

Issue 10 – July 25, 2024

Manitoba Crop Pest Update



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Summary

Insects: **Pea aphids** in peas were still a concern over the past week, resulting in some control in the Southwest, Central and Interlake regions. **Aphids in cereal crops** are starting to become more noticeable in some areas. There have also been reports of aphid mummies (parasitized aphids), lacewings and lots of lady beetles in some fields of wheat. **True armyworms** were still being noted in forage grasses in the Central and Interlake regions. There were no reports of control of true armyworms over the past week, and levels of larvae may be declining as they turn to pupae. **Grasshoppers** have become more noticeable in crops in some areas, while in other areas grasshopper activity is mainly limited to field edges or is of less concern. There was a report of a fair bit of dead grasshoppers clinging to the top of wheat heads (a sign of a fungal pathogen) in the Southwest region. Unopened buds, a result of **canola flower midge**, is noticeable in some canola fields in the Northwest region. Some producers are attempting to control **flies** in pastures.

Disease: It may be time to be scouting in your cereal crops, especially if they experienced significant rainfall during anthesis, for ergot. Our annual disease surveys have begun in earnest with wheat and barley being the first crops visited. Surveying of soybean, canola and oats will commence shortly. It is going to be a hectic 6-7 weeks to capture the targeted 400 fields and pathology reports in this newsletter could be sporadic. We will, however, keep you informed of any new diseases that are observed prior to harvest.

Weeds: Herbicide applications have finally wrapped up for the year. We continue to see large weeds that have escaped, do everything possible to not let them go to seed. Test for resistance to know what you're up against for the future.

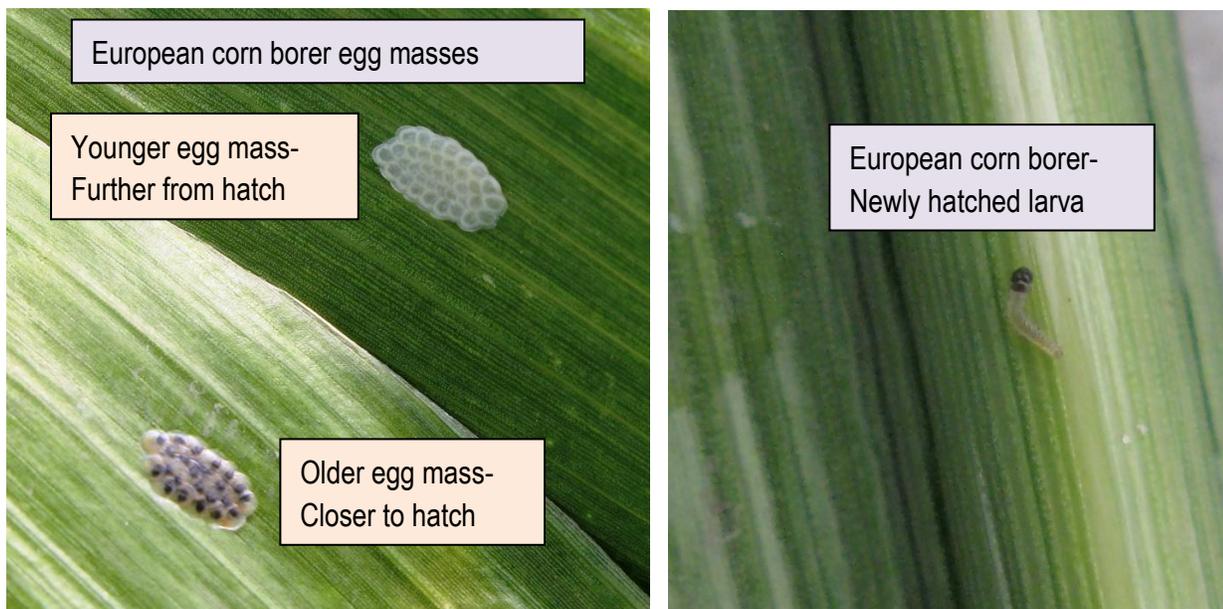
Entomology

European Corn Borer – Looking for Egg Masses

Now is a good time to be looking for the egg masses of European corn borer on corn, hemp, quinoa, potatoes and other crops that are hosts of European corn borer. We have noticed some adult moths of European corn borer present this past week.

