

Manitoba Crop Pest Update

Issue 13: August 4, 2021

Summary

Insects: Grasshopper populations are still of concern in some areas. Grasshoppers will move as crops mature and become less appealing, or are cut. Spider mites have become noticeable in some soybean fields. The late-season population of flea beetles is present in canola, with high levels reported in some fields. There are reports of canola being sprayed for these late-season flea beetles in the Eastern and Southwest regions. Some thistle caterpillar reported on soybeans in the Southwest, but not economic populations.

Weeds: Combining has begun in winter cereal peas, with spring cereals following soon. Many fields have weeds poking up above the crop, if you suspect herbicide resistance now is the time to act. Weeds or weed seeds should be gathered before harvest and sent for resistance testing to determine future weed control strategies.

Entomology

Flea Beetles on Podded Canola: Late-season flea beetles can commonly be seen on canola, and will do some feeding. Generally this is not going to be economical to control, although there can be exceptions.

Regarding flea beetles in canola late in the summer, a study was done at Agriculture and Agri-Food Canada in Saskatoon to determine how economical they are. The study concluded that: Flea beetle feeding on canola in late-summer is rarely an economic concern. Flea beetle feeding that occurs when seeds in lower pods of canola are at the green stage or beyond is unlikely to affect seed yields regardless of the infestation rate of flea beetles. Even when seeds are translucent to green, numbers higher than 100 flea beetles per plant, and for some cultivars higher than 350 per plant, may be necessary to cause significant yield reductions



(Soroka and Grenkow. Can. J. Plant Sci. 2012: 97-107).

Canola can withstand high levels of flea beetles late in the season, so a bit of feeding on pods is tolerable. But we have seen situations where there was a lot of damage occurring on pods. It is good to keep an eye on how much feeding is occurring to pods, and if it is severe there may be instances where control is needed. Sometimes the flea beetles are doing more damage along a particular edge or part of the field.

Once the canola becomes less palatable for the flea beetles or is being cut, these species of flea beetles will be on the move looking for other cruciferous host plants to feed on, including cruciferous garden vegetables and flowers, and can be hard to manage.

Spider mites on soybeans: 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 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.



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 was suggested in 2017 in one of the North Dakota Crop and Pest Reports (July 13, 2017):

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).

Regarding **insecticides**, dimethoate (Cygon, Lagon) is the only insecticide registered for spider mites in soybeans. It has a 30 day preharvest interval.

Weeds

Weed Resistance: Wild oat and green foxtail seed can be gathered just before the crop is harvested for herbicide resistance testing. The seed is grown out, and the plants are sprayed with the herbicides that you want tested. If you suspect there are different populations within a field that may be resistant to different herbicides, you should sample them separately and have them tested as separate groups. Using a sweep net (works well for wild oats - it's not just for insects!) or stripping the seeds by hand, collect clean and mature seed. Collect at least 2000 seeds (1-2 L of seed if wild oats) per group of suspected resistant plants that you want tested. Store and ship them in a paper bag and make sure they are dry, so they arrive in good shape for testing! Do not sample from fields that were sprayed with glyphosate for preharvest weed control, this may affect germination if the weed seeds were not mature when the glyphosate was applied. There are three labs in Western Canada that test for resistance in weed seed: Crop Protection Lab in Regina, SK, Ag-Quest in Minto, MB and Prairie Resistance Research Lab in Lethbridge, AB. Here is a link with the testing services they offer, fees for service, and their address and contact information: [Infographic-3.jpg \(800x1428\) \(secureservercdn.net\)](#).

Kochia can be tested for glyphosate resistance at the Pest Surveillance Initiative Lab in Winnipeg, but must be live tissue, not seeds. Manitoba Canola Growers Association members receive one free sample, check out the PSI website for more info: [Pest Surveillance Initiative \(PSI\) \(mbpestlab.ca\)](#).

Forecasts

Bertha Armyworm (*Mamestra configurata*). 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. Traps are set up at 99 locations in Manitoba. 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. The trapping period is now done and the final data from some sites is arriving. All the cumulative counts in Manitoba remained in the low risk category. The highest cumulative trap count was 270 near Snowflake in Central Manitoba.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of August 4, 2021.

Region	Nearest Town	Trap Count
Northwest	Makaroff	135
	Swan River	74
	Grandview	59
	Russell	56

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

Southwest	Boissevain	142
	Decker	108
	Foxwarren	99
	Inglis	84
Central	Snowflake	270
	Darlingford	144
	Pilot Mound	73
	Somerset	49
Eastern	Ste. Anne	42
	River Hills	24
	Stead	18
	Beausejour, Tourond	16
Interlake	Warren	24
	Vidir	22
	Arborg	21
	Grosse Isle	16

← Highest cumulative count

Highest counts from bertha armyworm traps 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/bertha-armyworm-forecast.html>

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 2022.

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

<https://www.gov.mb.ca/agriculture/crops/insects/pubs/grasshopper-survey-protocol-2021.pdf>

Identification Quiz:

Question: The small beetle in the photo below was found on soybeans, along with some tiny holes. What is this beetle?



Hint 1: Note that the upper part of the back legs are a bit swollen, like a flea beetle.

Hint 2: The head has a reddish tint, which stands out on their otherwise shiny black bodies.

Answer:

This is the redheaded flea beetle (*Systema frontalis*).

In soybeans, redheaded flea beetle feeding appears as tiny holes. Sometimes the holes can be connect into a network, making that part of the leaf appear skeletonized.

Redheaded flea beetle feeds on over 40 different host plants including corn, beans, potatoes, alfalfa, cabbage, beets and many weed species. The lifecycle is a little different from the flea beetles people are more familiar with in canola. It overwinters in the egg stage in the soil. Eggs hatch in June and larvae feed on the roots. Larvae pupate and then adults emerge in July-August and feed on foliage until September. Adults deposit eggs in soil, which overwinter.

This feeding only warrants control should it reach the defoliation thresholds for soybeans, which are quite high. In Manitoba redheaded flea beetle is more of an interesting observation, and it would be rare for it to reach economic levels.

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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.