

Manitoba Insect and Disease Update

Prepared by: **John Gavloski**, Entomologist, Manitoba Agriculture, Food & Rural Initiatives,
john.gavloski@gov.mb.ca Phone: (204) 745-5668; Fax: (204) 745-5690
Holly Derksen, Plant Pathologist, Manitoba Agriculture, Food & Rural Initiatives,
holly.derksen@gov.mb.ca Phone: (204) 750-4248; Fax: (204) 745-5690

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.

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Recent Insect and Plant Pathogen Activity

Cereals

Armyworms in cereals: Populations of armyworms (*Mythimna unipuncta*) continue to be quite high in many cereal fields in several areas in Manitoba.

For fields that are above economic threshold, some have been asking about control options. Here are some points to consider:

Chlorpyrifos (Lorsban, Pyrinex, Citadel, Nufos) has a 60 day preharvest interval in small grains. This is the time that must pass between the application and swathing. So this will not be an option currently in most fields (there is no point taking a chance and having a shipment of grain rejected as a result).

Pyrethroid based products, such as Matador/Silencer, are less effective when applied during hot temperatures. The Matador and Silencer labels recommend applying when temperatures are less than 25°C. Considering that armyworm larvae are nocturnal, actively doing their feeding at night, spraying late in the day is recommended. Coragen (chlorantraniliprole) is registered for armyworm in corn and forage seed crops. It is somewhat selective, having good activity on caterpillars, but is less harmful to some of the beneficial insects.

A newer insecticide registered for armyworms in small grain cereals is Delegate (Spinetoram). It is not listed in the current Guide to Crop Protection, but was mentioned in the addendum for this year. It has a preharvest interval of 21 days in small grain cereals.

A reminder that in small grains the economic threshold for armyworms is 4 unparasitized larvae smaller than 2.5 cm (1 inch) per square foot. If most larvae are greater than about 2.5 cm, they will be finishing feeding and pupating soon, so control in these situations is generally not recommended unless populations are very high.

Figure 1 below shows larvae of a species of parasitic wasp, quite possibly a species of *Cotesia*, emerging from an armyworm on timothy. Good to see that there are some beneficial insects helping out as well.



Figure 1. Parasitoids emerging from an armyworm.
Photo courtesy of Jim Hardy – Kaljent Ag Services.

Aphids in cereals: Aphids can commonly be found in some cereal fields in the central region of Manitoba. In samples from the Carman region the main species present is English grain aphid (*Sitobion avenae*). In most instances fields will be below the economic threshold, but it is good to observe whether the populations are increasing.

The economic threshold for aphids in small grains is 12-15 per stem on average prior to the soft dough stage. There have been reports from the central region of aphid populations decrease in some of the cereal fields. While using a sweep net in some of the wheat around Carman, in 10 sweeps I am getting about 10-12 lady beetle larvae, several damsel bugs, and the occasional hover fly larva and lacewing larva. Aphid “mummies”, dead aphids that are somewhat inflated and a brown colour and contain the larva of a parasitoid, can also easily be found in some of the wheat at the University of Manitoba farm near Carman. So hopefully a combination of these things will keep the populations regulated or decreasing.

Canola

Zebra caterpillar: Some have been asking about zebra caterpillar (*Melanchra picta*) in canola; what is the threat, patterns of feeding, etc. Zebra caterpillar can have a very clumped distribution. They can be extremely numerous on certain plants or certain parts of a field, and uncommon through the rest of the field. So scout fields thoroughly and don't make assumptions based on a cluster of larvae you may find in a specific area.

There are no economic thresholds for zebra caterpillar in canola. It has not been considered of pest status. Populations this year are higher than normal, and because they will feed high on the plant and are brightly coloured caterpillars this is something that is easy to notice in canola.



Figure 2. Zebra caterpillar

Flax

Lygus bugs in flax: Some have been finding Lygus bugs in flax and asking if there is an economic threshold. A study by entomologists from AAFC in Winnipeg found that under good growing conditions populations of up to 100 per 10 sweeps have not been economical (The Canadian Entomologist 132 (2000): 369-371). This has been the only study on the economics of Lygus bugs in flax, so even at the high levels of this study the damage was not economical.

Resources

Factsheet on “Bees on Canola – What are the Benefits”: A new factsheet called “Bees on Canola – What are the Benefits?” has been posted on the MAFRI website at:

<http://www.gov.mb.ca/agriculture/crops/insects/pdf/beesoncanolafactsheet.pdf>

It discusses the role bees can have in improving canola yield. One of the take-home messages is that although canola can yield well without pollinators, there can still be significant yield increase by having bees and other pollinators active in the field.

