Manitoba Crop Pest Update
Issue 13: August 12, 2020

Manitoba Agriculture

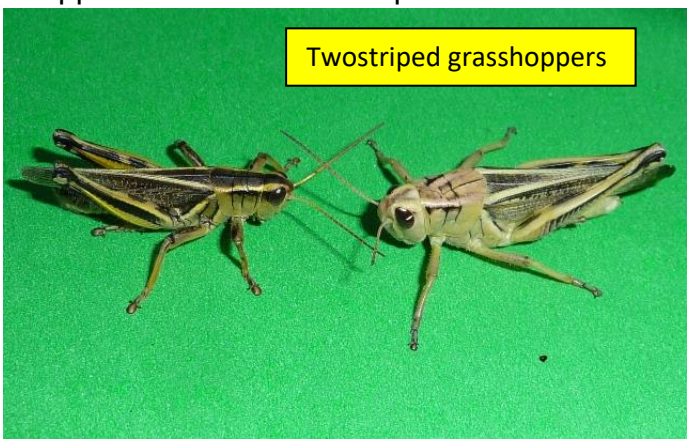
Summary

Insects: Grasshoppers continue to be the insect of greatest concern. The diamondback moth populations in eastern Manitoba that were of concern in some fields a couple of weeks ago seem to have diminished. Spider mites are being noticed in some soybean fields, but no insecticide applications for them have been reported yet.

Diseases: Surveys are in full swing - wheat and barley for Fusarium head blight and leaf diseases, and the broad disease survey of canola. A preliminary report is that only an occasional cereal field has shown low levels of Fusarium head blight (most have been sprayed with a fungicide). We're not far enough into canola to make a general statement but, so far, no major wrecks (and again most fields saw fungicide). Agronomists in the field report some white mould (Sclerotinia) in edible beans and other pulses, however, at the advanced stage of the crop, *no one should be considering fungicide*. We have passed the shortest pre-harvest interval and one would risk leaving chemical residues in the seed. Keep it clean.

Entomology

Grasshopper activity as crops mature: Different species of grasshoppers have different food preferences, and as crops mature late in the growing season, and ditches and forages are being cut, there can be a lot of grasshopper movement into crops that may not have been a first preference earlier in the year. There have been some reports of grasshoppers moving into canola, but in many of these cases distinct edge effects can be noticed. There have been reports of grasshoppers feeding on canola pods. Often this is more prevalent along a field margin and can look bad when you first enter the field. If it is not too difficult to walk into the field a ways, it is good to see how far the grasshopper feeding extends into the field. The same can apply to soybeans. If there are patches of weeds in the field, such as lambsquarters or redroot pigweed, some of these weeds may be preferred by grasshoppers over the crop. In these instances it is good to assess what the grasshoppers are feeding on in addition to grasshopper levels.



In our grasshopper survey, twostriped grasshopper appears to be one of more dominant grasshopper species noted so far. Note in the photo that there can be some colour variation in this species.

Spider mites: Spider mite populations are often higher when conditions have been hot and dry for a sustained period of time, and populations can change substantially after heavy rains. So it is not surprising that some are showing up with this drier weather.


Spider mites on soybeans

Spider mites are small (about 0.4 mm), so tapping the leaves over something that the mites can easily be seen on may help in determining their presence and levels. Tapping them onto a dark surface, such as a black piece of construction paper may make the mites easier to see. They will look like specks of dust that are moving.

The **stages** of soybeans that are most susceptible to spider mites are the R4 (full pod) through R5 (beginning seed – when seeds are filling) stages. Once the soybeans reach R6 (full seed or green bean stage) the feeding from spider mites will have less impact on yield.

Regarding **thresholds**, there are several suggested thresholds out there, and all are nominal thresholds. The following is what is used in some North Central U.S. States: Mite Threshold- Deciding whether to treat is difficult. Sample plants at least 100 feet into the field and walk in a “U” pattern sampling two plants per location at 20 different locations. A general action threshold is to treat when heavy stippling on lower leaves with some stippling progressing into middle canopy; mites present in middle canopy with scattered colonies in upper canopy; and lower leaf yellowing common. (Source: University of Minnesota, Ostlie & Potter).

Some moisture can help reduce spider mite levels. Mites are particularly susceptible to fungal pathogens that are favoured by moist conditions.

Farms needed for stored grain insect survey: Entomologists with Agriculture and Agri-Food Canada in Winnipeg are doing a survey in September of insects in farm grain bins. They are looking for 10 farms not too far from Winnipeg where they can access grain bins to sample insects. No grain will be removed, just insects. They will place two grain probe traps in as many bins as they are able to access, in all types of grain (cereals, pulses, etc.). They will also place a funnel trap and a bucket trap with pheromones outside, near the bins. They would place the traps after harvest sometime in September, and come retrieve them 2 weeks later. If you have or know of farms that may be willing to be involved in this insect survey, please contact John Gavloski at the contact information at the end of this update.

Forecasts

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 their 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. Trapping for adult moths is now complete.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba in 2020.

Region	Nearest Town	Trap Count
Northwest	Durban	477
	Bowsman	476
	Swan Valley	461
	Grandview	268
Southwest	Foxwarren	328
	Inglis	191
	Minto	157
	Souris	144
Central	Dunrea	485
	Kilarney	472
	Somerset	400
	Snowflake	296
Eastern	Tourond	182
	Stead	73
	Lac du Bonnet	49
	Ste. Anne	43
Interlake	Vidir	316
	Teulon	204
	Balmoral	154
	Clandeboye	138

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

Traps to monitor adult moths of bertha armyworm were set up at 83 locations in Manitoba. 75 traps were in the low risk category (less than 300 cumulative moth count), and 8 traps were in the uncertain risk category. No traps were in the moderate or high risk categories. Highest counts were in the Western part of the Central Region and the Northwest. The highest trap count was 485 near Dunrea in Central Manitoba.

Look for bertha armyworm larvae on the ground when out scouting canola. They are nocturnal, and most will be hiding on the ground under debris, or possibly in cracks in the soil. Note that there can be different colours of the larvae.

Larvae of bertha armyworm

Identification Quiz:

Question: The butterfly in the photo below was flying in my raspberry patch earlier in August. What species is it?

Answer: Certainly you don't think I would put in a photo of a monarch, that would be too easy. This is actually a mimic of the monarch called the viceroy butterfly. If the coloring of this butterfly has you confused, there are couple of things you can look for to help tell a viceroy (*Limenitus archippus*) from a monarch (*Danaus plexippus*). Viceroy butterflies are smaller than monarchs. If you look on the hind wings, the viceroy has a semi-circular black line on its hind wings, which monarchs do not have.

It was long believed that viceroys had adopted the colours of the monarch to avoid being eaten by predators. Birds avoid eating monarchs because they are toxic. Recent studies have shown the viceroy to be unpalatable as well. Both species contribute to each others' protection from birds.

Larvae of viceroy butterflies feed mainly on trees in the willow family, such as poplars, aspen, willow, and cottonwoods. This is also different from monarch larvae, which feed mainly on different types of milkweeds. Viceroy caterpillars get salicylic acid in their bodies from their food, which makes them bitter, and upsets predators' stomachs. As

further protection, the caterpillars, as well as their chrysalis stage, use another form of mimicry by resembling bird droppings.

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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.