Report compiled by John Gavloski, David Kaminski, Kim Brown
Entomologist, Field Crop Pathologist, Weeds Specialist, Manitoba Agriculture
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For information on the biology, scouting techniques, thresholds and management of European corn borer, Manitoba Agriculture has a recently revised factsheet: [european-corn-borer-factsheet.pdf \(gov.mb.ca\)](https://www.gov.mb.ca/agriculture/factsheets/european-corn-borer-factsheet.pdf)

Scouting for or finding corn borer – your findings can have extra value. In the section on scouting in the revised factsheet, a protocol has been included that can be used in many crops, including but not specific to just corn. Those monitoring or encountering European corn borer in any of its host crops can enter their counts of egg masses, larvae and feeding damage into a free **Survey123 app**. Use of the app will generate data to compare European corn borer presence and relative abundance across all of Canada, and across host crops. If you are scouting for European corn borer, consider using this protocol and enter your data using the Survey123 app. For later season European corn borer monitoring (July to Pre-Harvest), the app can be downloaded at: <https://arcg.is/fSODf>. Click on “Continue without logging in”, once on the login screen.

I am also **looking for European corn borer egg masses or larvae** for a study on European corn borers by the University of Guelph. If anyone does notice a lot of egg masses or larvae of European corn borer, please let me know (see contact information for John Gavloski at the end of the update). Corn borer eggs or larvae collected will help us verify what strains of European corn borer are present in Manitoba, and determine if resistance to Bt corn is developing in our Manitoba populations.

Corn Rootworm – Monitoring Adults in Higher Risk Fields

Northern and western corn rootworm are beetles whose larvae feed on corn roots, and only corn roots. In fields where corn is rotated with other crops, they should not be present. The problem comes when corn is not rotated and planted in the same field for multiple years in a row. Such fields are at higher risk of corn rootworm becoming an economical problem. If root feeding is severe enough, plants lodge, continue to grow, and end up with curved stems. This can make harvest difficult if it is common.

Yellow sticky cards can be put in the field to monitor what the levels of northern and western corn rootworm adults are like, and determine if measures to address corn rootworm should be taken. The protocol is simple: set up a transect of 4 traps in a field of interest, count the number of western and northern corn rootworms (separately) on

each sticky trap once per week, and repeat this process for 4 weeks. Results from the trapping are compiled by a multi province/state network of entomologists and agronomists working on corn rootworm called the Corn Rootworm Monitoring Network.

Anyone with or scouting fields for corn with a long history of being in corn can contact John Gavloski at the Email address or phone number at the bottom of this report, and I can provide traps, instructions, or get traps placed if in the vicinity of Carman. We ask volunteers to give us some background information on the field and either report their data in an online system called Survey123, or submit it to John Gavloski and I can get the data entered.



Northern corn rootworm



Western corn rootworm

Parasitoids and Pathogens of Armyworms Being Noticed

Some interesting natural enemies of armyworms are starting to show up in some of the fields where armyworms were present. Below are some good photos of some of these submitted by agronomists. This first pair of photos show clusters of pupae from a type of parasitic wasp in the genus *Cotesia*. There is also what looks like an egg of a parasitic fly, likely a Tachinid, on this now dead armyworm in the photo on the left.



Photos by Luke Hemphill -
Antara Agronomy

More information on *Cotesia*, and many other parasitoids and predaceous insects, can be found at: [beneficial-insects-predators-and-parasitoids-revised-june2024.pdf \(gov.mb.ca\)](https://www.gov.mb.ca/insects-predators-and-parasitoids-revised-june2024.pdf). See page 9 for information on *Cotesia*.

