

Issue 8 – July 11, 2024

Manitoba Crop Pest Update



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Summary

Insects: High levels of **pea aphids** in peas have been reported from fields in the Norte Dame de Lourdes area of the Central region, and the Hamiota / Oak River area of the Southwest region. There are reports of **true armyworms** in some forage grass fields in the Interlake requiring insecticide treatments. High levels of **grasshoppers** in wheat were reported from the Central and Northwest regions. The first report of **soybean aphid** was on July 10th, in the Elm Creek area, although at this point it is just trace amounts.

Disease: It has been a busy week in the plant disease world. Stripe rust has been seen further west in Manitoba and has advanced in development in infected wheat crops. Downy mildew in sunflowers, although absent for the past few dry years, has reappeared and was observed in parts of the field where standing water persisted earlier. And finally, Fusarium head blight symptoms are now evident in my demonstration at the Crop Diagnostic School which wrapped up on Thursday.

Weeds: Weed control applications have continued across the province. Late seeded crops are being sprayed and second pass is being completed on corn, soybeans, and canola. Nightshades have been found in potato fields and flushing weeds like pigweed are appearing after herbicides have been applied. Weed escapes have been noted, due to challenging conditions earlier in the season spraying was delayed and some weeds were too big at the time of spraying. Resistant weeds that have not been controlled are showing up now and producers must not let these weeds go to seed.

Entomology

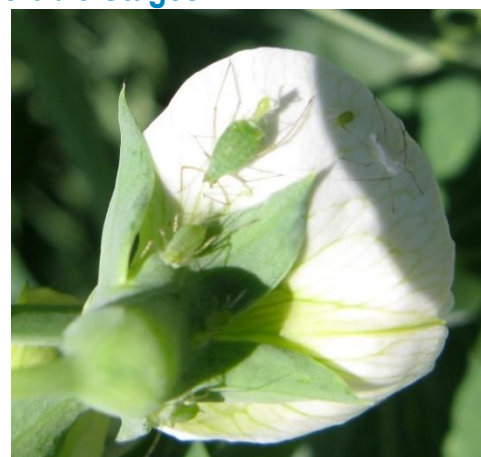
Pea Aphids in Peas: Economic Thresholds and Most Vulnerable Stages

Field Peas should be checked for aphid levels at the beginning of flowering. Take 180° sweeps or check at least 5, 8-inch (20 cm) plant tips along four well-spaced stops in the field.

Economic thresholds: For pea aphids on peas, if at the beginning of flowering there are on average 2 to 3 aphids per 20 cm of plant tip or at least 90 to 120 aphids per 10 sweeps on average, an insecticide application when 50 percent of plants have produced some young pods will be cost effective.

Most sensitive crop stages: Research from Manitoba has found that yield was enhanced most when a single application was made as soon

Report compiled by John Gavloski, David Kaminski, Kim Brown
Entomologist, Field Crop Pathologist, Weeds Specialist, Manitoba Agriculture
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as 50% of the crop had young pods. Control at the early pod stage provides protection through the pod formation and elongation stages, which are very sensitive to aphid damage. Most of the damage that aphids do to peas is to the pods before they start to fill. If most of the pods have already started to fill, spraying is less likely to be economical.

Grasshopper Stages

Grasshopper development has been delayed this year, compared to last year, by the generally cooler spring and early-summer. As we get into some warmer weather, populations will advance to the adult stage quicker.

Both of the grasshoppers in this photo are two-striped grasshoppers, one of the potential pest species. Although some of the markings on this grasshopper are distinctive, their colour can vary.

There is a lot of lush vegetation in the ditches and areas outside of fields this year, which can help keep grasshoppers out of the fields. If these areas are being cut, keep an eye for grasshopper movement into the fields.



We just noticed on Tuesday our first adult from one of the potential pest species at the research farm in Caman; an adult two-striped grasshopper.

