

Manitoba Crop Pest Update

Issue 11: Aug 3, 2022

Summary

Insects: The insects of greatest concern currently are armyworms, aphids, and grasshoppers. Control of armyworms in cereals and forage grasses continues; some high levels of armyworm larvae have been reported from the Eastern, southern Interlake and Central regions. A couple of canola fields with high levels of bertha armyworm larvae were reported from the Eastern region.

Pea aphids are still being controlled in some pea fields. There is an isolated incident of soybean aphids reaching economic levels in a soybean field in the Eastern region. Control of aphids in oats and wheat has been reported over the past week from the Central region. Both oat-birdcherry aphid and English grain aphid are at noticeable levels in small grains in many areas. Grasshopper control continues in some areas.

Diseases: Plant Disease Surveys of our largest acreage field crops – canola, wheat and soybeans – have begun in areas where there was not too much of a delay in seeding timing. Canola is not quite ready for disease evaluation, especially as we attempt to capture the impact of one of our newer concerns, Verticillium Stripe. This disease appears later in the growing season and we are still coming to grips with its impact on yield. Other common canola diseases – Sclerotinia, Blackleg and Aster Yellows - are becoming evident already. In wheat, 10 days to 2 weeks following spraying time, infection with Fusarium Head Blight can readily be evaluated. To capture the effects of root rots as well as foliar and stem diseases, we survey soybeans between R4 and R5 stages. Thus far, I have seen one field with a low level of Phytophthora Root Rot. The two most common leaf diseases – Bacterial Blight and Septoria Brown Spot – are evident but at quite low levels.

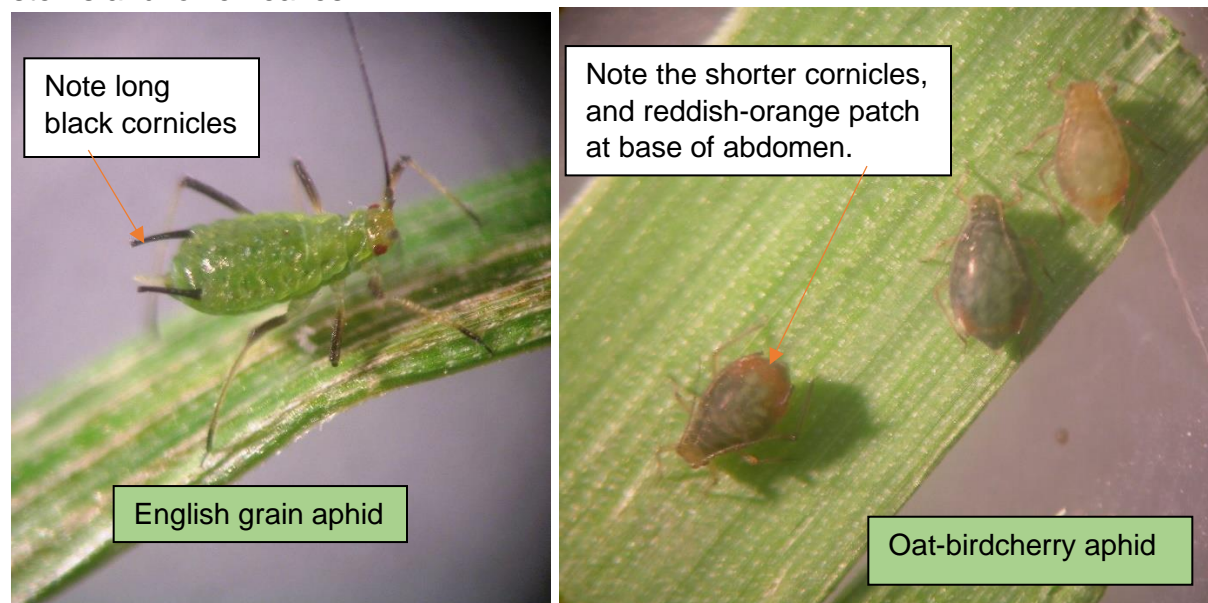
Weeds: Continued good temperatures and moisture over the past week saw lots of weed growth. As weeds start to poke out above the crop we can identify them and come up with an action plan to deal with them. Drowned out areas are drying up now and weeds can be taken care of so they don't go to seed. Weedy field edges can be mowed now to stop weed seed set and spread.

