

Manitoba Crop Pest Update

Issue 3: June 3, 2020



Summary

Insects: There have been reports of flea beetle damage to canola, and cutworms in various crops, from all agricultural regions. Grasshopper nymphs are emerging; most are still in the first instar stage.

Diseases: A dry and windy week has not been conducive to the development of pathogenic disease in emerging field crops. Some frost injury on clover had the appearance of wilt but proved to be non-pathogenic. The Crop Diagnostic Centre has seen its first pathogenic disease on established field crops, with powdery mildew and tan spot showing up on winter wheat from the eastern side of the province. Field peas have just reached the stage where the effectiveness of inoculant can be examined. Root nodules are just visible if the roots are dug carefully and washed.

Weeds: There have been many questions about tankmixes to compensate for missed pre-seed herbicide applications. There are limits to tankmix options, weed staging and crop tolerance, so picking the most prolific and competitive weeds will help determine the best herbicide option(s). Application factors like water volume and nozzles will help reduce drift and ensure that weed control is optimized, but sometimes in-crop options will only provide suppression. And that wind is adding to the already challenging situation. Good luck, be safe, leave a buffer.

Entomology

Flea beetle update: Foliar insecticide applications for flea beetles on canola were reported from all agricultural regions. In the northwest there were reports of some fields needing multiple applications, and some reseeded due to stem feeding, high winds, and dry conditions. There have also been reports of reseeded because of flea beetles in the Interlake and near Portage la Prairie.



Cutworm update: In the Northwest there have been reports of peas and faba beans being sprayed for cutworms; reports from the southwest are of isolated cases of cutworms; corn, soybeans and sunflowers have been sprayed for cutworms in the Central region; cereals and sunflowers have been sprayed for cutworms in the Eastern region, and there have been reports of cutworms in peas, canola and annual ryegrass in the Interlake. Samples and photos sent in so far have mainly been of redbacked and dingy cutworms. Both are species that will come above the ground to feed and can be killed effectively with insecticides.

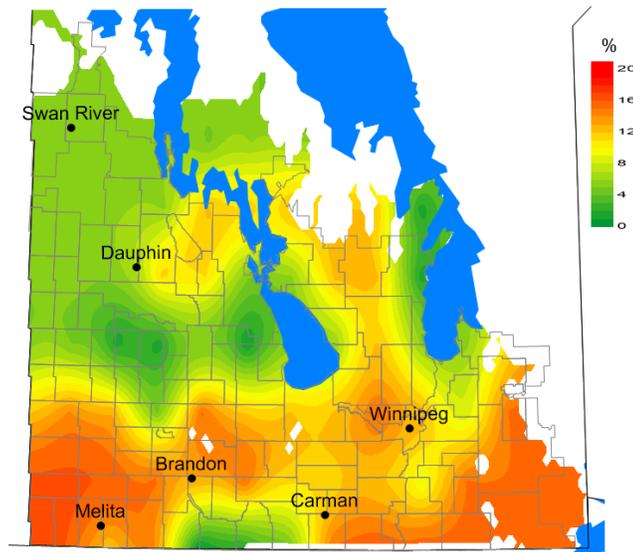


Dingy cutworms



Redbacked cutworms

Grasshopper emergence: Grasshopper hatch is underway, but still in the early stages. This map show the forecasted % hatch of grasshoppers, based on degree day models for migratory grasshopper, as of May 31. Percent hatch is generally about 5 to 15% in most areas.



Location	% Embryonic Development	% Hatch
Brandon	81.5	12.6
Carman	83.1	11.3
Cartwright	80.7	1.5
Dauphin	81.9	11.3
Melita	83.3	16.2
Minnedosa	81.4	4.8
Morden	84.2	15.2
Portage La Prairie	82.5	12.2
Roblin	78.3	5.9
Steinbach	81.6	15.1
Swan River	81.2	5.9
Virden	81.0	13.9
Winnipeg	85.3	12.6

Cereal leaf beetle: I am looking for samples of cereal leaf beetle larvae this growing season to determine their range across Manitoba, their population density, and the rate at which larvae are parasitized. Please contact John Gavloski at the contact information below should you have cereal leaf beetles feeding in any of your cereal fields. I am particularly interested in what levels are like and percent parasitism in the eastern regions of Manitoba.