Potential Invasive Species to Watch for When Crop Scouting

Early detection of invasive species is critical for slowing their spread. Crop scouts and farmers can play a role in providing early detection, should invasive species arrive in Manitoba, but need to know what to look for. A series of posters were prepared for different regions of Canada to educate on invasive and migratory species to report should you encounter them. The poster for the Canadian prairies is posted on the Manitoba Agriculture website at: [priority-invasive-and-migratory-insects-poster-prairies-2023.pdf \(gov.mb.ca\)](https://www.gov.mb.ca/priority-invasive-and-migratory-insects-poster-prairies-2023.pdf)

The QR code on the poster can be used to report any of these species.



Bertha Armyworm Egg Hatch Beginning

So far counts from our traps for bertha armyworm have remained in the low risk category. There are still some eggs being laid though, which are now starting to hatch. Bertha armyworm eggs are laid in clusters on the lower surface of leaves of their host plants. The photos below are from an agronomist in Southwest Manitoba.



Photos by Brittany Riddell- A1 Agronomy

Plant Pathology

Stripe Rust

Fields of spring wheat with advancing symptoms of stripe rust have been observed near Lauder, Manitoba (Southwest region). There are also numerous reports from southern Alberta of this disease and some indication that varieties previously known to be resistant or moderately resistant are showing symptoms. Rust populations are continually evolving, “re-shuffling the deck”, by sexual recombination.



Photo courtesy of Todd Drummond



Photo courtesy of Lionel Kaskiw

Downy Mildew in Sunflowers

Plants are very stunted and have a distinctive yellowy green color except at the edges of the leaves. Turn over those leaves, and you will see the characteristic felty, white growth that is characteristic of downy mildew – masses

of spores and mycelium. Infected plants are usually most apparent in areas of the field that had saturated soil for prolonged periods.



Photos courtesy of Morgan Cott, agronomist with Manitoba Crop Alliance.



Other Reports from Regional Agronomists

Central

Mycosphaerella, bacterial blight and root rot are present in pea fields.

Southwest

Mycosphaerella and/or bacterial blight lesions are very prevalent in peas, and Septoria or bacterial leaf spotting has been observed in oats, especially after recent rains.

Weeds

Canada Fleabane

Suspected glyphosate-resistant fleabane has been found in central Manitoba in soybeans where some plants have survived 1 REL of glyphosate. They appear to have been affected slightly as most have tillered, normally fleabane will only have a single stem but if the growing point was damaged then they will branch out. Other fleabane plants in the fields are stunted and strange looking but are still alive and appear to be about to set seed. These plants are being hand pulled now as seed set is imminent and it's crucial to remove and destroy these plants before the seed can spread. Samples have been taken and are being sent for resistance testing. If you have any fleabane that has survived a glyphosate application let us know and we will get it tested. Suspected resistant fleabane plants (as with all resistant weeds) must be removed and destroyed before they set seed. The picture on the left shows fleabane that has been severely stunted and is growing strangely but is still very much alive. The centre and right pictures show a couple of other fleabane plants that are tillering, normally fleabane has a single stem.



Forecast

True Armyworms

Larvae of armyworms (*Mythimna unipuncta*), sometimes also called true armyworms, can cause significant feeding injury to cereals and forage grasses when levels are abundant. Adult moths of armyworms migrate to Manitoba in the spring from overwintering sites from the southern US. A network of pheromone-baited traps are being monitored from early-May until late-July to determine how early and in what levels populations of armyworms have arrive.



Counts have been low so far in the western regions of Manitoba, with some moderate counts in the Central region. Some higher counts have occurred in some of the traps in the Eastern and Interlake regions. 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 4). Late-June counts for these regions were lower.

The highest cumulative count is 435, 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 be good to prioritize. Armyworm larvae have been reported from the Central and Interlake regions, with some control applied in the Interlake region.

Table 1. Highest cumulative counts of armyworms in pheromone-baited traps for agricultural regions in Manitoba as of July 10, 2024.