Recently there has been some concern raised that some were advised to add insecticide to their fungicide sprays at flowering in canola because the insecticides were cheap and with canola prices high it couldn't hurt. The reality is that by following such advice when economic populations of insects are not present you may be decreasing the yield potential of the crop (by losing the pollinator benefit) without saving significant yield loss caused by insects. If economic populations of insects are present during flowering in canola, there is economic incentive to take steps to minimize harm to pollinators (spray as late in the day as possible, use an insecticide less harmful to bees, etc.).

General Crop Scouting

Orange “moths”: Some enquiries have come in wondering what the “orange moths” are that they are seeing in their crops. These are most likely European skippers. Although they belong to the same order of insects as moths, technically they are referred to as skippers. You will see the orange skippers on many flowering plants and crops this time of year. But don't worry, they are there for the nectar and will not harm the crop. Timothy is a host plant of the larvae, but economic damage from European skipper by these larvae is rare in Manitoba, and we are past the point when this would be a concern. The following link has some information on European skipper:

http://www.cbif.gc.ca/spp_pages/butterflies/species/EuropeanSkipper_e.php

Green Cloverworms: Green cloverworm and holes in some leaves from their feeding are being observed in dry beans and soybeans in the central and eastern regions of Manitoba. For information on scouting and economic thresholds, see the following MAFRI factsheet on green cloverworm:

<http://www.gov.mb.ca/agriculture/crops/insects/fae10s00.html>

Some scouting tips mentioned in the factsheet: “When assessing feeding by green cloverworm, consider the amount of defoliation to the whole plant, and whether pods are being fed on. In soybeans, green cloverworm will preferentially feed at the top of the plant, so defoliation will be worse there and can make it appear as though there is more defoliation than there really is.”



Figure 3. Green cloverworm

Surveys and Forecasts

Traps for moths of bertha armyworm: Some higher counts of moths are occurring in the pheromone-baited traps for bertha armyworm. Highest counts have been in the western and central regions of Manitoba. In many traps the counts peaked during the weeks of either June 25th –July 1st, or July 2-8, and the weekly counts are now decreasing. So it is likely that a high percentage of moths have emerged.

Table 1. Highest cumulative trap counts for moths of bertha armyworm in Manitoba as of July 12, 2012

Location	Cumulative Trap count
Carberry	2,303
Baldur	951
Carberry	759
Inglis	512
Swan River	505
St. Claude	484
Fork River	457

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The following table relates the cumulative moth counts with the risk of larval infestation.

Cumulative Number of Moths/Trap		Larval Infestation Risk Level
From	To	
0	300	Low - Infestations are unlikely to be widespread, but fields should be inspected for signs of insects or damage.
300	900	Uncertain - Infestations may not be widespread, but fields that were particularly attractive to egg-laying females could be infested. Check your fields.
900	1200	Moderate - Canola fields should be sampled regularly for larvae and for evidence of damage.
1200	1500+	High - Canola fields should be sampled frequently for larvae and for evidence of damage.

Factors such as how successful the moths were at mating and laying eggs, and the effects of predators, parasitoids and pathogens will determine the level of larvae that we see in the fields. We have had years with trap counts like this where the larval population was not an economic concern, but the counts do suggest that there is potential for localized areas with higher and possibly economic populations, particularly in the western and central regions of the province.

In regions where the trap counts are higher, what is recommended is to make sure fields get scouted for the larvae, which are the potentially damaging stage. Currently there would be egg masses and potentially some early-instar larvae on the leaves. Starting around mid-July we will likely start seeing the middle instar larvae appear. It is around this time when it is good to be regularly scouting canola fields and know what levels in the fields are like.

Note also that high trap counts do not mean the particular field where the trap is placed is at a higher risk. Sometimes in fields where the trap counts were high the level of larvae that are found may be low (we have seen this happen frequently). But usually if several traps in a region have high counts we can expect some economic populations in that region. Hence this is a regional monitoring program, and not designed to try to predict what will happen in individual fields.

The full data set for adult counts of bertha armyworm can be viewed at:

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

Insect Identification Quiz

The following insect was found this past week on a wheat head. What is it? What does it feed on?

Hint: Aphids have been present in the field, and lots of lady beetle larvae are being collected while sweeping the field.



Answer: This is the pupal stage of a lady beetle. This is a non-feeding stage. The adults and larvae would be feeding on the aphids.