

Manitoba Crop Pest Update

Issue 9: July 15, 2020

Summary

Insects: Armyworms and grasshoppers continue to be the biggest insects concern on crops in Manitoba. Scouting for diamondback moth continues, with just one report of spraying for diamondback moth. Spraying for goosefoot groundling moth and a stem borer maggot has been reported from quinoa. Green cloverworm has been found on soybeans in eastern Manitoba, but not at levels that would be economical. Pupal clusters of *Cotesia*, a parasitoid of armyworms and other caterpillars, have been reported to be quite abundant in some of the fields that had armyworms (see the identification quiz in the July 8th update for a photo of these).

Weeds: A reminder that pre-harvest intervals begin to be a factor when looking at late herbicide applications to resolve some late flushing weeds. Keepingitclean.ca is a great resource, but the herbicide label is also a key place to check. Weed escapes may be an indication of herbicide resistance rather than an application issue, so take time to collect viable seed for testing.

Entomology

Grasshoppers: For those of you that have been doing our virtual Crop Diagnostic School, what species of grasshopper are these, and why is this important to know?



Grasshoppers – from near
Gunton, MB – July 8, 2020
Photo – Darren Bond

Although the grasshoppers have 2 stripes that run down the thorax and wings, this is not the two-striped grasshopper, which is the dominant grasshopper species in many areas this year. Note how the wings are mottled with dark patches. This is the clearwinged grasshopper (*Camnula pellucida*). This is one of our potential pest species, but is not quite the generalist like most of the other potential pest species.

Note also that these are all adults in the photo, whereas the two-striped grasshoppers we are finding in a lot of areas are still mainly nymphs. Clearwinged grasshopper is an early-hatching species and the nymphs of clearwinged grasshopper develop faster than those of two-striped grasshopper. Clearwinged grasshopper is primarily a grass feeder and seldom feeds on broad-leaved plants. In areas where they are the dominant species, adults will become the dominant stage quicker, and cereals and forage grasses would need to be monitored carefully.

Wheat stem maggot: Some have been noting a few white wheat heads in their fields. There are many potential causes of white heads in cereal crops, one being wheat stem maggot. If wheat stem maggot is the culprit the head will pull out with a gentle tug, and usually there is evidence of insect damage (chewing) on the stem above the top node. Plant material below where the stem was severed will still be green. There is nothing you can do when you see these white heads. Insecticide applications are not an option for wheat stem maggot. Yield losses are usually not great, but because the white heads are so visible it can often look concerning yet represent only a very small yield loss.



Photo by Cameron Hildebrand – H & M Farms

Weeds

Wild oats



The Resistant Wild Oat Action Committee has released an infographic on HR wild oat across the prairies which can be found on the Canadian Weed Science Society website at: <https://weedsociety.ca/wild-oat-action-committee/>. While 69% of wild oat samples across the Prairies have some level of herbicide resistance, Manitoba has lead the way in HR wild oat levels with 79% of samples being resistant to at least one herbicide group. In-crop options become very limited in a barley or wheat field when there is Group 1 and 2 resistance. Testing is important, to give an idea of where resistance levels are, and what herbicide options may still be useful as an integrated weed management strategy.

The wild oats in these pictures were an obvious spray miss at the edge of a field, but we are already seeing irregular patches “cropping up” in fields. The next step is sampling. Wild oat seeds drop as they ripen over an extended period, so there is not a perfect date for sampling. It’s estimated that in cereals, about 65% of wild oat seeds are shed in the field before harvest and another 20% are dropped during the harvesting process. Shockingly only 7.5% remain in the harvested grain (I’ve seen some pretty polluted grain samples so that surprised me) and the rest is found in the chaff and straw.

Its probably too early to be collecting weed seed for resistance testing



Sampling seed from the field is the best way to collect viable seed (For example, I like to run a sweep net through a patch of wild oat to catch mature seeds, but I sample kochia after harvest by stripping seeds off the branches into a pail). Weed seeds collected from the grain sample are usually less viable, for instance with wild oat if the growing point is mechanically damaged or the seed coat is cracked on several other seeds. Charles Geddes has determined that kochia seed is usually not viable until at least the middle of August, based on data from Lethbridge, so seed collection will not likely be successful before harvest with that weed. Knowing the seed color of mature weeds is a good way to assess if it’s a suitable time to collect. It’s not likely too much of a surprise that many weeds, including

wild oat, will have seeds mature over a fairly lengthy time period – it’s a survival mechanism.

