

Issue 4 – June 13, 2024

Manitoba Crop Pest Update



[Seasonal Reports](#)

[Weekly Weather Maps](#)

[Insects](#)

Summary

Insects: Flea beetles have been a concern in some fields resulting in some foliar insecticide applications and reseeding. Spraying for flea beetles this week was reported from the Northwest, Central and Eastern regions. In the Northwest region there are reports of some canola fields having been sprayed twice for flea beetles, and one field having been sprayed three times for flea beetles. Some reseeding of canola was reported from the Northwest region, and a couple of fields near Portage la Prairie in the Central region were reseeded because of flea beetle damage.

Cutworms have been causing damage in several crops. Insecticide applications for cutworms over the past week have occurred in canola, sunflowers, peas, and flax, with most of these reports coming from the Southwest or Central regions. Some canola and a small area of corn in the Southwest region were reseeded because of cutworms.

Wireworm damage to corn was noted in a field in the Central region. Some seedcorn maggots have been reported in sunflowers, but no serious damage.

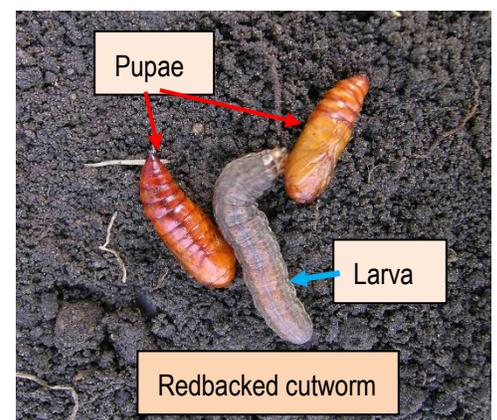
Disease: Last week we talked about the high probability of seeing tan spot in wheat and indeed there are now many reports of tan spot in wheat fields, and some of spraying at the flag leaf stage in the earliest seeded crops. The question arises – what other foliar diseases are we likely to see as we get further into the growing season?

Weeds: Challenging spraying conditions have led to calls about spray drift and crop damage. Wet fields and windy conditions continue to make herbicide application difficult and farmers are trying to catch up. Watch growth staging as some crops are at or near the limit for applying certain herbicides.

Entomology

Cutworm Scouting Tips:

Often cutworms will be close to the cut or shriveled plants they have just damaged and can be found by digging around these plants. Use a trowel or shovel to carefully search through the top 5 cm of soil near margins of damaged areas. You may need to dig a little deeper though if the soil is dry. Scoop some of the soil into a tray or pan and carefully move it to level it a bit while searching for the cutworms. A soil sifter can also be used if you have one.



Report compiled by John Gavloski, David Kaminski, Kim Brown
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The depth of cutworms in the soil during the day may depend on the age of the larvae and how moist the soil is. They may be just under the soil surface in wet weather. However, in dry weather older larvae of some species may be found at a depth of 8 to 10 cm (3 to 4 inches) from the soil surface.

How long cutworms spend in their potentially damaging (larvae) stages, before they become pupae, depends on the species and the temperatures they are exposed to. Redbacked cutworms kept at 15°C took 65 days on average to complete their six larval stages, while at 25°C they completed their larval stages in 29 days. Dark-sided cutworms took on average 87 days to go through their seven larval stages.

More information on cutworms species identification, monitoring, thresholds and management is available at : cutworms-in-field-crops.pdf (gov.mb.ca)

Plant Pathology

Septoria leaf spot in wheat

When inoculum is coming from stubble, the next disease to appear in wheat is Septoria. It thrives in warmer conditions than does tan spot. Lesions are lighter coloured in the middle and peppered with tiny black pycnidia. These produce asexual spores that are spread within the crop by rain splash.



Septoria leaf spot on wheat. Credit Maccheek

Oat crown rust and bacterial blight

Next, we have to consider diseases that blow into our region from elsewhere, notably on air currents from the south. The prime suspects here are the rusts. The Cereal Rust Bulletins indicate that leaf rust in the Kansas-Nebraska region has been slow to develop, possibly due to very hot and dry conditions there. Upper atmosphere winds from that region are the usual source of infection here in Manitoba. Observations on the alternate host of oat crown rust in Minnesota, however, indicate an earlier than normal appearance. Current risk of oat crown rust is low, but soon we should watch for crown rust lesions on oats. Take care to not confuse bacterial blight for rust (see photos). Bacterial blights are favoured by frequent rain events – lesions often have a glint from bacterial ooze that has dried on the leaf surface. Fungicides provide no benefit with bacterial diseases.