The armyworms in the photo below were infected with a fungus, and found at the top of the plants.



Plant Pathology



Ergot

After delivering the first spring wheat FHB samples to our collaborators at AAFC Morden, it was suggested to me that I should stop and look at a field that, from a distance, appeared to be *winter* wheat. Intrigued by that possibility, I did stop there but discovered it was fall rye – likely the open-pollinated type, considering its height. This was not a wasted diversion, though. Also, at the edge of that field, I spied ergot – not in the rye but in quack grass.

Normally quack grass and other native grasses in ditches are the source of infection for cereal crops (rye>wheat>barley) because they flower earlier in the season when sexual spores are blowing about. Asexual

spores, evident as “honeydew”, are later carried into the crops by flies and other insects. This usually results in ergot being much more prevalent in the headlands. When it is found throughout a field, it could be that quack grass is a significant weed *within* the crop.



Honeydew stage developing on immature ergot bodies

For a deeper dive into this disease, go to the [reference to earlier Manitoba Crop Pest Update](#) on ergot

Fusarium Head Blight



These pictures are from plots we set up at the year's Crop Diagnostic School to show symptoms of Fusarium Head Blight (FHB). We did everything we could to artificially boost humidity during flowering and increase the volume of spores within the crop canopy. It paid off; both the incidence (>10%) and severity are high in that area compared to 2% with low severity on the uninoculated, unirrigated upslope area. The orangey-pink sporulation along the seams of the glumes is evident in the picture on the left, while a purplish-brown discoloration of the stem just below the head is evident in the picture on the right. That symptom can help us to assess incidence in fields that are more advanced, that is – heads are no longer green. The black stuff on the tips of the glumes is “sooty mold”, a secondary fungal growth that is common on prematurely ripened tissues

When entire heads are prematurely ripened, gently tug on them. If the stems slide easily from the leaf sheath, you may be seeing insect damage from the wheat stem maggot.

Disease Surveys

In a season that has had abundant moisture throughout vegetative growth, surveying of our major crops for disease is vital to keep track of evolving pathogens. In some cases, this allows more informed management decisions regarding varietal choices. In others, where resistance is still lacking in varieties, such knowledge can direct the efforts of breeders to improve genetic resistance.

Besides our usual focus on the three largest acreage crops in Manitoba – wheat, canola and soybean – we are also surveying oats and barley in 2024. Some specific concerns, for example Veticillium stripe in canola, will be given closer scrutiny as well. Stay tuned to this newsletter for early results and where to find season end summaries.

Disease Reports from Agronomists

Laura Schmidt of Manitoba Pulse and Soybean Growers reports this week, "... fungicide applications in peas have wrapped up and in our on-farm trial data collection we're noticing Mycopshaerella all the way up the plant canopy in many fields. Much more downy mildew in peas this year too. Dry bean fungicide applications are ongoing, targeting white mould prevention. For soybeans, starting to see Phytophthora root and stem rot symptoms in some fields, along with the usual foliar diseases - bacterial blight and septoria brown spot."

Weeds

Waterhemp

Be on the lookout for waterhemp, we are starting to get pigweed samples in to determine the species. If you have plants that you suspect are waterhemp please call or text me at the number below and I will arrange for you to get them tested.

Wild Oats

Wild oats are a big concern this year and I encourage you to get them tested for resistance. Here is a link to some information from the Resistant Wild Oat Action Committee on how to sample [Infographic-2.jpg \(800×1880\) \(securereserver.net\)](#) and where to get testing done [Infographic-3.jpg \(800×1428\) \(securereserver.net\)](#). The site has lots of other great information on resistant wild oats with infographics and videos.

