

Manitoba Crop Pest Update

Issue 10: July 24, 2019

Summary

Insects: Grasshoppers continue to be a concern. More are reaching the adult stage, which are more capable of moving into crops. Cereal armyworms were controlled in some small grain cereals and forage grasses in the Eastern, southern Interlake and Central region. Some high levels of Lygus bugs have been reported from alfalfa and seed trefoil in the Interlake.

Diseases: There were very few reports of disease issues from our network of field agronomists over the last week. The Pathology team's focus has now shifted to coordinating and conducting disease surveys in soybean, wheat and canola, a good opportunity for us to visit other areas of the province.

Weeds: Most crops are past the stage of in-crop weed control. There are patches of wild oats that are maturing - it would be a perfect time to sample those for herbicide resistance testing before any pre-harvest herbicide is applied.

Entomology

Armyworms: Some high populations of armyworms (*Mythimna unipuncta*) continue to be found. Higher levels are being reported mainly from the Eastern and southern Interlake regions. So far there have been no reports of high levels from Western Manitoba. Research suggests that armyworms should not be capable of overwintering successfully in Manitoba, so our populations would be moved in from the south. So our population distribution can be patchy or concentrated in certain areas of the province.



Armyworms can also be in patches or concentrated in a particular area within a field. If there is an area of the field that got seeded at a higher rate, or a lodged area of the field, armyworms may be more abundant in these areas. Determining if armyworms are in patches or concentrated in a particular area of the field can help determine the most economical way to control armyworms should levels above the economic threshold be present.

Preharvest Intervals in Small Grain Cereals: If managing armyworms or grasshoppers in small grain cereals, there are currently few products that have short

enough preharvest intervals to be used. Remember that preharvest interval is the time until the crop is swathed, not combined. The following table shows insecticides registered for grasshoppers and / or armyworm in wheat, oats and barley and their preharvest intervals, from shortest until longest.

Preharvest Intervals for insect Control in Wheat, Oats and Barley

Insecticide	Insect Controlled	Preharvest Interval
Coragen	Grasshoppers, armyworms	1
Malathion	Grasshoppers, armyworms	7
Eco bran	Grasshoppers	14 (oats, wheat), 28 (barley)
Delegate	Armyworms	21
Matador / Silencer	Grasshoppers, armyworms	28; 14 days for livestock foraging
Mako (wheat and barley only)	Grasshoppers	30 (wheat) 45 (barley)
Up-Cyde (wheat and barley only)	Grasshoppers	30 (wheat) 45 (barley)
Decis / Poleci	Grasshoppers	31 (oats); 40 (wheat, barley)
Lagon / Cygon	Grasshoppers	35
Chlorpyrifos	Grasshoppers, armyworms	60

Note that if anticipated swathing time is under three weeks, the only options available would be Coragen, Malathion, and Eco bran.

Soybean Aphids? No soybean aphids have been seen or reported in Manitoba yet this year. If anyone does see any please let me know. We like to track when they first are spotted in Manitoba each year. The risk of potentially damaging populations is getting lower as we get into late-July with none being reported yet.

European corn borer – still looking for egg masses: We are still looking for egg masses or young larvae of European corn borer to test if there is resistance to any of the cultivars of Bt corn grown in Manitoba. If you are scouting in corn and find egg masses or young larvae, please contact John Gavloski (see contact information at end of report) so we can get samples for resistance testing. I am trying to collect as many egg masses as possible for the tests. You can either cut the egg masses from the leaf, place them in a container, and contact me. Or mark the location and let me know of the field location so we can come collect samples.

Egg masses can be found in any corn field, whether Bt corn or non-Bt cultivars. It is when the larvae start feeding that they are killed by the Bt toxins.



European corn borer egg masses – recently laid (upper) and closer to hatch (below)

Plant Pathology

Add **Goss's wilt** to the list of bacterial diseases that have been prevalent despite drier conditions this year. It's a disease of grain and silage corn that is often found in fields where corn has been grown in a tight rotation. These pictures of the classic leaf symptoms were supplied by Amber Knaggs.



Having surveyed 8 wheat field so far in central and SW Manitoba, we have only seen trace amounts of Fusarium head blight. Not that anyone needs a reminder of the symptoms of FHB, but you may mistake floret abortion from abiotic stresses like drought

with the disease. The giveaway with FHB is always the salmon pink or orangey sporulation along the glumes.