Bacterial blight (L) and oat crown rust (R)

Remember that winter wheat is now, or soon will be in the vulnerable stage for Fusarium head blight infection. Consult the new FHB Risk Mapping tool for the risk in your area – prairiefhb.ca

Weeds

Crop Damage

Crop damage can be caused by a number of things besides herbicides (waterlogging, fertility, etc.). If you're looking at herbicide damage it could be either from off-target movement (drift from adjacent fields) or physiological damage from herbicides applied to that crop. Cool conditions with ample moisture mean the wax cuticles on plant leaves are thinner and we can see quicker and higher herbicide absorption. While this usually means our weeds are controlled very well, sometimes this leads to the crop being affected in a negative way. We may see a bit of yellowing or stunting as the crop metabolizes the herbicide, but this rarely causes any lasting effects. When herbicides are applied after a cool night, we can sometimes see crop damage and weed control may be reduced. In this case metabolism of both the crop and the weeds is slowed down due to the cool temperatures. This means the crop cannot breakdown the herbicide as quickly, causing more stress in the plant. In the weeds the herbicide may not get to the target site as rapidly as normal and we can see reduced efficacy. Finally, during windy conditions or temperature inversions we have herbicide droplets moving away from where they were applied and being deposited elsewhere. Depending on surrounding crops and the amount of herbicide movement, drift can be minor or cause major yield losses. Drift damage is usually most severe nearest to the crop where the herbicide moved from and may not move too far into the field. Plants sheltered behind trees or yard sites are protected from drift and will not be damaged. Look for patterns like we see below when trying to determine what was the cause of the crop damage.



Glyphosate drift (photos from Lionel Kaskiw)

Forecast

Diamondback moth

A network of pheromone-baited traps are being monitored across Manitoba in May and June to determine how early and in what levels populations of diamondback moth occur. Diamondback moths have been found in 73 out of 89 traps that counts were reported from. Trap counts have generally been low so far in the Northwest and Southwest regions. Some moderate counts have occurred in the Eastern, Interlake and Central regions.

The highest cumulative trap count so far is 187 from a trap near Riverton in the Interlake region.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 13, 2024.

Lower Risk: 0-25 Elevated Risk: 26-200 Higher level of moth catch: 200+

Region	Nearest Town	Trap Count
Northwest	Makaroff	14
	Roblin	13
	Grandview	11
	Shell Valley	9
	Grandview, Minitonas	4
Southwest	East Brandon	16
	Rivers, South Belmont	8
	Coultier	4
	Baldur, Elphinstone, Ninga, Pierson	2
	Melita, Strathclair	1
Central	First week with weekly trap counts greater than 25: May 26 – June 1	
	Elm Creek	121
	Rosenfeld	112
	Fannystelle	94
	Altona	85
	Rosenort	82

Eastern	First week with weekly trap counts greater than 25: May 5-11	
	Stead	112
	Hadashville	75
	Beausejour	58
	Whitemouth	12
	Tourond	5
Interlake	First week with weekly trap count greater than 25: May 12-18	
	Riverton	187
	Hodgson	114
	Ledwyn	75
	Vidir	51
	Gimli	48

← Highest cumulative count

Larvae of diamondback moth are just starting to be noticed in some regions, but no high levels have been reported yet. Look for diamondback moth larvae when doing crop scouting in canola or other cruciferous crops, particularly in the Eastern half of Manitoba and Interlake region.

Highest counts in each region 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/diamondback-moth-monitoring-june-13-2024.pdf>

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. The highest cumulative count is 360, from a trap near Dencross in the Eastern 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.

Table 2. Highest cumulative counts of armyworms in pheromone-baited traps for agricultural regions in Manitoba as of June 12, 2024.

Region	Nearest Town	Trap Count
Northwest	Russell	0
Southwest	North Pierson	9
	Medora, Rivers	6
	West Pierson	5
	Belmont	1
Central	Horndean	62
	Altona	45
	Rosenfeld	32



	Morris	22
	St. Joseph	10
Eastern	Dencross	360
	Beausejour	190
	New Bothwell	70
	Kleefeld	37
	Lorette	16
Interlake	Riverton	204
	Washow Bay	92
	Fisher Branch	65
	Moosehorn	63
	Balmoral	49

← Highest cumulative count

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-06-12-2024.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..

Beneficial Insect Monitoring

As mentioned in a previous update, this year my summer student and I are doing weekly monitoring of the levels and stages of five groups of predaceous insects; lady beetles, green lacewings, hover flies, minute pirate bugs and damsel bugs. We are doing three sets of ten sweeps in alfalfa, and once the canola is tall enough, we will do the same in canola.

Counts have been low so far. This week we were finding low levels of adults of sevenspotted lady beetles, multicoloured Asian lady beetles and green lacewings. We also did collect a diurnal species of ground beetle, *Bembidion quadrimaculatum*, that we often see on the soil this time of year.

We did catch some low levels of aster leafhopper (3 in 30 sweeps) and potato leafhoppers (11 in 30 sweeps) as well. Both of these leafhopper species can be problems if levels get high enough, so this is something we will watch as well.

Identification Quiz

Question: What is the species of beetle in the photo below? They are very small, about 3 mm long, and often seen running around on the soil. Occasionally you may find them on plants.

Answer: This is a small species of ground beetle (family Carabidae) called *Bembidion quadrimaculatum*. They overwinter as adults and emerge in spring to breed, so they can often be seen running around on the soil during the day around May and June. While most species of ground beetles are nocturnal (active at night), most species in the genus *Bembidion* are diurnal (active during the day). *Bembidion* is the largest genus of ground beetles by number of species. In Manitoba there are 71 species of ground beetles belonging to the genus and 176 species in Canada.



Bembidion quadrimaculatum has been reported to feed on small insects and insect eggs including the eggs of pea leaf weevils and onion maggots. The adults of this species can eat up to 25 onion maggot eggs each per day. In a laboratory study, the adults killed 9 wheat midge larvae each per day.

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