Region	Nearest Town	Trap Count
Northwest	Russell	4
	Grandview	0
Southwest	North Pierson, West Pierson	23
	Rivers	22

	Medora	9
	Glenboro	3
	Belmont	2
Central	Horndean	93
	Rosenfeld	79
	Altona	73
	Morris	22
	St. Joseph	17
Eastern	Dencross	426
	New Bothwell	270
	Beausejour	211
	Kleefeld	138
	Lorette	27
Interlake	Riverton	435
	Washow Bay	228
	Teulon	189
	Fisher Branch	136
	Balmoral	122

← Highest cumulative count

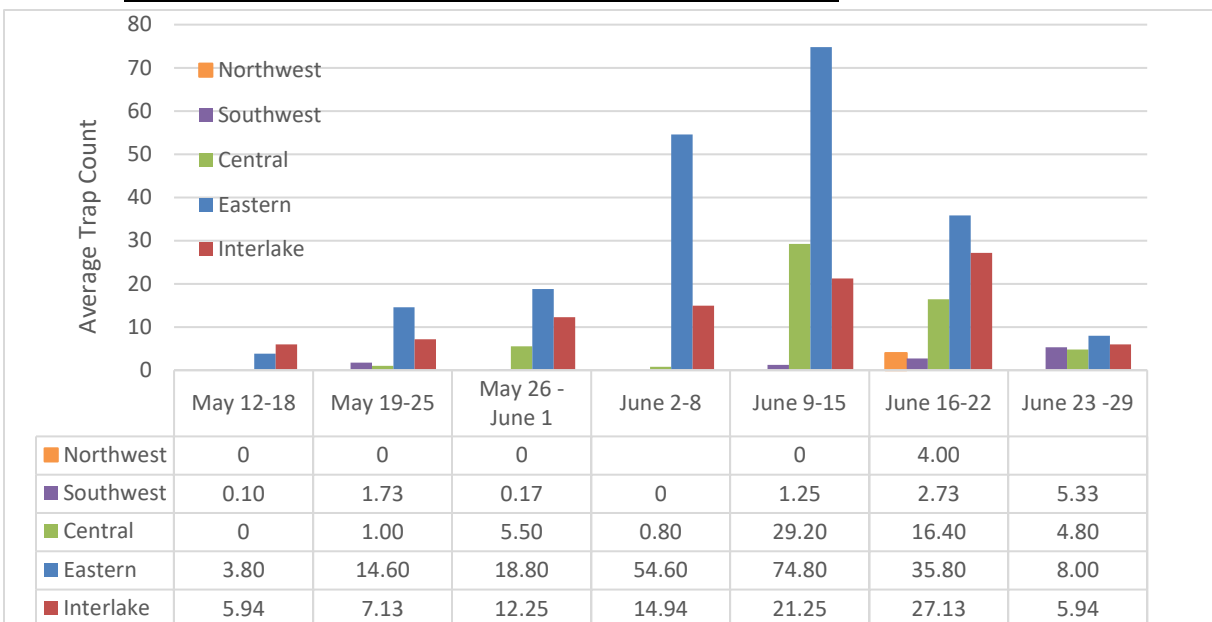


Figure 1. Average weekly trap counts for true armyworm per agricultural region in Manitoba

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-07-10-2024.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 66 out of 79 traps that counts were reported from so far. Trap counts have been low so far.

The highest cumulative trap count so far is 125 from a trap near Whitehead 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 10, 2024.



Region	Nearest Town	Trap Count
Northwest	The Pas North	25
	The Pas East	22
	Grandview	10
	Roblin South	9
	Makaroff South	8
Southwest	Whitehead	125
	Brandon East	36
	Killarney	34
	Ninga	28
	Rivers	25
Central	Morris	48
	Emerson	32
	St. Joseph	24
	Horndean	21
	Altona	16
Eastern	Whitemouth	49
	Stead	31
	Ste. Anne	7
	Beausejour	4
	Hadashville, Tourond	2
Interlake	Teulon East	54
	Silver Bay	37
	Pleasant Home	32
	Arborg, Gimli	31
	Rockwood	29