Forecast

True Armyworms

Counts continue to be low so far in the western regions of Manitoba, with some moderate cumulative counts in the Central region, as a result of trap catches in June. Some higher cumulative counts have occurred in some of the traps in the Eastern and Interlake regions, also a result of trap catches in June. Counts gradually got higher over a few week period in the Central, Eastern and Interlake regions, generally increasing and peaking during a three week period from about June 2 – 22 (see Figure 1). Late-June and July counts for these regions were lower. The armyworm migration into Manitoba seems to have happened in June, and since then it has been the larvae that have been noticeable in some areas.



The highest cumulative count is 437, from a trap near Riverton in the Interlake region. There are some areas in the Central, Eastern and Interlake regions where looking for larvae of armyworms while scouting cereals and forage grasses would still be good to prioritize. Armyworm larvae have been reported from the Central and Interlake regions, with some control applied in both the Central and Interlake regions.

Table 1. Highest cumulative counts of armyworms in pheromone-baited traps for agricultural regions in Manitoba as of July 24, 2024.

Region	Nearest Town	Trap Count
Northwest	Russell	4
	Grandview	0
Southwest	Rivers	27
	North Pierson	26
	West Pierson	23
	Crandall	11
	Medora	9
Central	Horndean	93
	Rosenfeld	79
	Altona	73
	Morris	22
	St. Joseph	17
Eastern	Dencross	429
	New Bothwell	270
	Beausejour	211
	Kleefeld	138
	Lorette	27
Interlake	Riverton	437
	Washow Bay	228
	Teulon	194
	Fisher Branch	136
	Balmoral	127

← Highest cumulative count

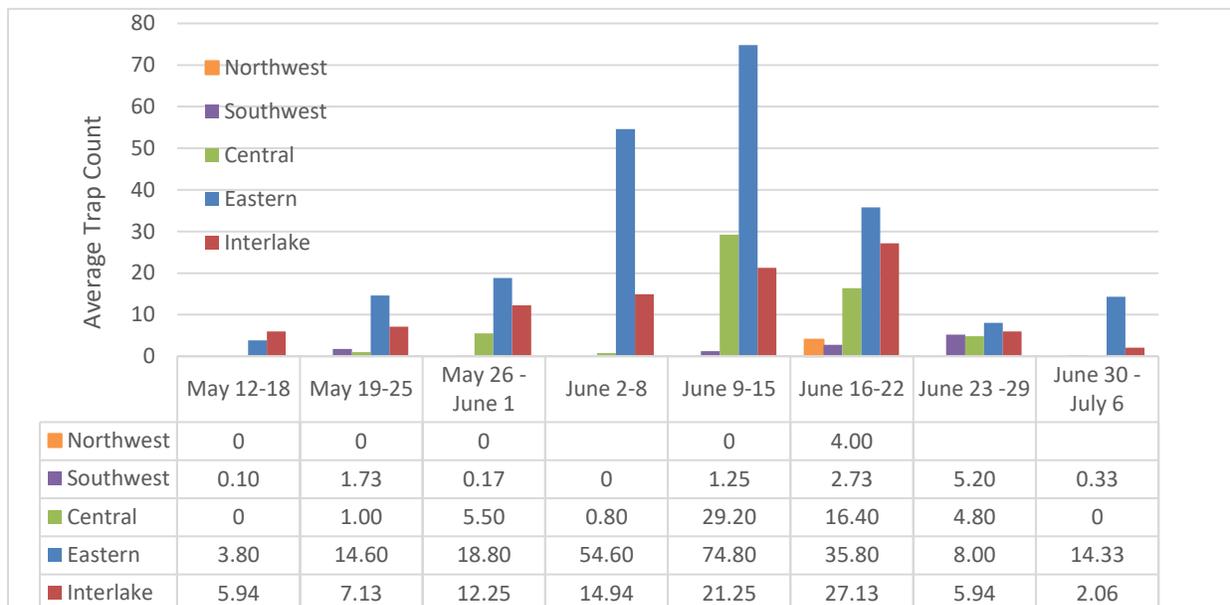


Figure 1. Average weekly trap counts for true armyworm per agricultural region in Manitoba