Cereal leaf beetle feeding and larva. Note that larvae are sometimes coated in a fecal coating and may appear dark or like dirt on the leaf.

Plant Pathology

First lesson from the Disease section of the 2020 Manitoba Crop Diagnostic School

When evapotranspiration is high and the soil surface is drying out rapidly, it can be difficult to get depth placement just right. Seeds need to be in moist soil with good seed-to-soil contact. For most of the crops in the Disease section, we've been seeding with a double-disc press drill with on-row packing. Partway through seeding our wheat, we were checking the depth across the implement and finding that, behind the tractor wheels (outside 3 rows on either side), the wheat was too shallow and not getting into moisture. A depth adjustment was made and, for the remaining two passes, things were ideal. Now that the crop has emerged the stand reflects that many seeds were stranded in dry soil and did not germinate until there was significant rainfall (20mm on May 23-24).



1 Ideal stand after depth adjustment (left)) vs. Variable stand prior to depth adjustment (right).

Weeds

Waterhemp Update:

Last week I was finding waterhemp in the cotyledon to almost two leaf stage – if you look closely at this particular waterhemp plant, we are already in the 6 leaf stage – the cotyledons are not showing. This weed grows rapidly and at this stage is perfect to spray, any bigger and it will be much more challenging to control with herbicides. Unfortunately, more flushes are coming and there is no perfect time to spray for waterhemp.



How to find an oat field:

Aidan Swark (the weeds extension summer student) took this picture for me yesterday because of every year we get some calls about herbicides causing leaf burn in oats. David has had similar questions in the past about suspected leaf disease.



Foliar injury can occur when there is a high surfactant load or if there high temperatures especially with contact herbicides (such as bromoxynil, or bentazon). With the high temperatures recently, that will only increase the potential for injury. How can I tell that it was a herbicide application that caused this – check out the weed control!

Herbicide carryover? What are some things to look at?

Step 1:



Straight lines tend to indicate a man made problem.



Step 2:



Root and shoots looking stumpy could be herbicide or fertilizer damage.

Step 3:



Crop damage is likely due to the same factor that is causing such great weed control – likely a herbicide carryover issue!

Soil Fertility

Seedplaced fertilizer injury in cereals

Stand scouting may reveal thin stands of cereals – especially if you have installed a “check stamp” area without seedplaced fertilizer for comparison.

Figure at right: Full stand of check “stamp” on right suffering nutrient deficiency vs the nourished, but 45% stand to left with seedplaced fertilizer.



The symptoms of injury vary from late emerging crop to stunted or dead seedlings below ground. Dissolved fertilizer granules are also evident in proximity to the seed.



Additional pictures and symptoms are shown in:

<https://www.gov.mb.ca/agriculture/crops/seasonal-reports/pubs/what-does-seedplaced-fertilizer-injury-look-like.pdf>

Some of these cases are surprising, in that they are occurring on heavier textured clay soils, which are usually much more forgiving than coarse textured, low organic matter sands. The seedplaced fertilizer rates applied had been quite tolerable in past years with even drier seedbeds than this year.

A factor we are sometimes seeing is sidewall smearing from seeding into very moist, clay soils, followed by dry conditions. These sidewalls have baked rather tight with the heat and dryness and may be confining roots to this hot zone longer than normal.