Volunteer canola in soybeans

About this time of year soybeans are knee high and flowering. In one call to Lionel Kaskiw this week, there was a field with canola plants in the 2 to 3 leaf stage with

probably 5 to 6 plants per square foot. This problem has a solution – there are herbicides that are effective on volunteer RR canola at this stage, that are also labelled for use on soybeans – bentazon is one option that comes to mind. What about Reflex or Flexstar? NO because besides the crop staging not being right, the current label is for use in the Red River Valley of Manitoba, and the field was not located in that area. Imazethapyr (*Pursuit, Phantom, Guardsman Gladiator or MPower Kamikaze*) – NO because of crop staging but also consider that the **PHI** for soybeans is 85 days – when would those beans be ready to harvest? If it's non-RR canola, then the glyphosate option is there as well.

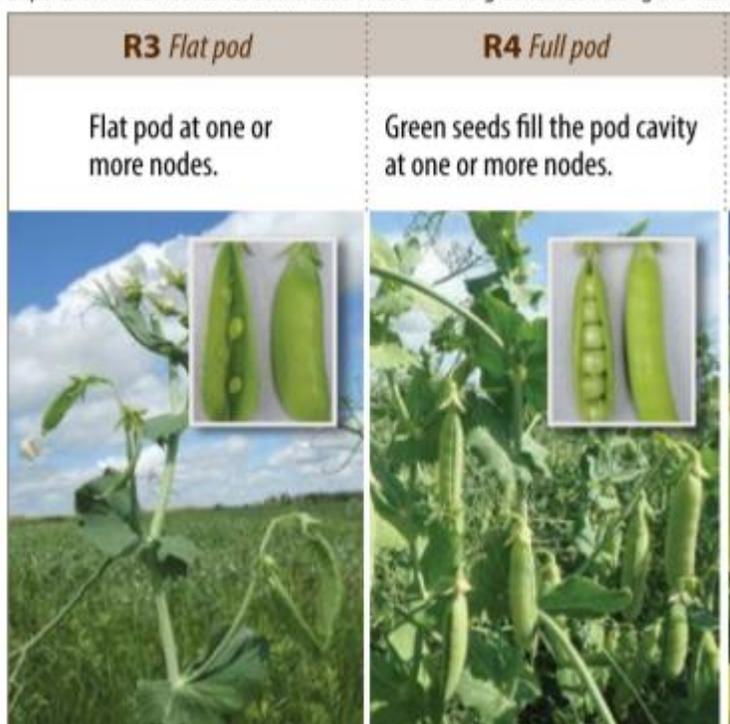
The reason it makes sense to control that small volunteer canola – the damage is still to be done, there hasn't been a lot of competition from it and so there is still some potential yield loss. There is also a reasonable expectation that the canola be controlled at this stage. Blooming canola is a lot more challenging to knock down and the competition for nutrients and water has been happening for a much longer time, so yield loss has probably already happened – the economics are not the same.

Plant Pathology

Growers looking to spray a late first pass of fungicide on their peas for **Mycosphaerella blight** or a second pass, need to keep the following in mind. It is important to know what growth stage your peas are at. Manitoba Pulse and Soybean Growers have a great staging guide that will help you in this decision making process.
<https://www.manitobapulse.ca/2018/10/field-pea-growth-staging-guide/>

If your peas are at the **R3 growth stage** or earlier then you are still outside the pre-harvest interval. At the stage the pods are still flat. Then spraying is warranted if disease and weather conditions are favorable for disease development.

If your pods are at the R4 growth stage, which means that green seeds fill the pod cavity, then spraying is not recommended for two reasons. Number one is that you are **within the pre-harvest interval of 30 days for a number of fungicide products**; and two, at this stage even if disease does set in it generally does not effect the yields of the peas in the same way as if the disease moved in at early R2- R3 Growth Stage. In some instances if it moves in late it can actually help with the drydown of the peas.



From MPSG Field Pea growth stage guide

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.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of July 14, 2020

Region	Nearest Town	Trap Count
Northwest	Bowsman	283
	Durban	270
	Grandview	217
	Benito	161
Southwest	Foxwarren	200
	Minto	85
	Elton	85
	Inglis	74
Central	Dunrea	392
	Kilarney	292

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

	Somerset	191
	Snowflake	174
Eastern	Tourond	173
	Stead	52
	Lac du Bonnet	46
	Beausejour	22
Interlake	Vidir	193
	Teulon	155
	Balmoral	129
	Gunton	77

The highest trap count is 392 near Dunrea in Central Manitoba. This is in the uncertain risk category. All other traps are in the low risk category.

Identification Quiz:

Question: The insects in the photo below were found on barley. A video was also sent in this week showing a very large number of these on the ground clustered where canola seeds had been spilled last year. What are they, and should the grower be concerned.



Photo from Daniel Blerot

Answer: This is false chinch bug, *Nysius raphanus*. They feed on the sap of plants and seeds. Damage to crop plants is rarely economical.

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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.