Highest counts in each region of Manitoba and a monitoring summary are updated weekly on the Insect Page of the Manitoba Agriculture website at: <https://www.gov.mb.ca/agriculture/crops/insects/pubs/true-armyworm-trap-results-2024-07-24.pdf>

A map showing armyworm counts from Manitoba, Eastern Canada, and several Northeast U.S. states is available at:

<https://experience.arcgis.com/experience/7164d23d488246d198dcf7a07d8c9021/page/Home/?views=Welcome>.

Go to the link “TAW”. The “Play” button at the bottom can be set so the map automatically advances (click middle arrow), or set to “Stop” and the arrows at either side of the button used to go forward or backward a week at a time.

Bertha Armyworm

The population of adult moths of bertha armyworms are being monitored during the flight and egg-laying period in June and July using pheromone-baited traps. Bertha armyworms have been found in 79 out of 82 traps that counts were reported from so far. Cumulative trap counts are all still in the low risk categories. Cumulative counts are generally higher in the western part of Manitoba, and in a trap near Killarney the cumulative count is getting near the uncertain risk category. There was generally an increase in trap counts over the weeks of July 7-13 and July 14-20 (see Figure 2 below).

The highest cumulative trap count so far is 290 from a trap near Killarney in the Southwest region.



Table 2. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions as of July 18, 2024.

Region	Nearest Town	Trap Count
Northwest	The Pas North	221
	The Pas East	82
	Grandview	79
	Bowsman North	72
	Durban	53
Southwest	Killarney	290
	Birtle	164
	Decker	158
	Whitehead	146
	Crandall	95
Central	Morris	64
	Haywood	57
	Elm Creek	47
	Starbuck, Wingham	45
	St. Joseph	40

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

← Highest cumulative count

Eastern	Whitemouth	56
	Stead	43
	Beausejour	35
	Tourond	20
	Ste. Anne	17
Interlake	Teulon East	98
	Silver Bay	85
	Pleasant Home	81
	Lundar	79
	Gimli	69