And finally, here's a reminder of the impact of **ergot** in rye versus other cereals. This volunteer fall rye was out in the midst of a very healthy stand of winter wheat.



The answer to last week's pathology quiz picture was **downy mildew**, a minor leaf disease of canola that might be mistaken for leaf symptoms of blackleg and/or Alternaria.

Weeds

A Reason to Desiccate:



Buckwheat at this stage will cause harvesting issues with the green material and twining of vines. Keep in mind that pre-harvest weed control is not effective on an annual weed like wild buckwheat at this stage, this is when a desiccant is a much better fit. It will provide rapid dry down of the green leaf material.

Photo credit - Katie Meggison, Field 2 Field Agronomy

Herbicide resistance testing

Do you have weeds that survived this year's herbicide application(s)? Since there are many factors that can contribute to weed escapes, consider:

- **The distribution of escaped weeds.** Herbicide-resistant weeds tend to occur in patches as opposed to geometric patterns (e.g. spray miss) or throughout the field (e.g. tolerant weeds).

- **Possibility of reduced herbicide efficacy.** 2019 was a challenging year for weed management due to dry conditions, some flushes when rains eventually came and in some cases, a lack of crop competition.
- **Weed species.** Annual weed species, like wild oat, green foxtail, cleavers, kochia, hemp-nettle, smartweeds, ragweeds and wild mustard, may be more likely to develop resistance compared to other weed species. Resistant weed patches are typically a single species, as opposed to multiple species in a non-resistant weed escape patch.

Suspect weed escapes can be confirmed as resistant or susceptible by herbicide-resistance testing. An essential step is to collect dry, mature seed for the analysis. Although more is better, many labs require at least 100 g of small weed seeds (e.g. cleavers) and 200-250 g of large weed seeds (e.g. wild oat). Weed seed samples that are collected after being combined tend to be less viable due to mechanical damage.

*Tip: A sweep net is a relatively easy way to collect mature wild oat seeds from a patch before they all drop.

Weed Control in Non-Crop Areas

Tier 1 Noxious weeds must be destroyed in all settings. These pictures are from a pasture with diffuse knapweed. Many plants have been sprayed and destroyed, but those plants that were missed are now being removed to prevent seed production and future issues.





Question: What is this monster weed?



Answer: Nodding thistle.

Forecasts

Entomology:

Bertha armyworm. A network of pheromone-baited traps are monitored across the Canadian prairie provinces in June and July to determine levels of bertha armyworm adult moths, and forecast risk of there potentially being economic levels of larvae somewhere in the region. The traps do not determine risk for the field specifically that the trap is in, but can estimate regional risks, which can help prioritize scouting for larvae.

Note – The week of July 21 to 27th is the last week of data collection, so traps can be removed after this week's counts.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of July 24, 2019.

Region	Nearest Town	Trap Count
Note: Highest counts from 87 traps being monitored		
Northwest	Minitonas	393
	Durban	332
	Ste. Rose	322
Southwest	Miniota	380
	Rivers	264
	Souix Valley	247
Central	Glenboro	461
	Halbstadt	454
	Mather	225
Eastern	Tourond	172
	Beausejour	101
	Steinbach	100
Interlake	Warren	238
	Rosser	207
	Balmoral	181

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

Out of 87 traps:

Three traps in the Northwest, two traps in the Central region, and one trap in the Southwest are in the uncertain risk range.

All other traps have cumulative counts in the low risk range.

So far no high populations of bertha armyworm larvae have been reported in Manitoba. Now is a good time to be looking for the larvae on the soil and under debris. Let us know if you are seeing any higher populations of larvae.

Identification Quiz:

Question: A lot of questions and photos have been sent in over the past week asking what are these “eggs” on the cereal heads. We had a similar photo in the July 3rd update, where a cluster of these was on a soybean leaf. Your clues – these are not eggs, and it is good when you see these in your fields.



Photo by Shelby orchard,
Manitoba Agriculture

Answer: Answer: These are pupal cases of a species of parasitic wasp called *Cotesia*. *Cotesia* will often lay dozens of eggs in its caterpillar host, and because the parasitoid larvae are all the same age they emerge from their host at the same time. They quite quickly form these clusters of pupal cases, often high on a plant. It seems like there were a lot of *Cotesia* parasitizing the armyworms, and possibly the thistle caterpillars previously.

Note the holes visible in a couple of these pupal cases. The adult wasps would have emerged from these pupal cases.

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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.