If assessing cereal stands for yield potential, check out the study reported by MB Ag showing yields of wheat, oats and barley at differing stand densities (wheat below). Full report available from Anne Kirk Anne.Kirk@gov.mb.ca

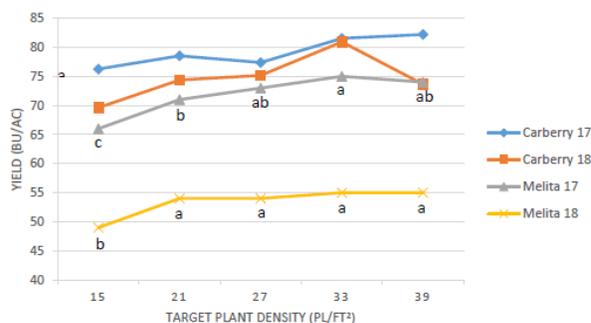


Figure 2. Wheat yield (bu/acre) at five target plant densities at Carberry and Melita. Statistically significant differences are shown by letters below the line. Treatments within the same site with the same letter are not significantly different ($P < 0.05$).

Forecasts

Diamondback moth. A network of pheromone-baited traps are monitored across the Canadian prairie provinces in May and June to determine how early and in what levels populations of diamondback moth arrive. Highest counts so far have generally been in the South Interlake, although a trap near Gladstone has a count of 51 moths.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 3, 2020.

Region	Nearest Town	Trap Count
Northwest	The Pas	14
	Bowsman	11
	Bowsman	10
	Grandview	4
Southwest	Brookdale	7
	Foxwarren	5
	Carberry	2
	Justice, Minnedosa	1
Central	Gladstone	51
	Portage la Prairie	9
	Miami	7
	Reinland, Kilarney, Baldur	6
Eastern	Lac du Bonnet	37
	Stead	16
	Whitemouth	14
	Tourond	9
Interlake	Warren	78
	Vidir	27
	Clandeboye	24
	Geysir	18

No traps in Western Manitoba reporting over 15 yet. Good news for canola growers in this region.

Note the catch of 51 in the trap near Gladstone. This is a bit of an outlier at this point, as all other traps in Central regions are below 10. This can happen, depending on where arriving moths get deposited.

Counts in Interlake lower this week. The trap near Warren had 30 moths from May 10-16, 48 from May 17-23, and 0 from May 24-30. The population of adults deposited in the area seems to have now died. The questions now: how many eggs were laid and what will levels of larvae be like.

Highest counts in each region and a monitoring summary are updated twice weekly (Fridays and Tuesdays) on the Insect Page of the Manitoba Agriculture and Resource Development website at: <https://www.gov.mb.ca/agriculture/crops/insects/diamondback-moth-forecast.html>

Bertha Armyworm: Traps for bertha armyworm can go up next week (June 8 to 12) for those involved in monitoring this insect.

Identification Quiz:

Question: An agronomist described finding bunches of these small worms in the soil. What are they?



Photo by Katie Boles, Nutrien

Answer: These are called potworms or enchytraeid worms (family Enchytraeidae). Decaying plant material and fungi appear to be a large part of their diet. They are of no harm to crops.

Weed ID



Field bindweed has very distinctive cotyledons. The true leaves are shaped similar to wild buckwheat, and the two can be confused with each other, at least until they flower. Wild buckwheat (Polygonaceae family) will have an ocrea, and is an annual plant while Field bindweed is a perennial, so once established can be quite troublesome to control and in future years, could emerge from existing rootstocks. I seem to be seeing this weed more and more.



Purslane speedwell – Picture submitted by Derek Janzen at Rosenort Agro.

Purslane speedwell is sometimes misidentified initially as cleavers – but looking at the opposite leaves that eventually become alternate leaves, round stem and small white flowers, this is not the clingy cleavers with a square stem and whorl of leaves. This weed is not easily controlled with phenoxy herbicides, and seems to be cropping up more frequently this year. There is more info in an archived CropChatter article found here: <http://cropchatter.com/what-is-purslane-speedwell-and-how-do-i-control-it/>

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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 the above contacts.

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