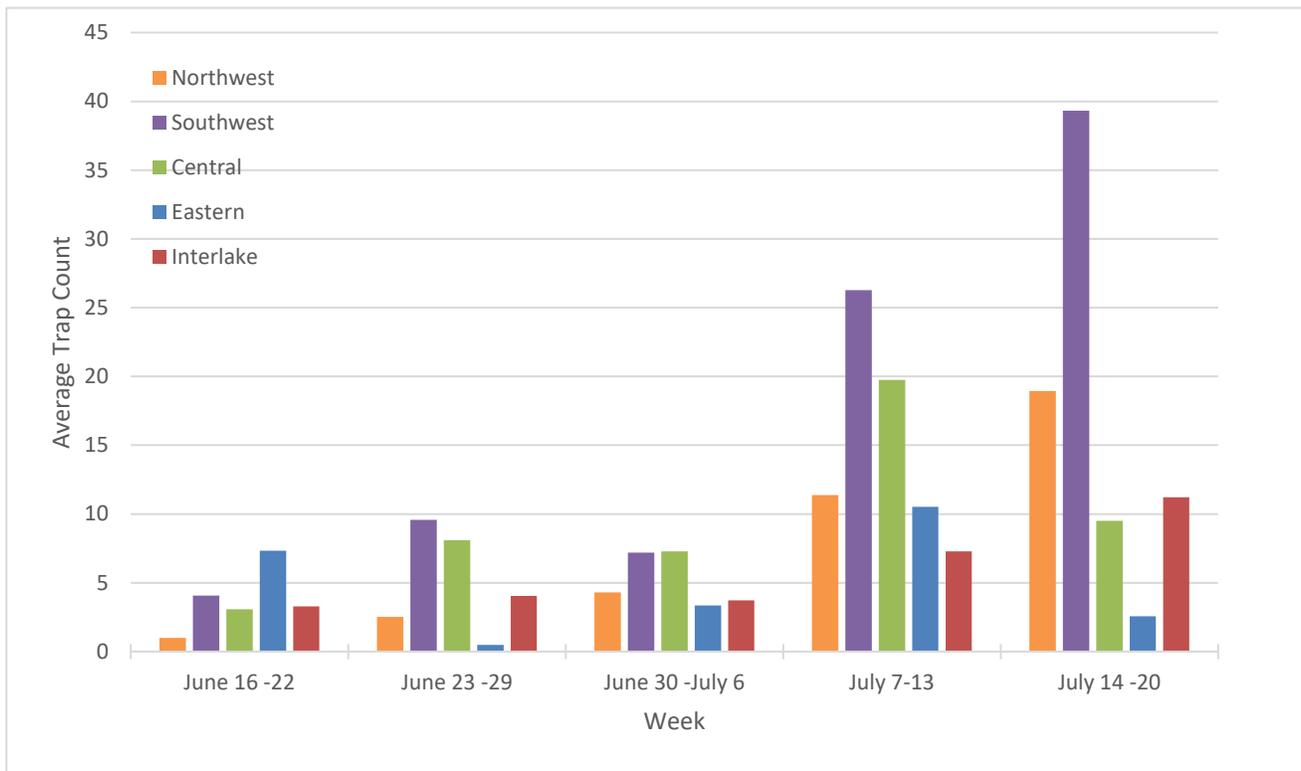


Figure 2. Average weekly trap counts for bertha armyworm per agricultural region in Manitoba.

Highest counts in each region of Manitoba and a monitoring summary are updated weekly on the Insect Page of the Manitoba Agriculture website at: [bertha-armyworm-monitoring-2024-07-25.pdf](https://www.gov.mb.ca/agriculture/crops/insects/pubs/bertha-armyworm-monitoring-2024-07-25.pdf) ([gov.mb.ca](https://www.gov.mb.ca))

Information on the biology of bertha armyworm and monitoring larval levels can be found at: <https://www.gov.mb.ca/agriculture/crops/insects/pubs/bertha-armyworm-factsheet.pdf>

Identification Quiz

Question: What are these metallic flies? You will often see them while scouting crops.



Answer: Long-legged flies (Diptera: Dolichopodidae). Long-legged flies are considered to be one of the most diverse families of flies with roughly 7,400 described species worldwide. In Canada, there are 508 species. Most adult flies are predators in various aquatic, semi-aquatic, and terrestrial habitats and feed primarily on small, soft-bodied arthropods. Most of their prey consists of other flies with more than half of the recorded prey species belong to the midge (Chironomidae) or mosquito (Culicidae) families. The other common prey includes aphids, springtails, mites, leafhoppers, and thrips. Feeding on early instar caterpillars has also been documented. Little is known about the activities of long-legged fly larvae, but most are thought to be predators or scavengers. The larvae of one genus, *Medetera*, are known to be significant predators of bark beetle larvae.

Long-legged flies are cold sensitive and rarely seen after the first frost. When they are around, long-legged flies can be found in a variety of habitats including moist environments such as stream and lake margins, humid forests, and seashores and drier habitats such as fields, grasslands, and gardens. Species in the genus, *Dolichopus*, rest on surface of water where there feed on mosquito larvae. Beyond their pest control benefits, they have an additional benefit as their specific habitat requirements and quick reactions to changes in their environment make them potentially useful as bioindicators to assess the quality of and monitor changes in the environment.

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 one of the following Manitoba Agriculture Pest Management Specialists.

John Gavloski, Entomologist (204) 750-0594
David Kaminski, Field Crop Pathologist (204) 750-4248
Kim Brown, Weed Specialist (431) 344-0239