would be needed for a population to be economical; a formula for calculating a more specific threshold and scouting information is on page 429 of the Guide to Crop Protection. Scout for thrips in cereals until heading is complete, after which the threat of them doing economic damage is over. Also note when scouting for thrips in cereals that there can be an edge effect, where more thrips are present along protected field margins.

One of the questions that came in this week was whether it is too early to be scouting for **wheat midge**. Yes – it is too early. We normally don't see wheat midge start emerging until the last week in June, and most will emerge in the first three weeks in July. So wait a couple weeks before you start worrying about being out at night looking for wheat midge.

Canola

Sclerotinia: Canola around the province is nearing the flowering stage and warm, moist conditions have been ideal for the production of apothecia by *Sclerotinia sclerotia* (Figure 2). Sclerotia can survive in the soil for up to 7 years, so apothecia may be present anywhere where canola or other hosts such as sunflowers or beans were grown in the recent past. However, apothecia require periods of prolonged moisture or humidity to germinate and produce ascospores, so winter wheat grown on canola stubble provides the best environment for these structures to develop. As your canola nears the flowering stage, scout fields surrounding yours for apothecia, as the windborne ascospores can easily spread from field to field.



Figure 2. Apothecia (fruiting bodies) of *Sclerotinia sclerotiorum*

Diamondback moth: As reported in the note that went out with the update last week, some higher populations of larvae of diamondback moth are being found in southwest Manitoba. One of the questions I have been getting this week is will populations of diamondback moth continue to increase over the summer, and if so should they be controlled early in the season even if they are not at economic levels yet?

Sometimes diamondback moth populations do increase in successive generations, but not always. We have seen years where the reverse happens, and populations decrease over the summer. The reasons for decreases can include heavy rains, or parasites. *Diadegma*, a parasitic wasp, can decrease populations, and last year populations decreased substantially in August because of *Cotesia*, another type of parasitic wasp. So if populations are such that they are currently an economical concern, than insecticides may be warranted. But we can't necessarily assume populations will build over the summer.

Alfalfa

High populations of **alfalfa weevil** have been reported from the Ashern area in the northern Interlake, and the Lyleton area of southwest Manitoba. Where possible, early cutting is a good way to control alfalfa weevil. The early cutting eliminates foods and leads to desiccation of the larvae. Thresholds are based on counts of larvae per stem in hay crops and depend on the height of the crop. If the crop is greater than 40 cm tall, use an economic threshold of about 3 larvae per stem, if under 30 cm use a threshold of 1 larva per stem. To do these counts it may be easiest to clip stems, and beat them against the side of a pail. In seed crops thresholds are based on sweep net sampling or estimating the percent of tips showing damage; see page 401 of the Guide to Crop Protection.



Fig. 3. Larvae of alfalfa weevil



Fig. 4. Alfalfa weevil adult

Note that alfalfa weevil larvae are green with a white stripe down the back, have black heads and have no legs. The adult weevils have a dark stripe down their back.

General Crop Scouting

Aster leafhoppers: Populations of aster leafhoppers seem to have dropped substantially in many fields over the past week. The reason isn't totally clear. Sometimes heavy rainstorms can reduce populations, and much of Manitoba did have heavy rain over the past week. We may be in between generations as well, but based on the sharp decrease in some fields the weather likely contributed somewhat to this decrease.

Manitoba Insect and Disease Update

The species of **grasshoppers** that we monitor as potential pests are now starting to emerge. Any grasshoppers that are already large this time of year are not species that potentially will be pests. In recent years it has been mainly two-striped, migratory and clearwinged grasshoppers that are of concern. These all overwinter as eggs. They are now emerging, and in many areas highly concentrated along field edges and ditches. No economically significant populations have been reported so far. It is good to have a look at these areas when scouting to see what the grasshopper population is like. Currently it is the small nymphs you are looking for. Don't expect them to be flying until sometime in July.

Some **thistle caterpillars** have been noted as well. Even though they were found in a soybean field, they were feeding on thistle, one of their favorite foods. If you see webbing over some of the thistle leaves, you may have some larvae helping with your weed control.

Cutworms continue to be a problem in some fields, although populations should begin pupating soon. For many of our common species of cutworms, larvae will get about 38mm (about 1.5 inches) when fully grown. After that they will become pupae, a non-feeding stage. During the last few days as larvae they may not feed much as well, as they are getting ready to pupate. So hopefully the cutworm feeding in many areas will decrease soon.

Please let me know as soon as possible if you are seeing high populations of cutworms. Someone will come to the field to collect cutworms for a research project on parasitoids of cutworms.

Surveys and Forecasts

Diamondback Moth Monitoring: Traps around Beausejour, Stead and Morris continue to have the highest counts, and all the higher counts in the pheromone-baited continue to be in the eastern part of Manitoba. West of Carman the highest counts have been in the area north of Dauphin; 48 at Fork River and 45 at Ethelbert. Traps near Beausejour and Stead had fairly high counts (68 and 90 respectively) over the past week.

Reports of high counts of diamondback moth larvae in Manitoba this year have so far all been from the southwest. These pheromone-baited traps are good at telling us how early diamondback moth has appeared in Manitoba, which can assist in predicting the number of generations. But the traps are not that accurate at predicting regions where higher larval populations can be expected, as we have noted in previous years as well.

Table 1. Highest cumulative trap counts for diamondback moth in Manitoba as of June 14, 2012

Location	Cumulative Trap count
Beausejour	361
Stead	300
Morris (East)	194
Morris (West)	148
Altona	134
St. Joseph	74

The full data set for adult counts of diamondback moth can be viewed at:

<http://www.gov.mb.ca/agriculture/crops/insects/db/index.html>

The traps for diamondback moth were originally set to be taken down after counts on the week of June 18 to 24th. So **after you take the counts for next week these traps can be removed**. Because we now have all stages of diamondback moth present, and counts we get now could be from either new arrivals or second generation adults, the trap data becomes harder to interpret. When going to canola fields now, what is more important is to be looking for the larvae.

Traps for moths of bertha armyworm: For those putting up traps to monitor the moth stage of bertha armyworm, traps should now be set up, or set up as soon as possible. Protocols for setting up the traps are available at: <http://www.gov.mb.ca/agriculture/crops/insects/fad59s00.html?print>

Insect Identification Quiz

Question: You are examining a grassy ditch at the edge of your field. There are some insects hopping around, but not all appear to be grasshoppers. You manage to catch and look at some of these and notice the following 2 insects in your sample. What are these?



Answer: The insect on the left is an early instar grasshopper. The insect on the right is a leafhopper. This is one of the species of leafhoppers that is not of economic significance. Of the 359 species of leafhoppers known to occur in Manitoba, there are 2 that can potentially cause economic concerns in crops in Manitoba.