Entomology

Scouting for aphids in small grain cereals: Aphids are being found in many cereal fields, with the main species being oat-birdcherry aphid, *Rhopalosiphum padi*, and the English grain aphid, *Sitobion avenae*.

When scouting, one of your goals is to determine whether you are above the economic threshold of 12 to 15 aphids per stem on average, prior to the soft dough stage.

Depending on the species, where they are on the cereal plants may vary. English grain aphid is often on the heads and upper leaves. Oat-birdcherry aphid is usually on the stems and lower leaves.



Having something that you can shake some stems over is often helpful when estimating aphid levels. I have a white tray that I like to use, but even something like a piece of cardboard can be used to shake stems over to dislodge aphids. Look in the heads of the plants for English grain aphids that may be hidden.

Research on English grain aphid feeding on winter wheat found that there was a greater yield reduction for a given aphid density when plants were grown under severe water stress than nonstress conditions. The good soil moisture levels of this year could reduce the impact of the aphids on the crops.

More information on the biology, species identification, monitoring, thresholds and control options for aphids in cereals can be found in the factsheet “Aphids on Cereals”: <https://www.gov.mb.ca/agriculture/crops/insects/aphids-on-cereals.html>

Plant Pathology

Sclerotinia is a fungal pathogen that attacks several broadleaf crops and, this year, we might consider it a “returning concern.” Three to four consecutive years of dry weather have rendered Sclerotinia diseases nearly absent from crops like edible beans, sunflowers and canola. In fact, many growers had decided not to use fungicides in those dry conditions. Now that Manitoba seems to have returned to a wetter growing season, especially in canola, it appears that most fields are being sprayed.

Just today (August 2nd), we were in a canola field for a training exercise with our summer students. It had been sprayed at ideal timing. Nevertheless, in the 100 plants we collected from five sites, we found five plants with Sclerotinia stem rot. Of those, two

had lesions near the base, in which case the whole plant will die and shed its seeds prior to harvest. The others, with lesions in the upper part of the canopy, would only lose some of the branches, resulting in a partial yield loss.

Canola crops with a dense canopy, left without the protection of a fungicide, might see infection rates of 10 – 25% and subsequent yield losses of 5 – 13%. One might see a greater proportion of infected plants in low spots in a field and notice them because of the strong contrast of straw-colored plants with healthy green ones.



Stem rot in canola, contrast with healthy plants

upper stem lesion with developing sclerotium

basal stem rot infections – whole plant losses

Forecasts

Grasshopper Survey: A reminder for those participating in the grasshopper survey that counts are done during August, when the majority of grasshoppers are in the adult stage.

Agronomists and farmers who would also be interested in estimating grasshopper numbers in or around the fields they are in and have this information included in the survey are encouraged to see the survey protocol (at the link below) for more details of the survey and where to send data.

Estimates of grasshopper levels can be collected during regular farm visits. "Estimates" of grasshopper populations is stressed as it will not be possible to accurately count grasshoppers along a field edge or ditch area as they will be moving around as you get near the area of the count. But estimates of what is present gives us some idea of the relative numbers that are present in different areas.

Data from the survey, along with weather data during the egg laying period of the grasshoppers, will be used to produce a forecast for 2023.

The protocol and data sheet for the grasshopper survey is at:

<https://www.gov.mb.ca/agriculture/crops/insects/pubs/grasshopper-survey-protocol-2022.pdf>

Identification Quiz:

Question: The insect in the photo below was found on wheat. It has cornicles (a pair of tubes at the back of the abdomen) but does not look like any of the aphids featured earlier in this update. What is it?



Answer: This is a parasitized aphid, known as an aphid mummy. A wasp larva would be living inside it, and using this aphid as a home. The wasp larva is a tiny, white grub.

After a parasitic wasp emerges from an aphid mummy, you can see a hole where they emerged from. Something fun to watch for when scouting for aphids in cereals.

Parasitoids and other natural enemies are one of the reasons aphid populations may at times remain low and not build through the season.

The parasitic wasp of the aphid in this photo belongs to a group of wasps called Braconidae. There are several species in a genus called *Aphidius* that can be quite common and produces aphid mummies that look like this. There is another family of wasps called Aphelinidae that produces long black aphid mummies. The adults of these parasitic wasps feed on the nectar of flowers.

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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.