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

← Highest cumulative count

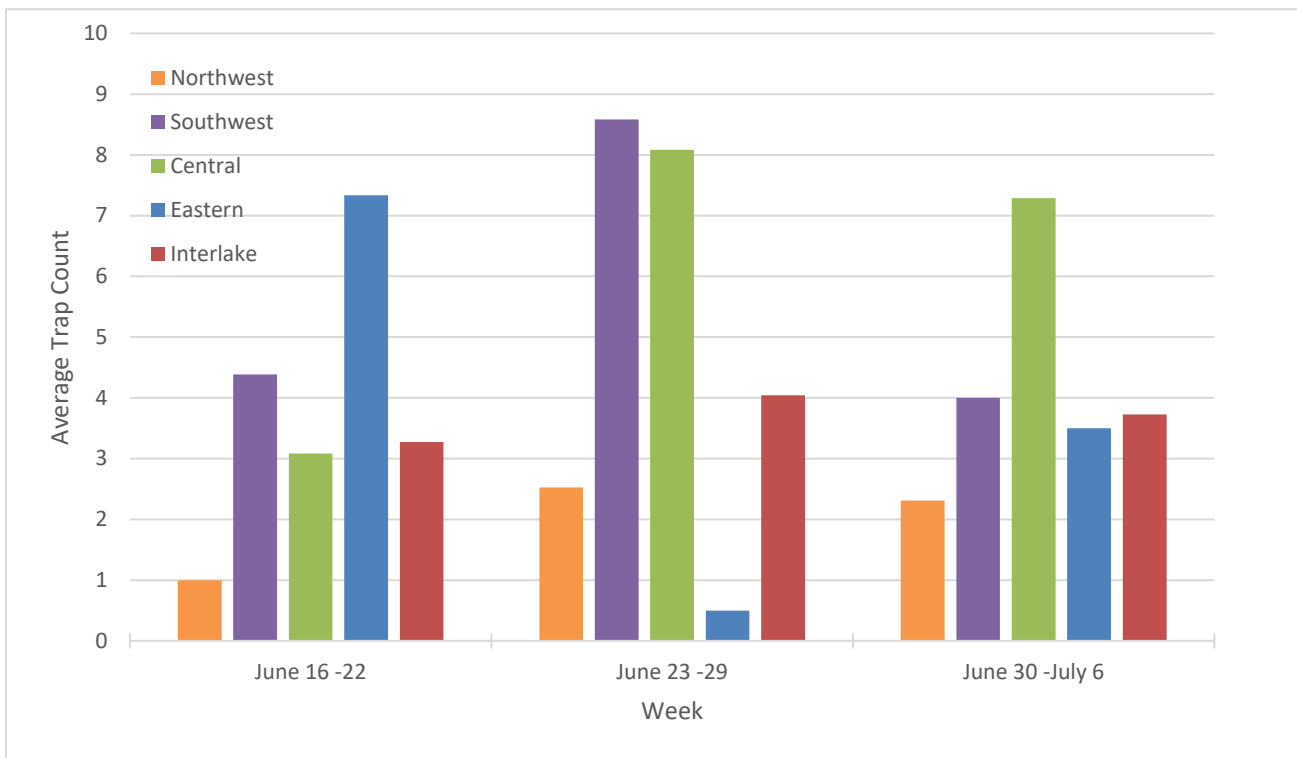


Figure 2. Average weekly trap counts for Bertha armyworm per agricultural region in Manitoba.

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 happened to these aphids?



Answer: They were parasitized by an aphid mummy wasp (*Aphidius* spp.). Wasps in a subfamily of Braconidae called Aphidiinae are commonly referred to as aphid mummy wasps. Over 40 species of aphids are parasitized by wasps in the genus *Aphidius*. These wasps are tiny, usually less than 3 mm. Adult females lay their eggs in aphids. After hatching, the larvae feed on the aphids' insides as they develop through 3 increasingly larger instars. The mature larvae eventually kill their host aphid and cause them to become swollen, tanned, and hardened. This creates the mummies seen in the photo. The rounded holes in the mummies come from the adult wasps emerging. Once the adults emerge from the pupae, they chew a rounded hole through the mummy to escape. It takes about 2-4

weeks from when the egg was laid for the adult to emerge depending on the species and temperature. *Aphidius* species wasps have three or more generations per year depending on species, food supply, and temperatures. The adult wasps are difficult to identify in the field, but the presence of aphid mummies is one way that the activity of these parasitoids can be easily recognized.

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

