

Manitoba Crop Pest Update

Issue 5: June 9, 2021



Summary

Insects: Foliar insecticide applications for flea beetles in canola are widespread, with multiple foliar applications having occurred in some fields. There are reports of reseeded of canola because of flea beetle injury, or flea beetles combined with other stresses, from the Eastern, Northwest and Southwest regions. Grasshopper emergence is well underway. There have been some insecticide applications to field edges and pastures for grasshoppers. Some damage from cutworms was reported this week from the Interlake, Central, Northwest and Southwest regions. Overall, cutworm damage is less than over the past couple of years. Wireworms causing thinning in wheat was reported from the Central region, and a field of corn in the Eastern region is planned to be reseeded because of wireworm injury.

Diseases: Much of Manitoba just received a welcome shot of precipitation. This elevates the risk of early season blackleg infection, among other seedling diseases. We will focus on blackleg management options this week.

Weeds: Last week was tough slugging as far as herbicide spraying went. Temperatures were very high, relative humidity was very low, and as a result some crop damage was observed. In most cases crops will recover, they have just been set back a bit. We need to evaluate how well weed control worked, this is the time to start looking as damage should start to be visible.

Entomology

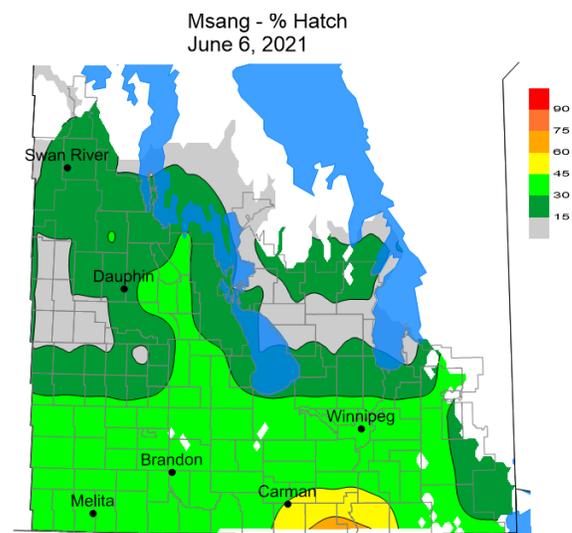
Can reduced tillage result in less flea beetle injury? Someone had noted this week how canola seeded into a rye cover crop (which had been terminated) was hardly touched by flea beetles, compared to that in tilled fields. Although there has not been research specifically addressing cover crops and flea beetle injury, there has been several studies comparing flea beetle injury in zero-till vs. conventional till. There is data documenting less flea beetle feeding on canola in zero-tillage compared to conventional tillage from Canada (Dosdall et al. Crop Protection. 1999. 217-224), the U.S. (Milbrath et al. Can. Ent. 1995. 289-293) and Sweden (Lundin et al. Agriculture Ecosystems and Environment. 2019. 1-5).

Although not a strategy that will eliminate damage, zero-tillage may reduce it to some degree. Milbrath et al. states "the greater structural diversity of the no-till plots might be interfering with host plant location."

When direct seeding into standing stubble, plants are provided a micro-climate that offers moist soil conditions (favouring rapid germination). Flea beetles have a preference for environments that are exposed to bright sunlight and are relatively warm. Direct seeding provides a micro-climate which is less ideal for flea beetles. This seeding method may help produce large plants early, especially in a dry year like the spring of 2021.

Grasshopper development: Model simulations, run by AAFC in Saskatoon, were used to estimate grasshopper development as of June 6, 2021. Average development of eggs is well ahead of the long term average values. Last week's warm conditions across southern Manitoba have been responsible for advanced development of eggs across southern Manitoba. Egg development is predicted to exceed 90% across most of the southern prairies. As of June 6, hatch was predicted to be 30-45% complete across southern Manitoba. The model was projected to June 22 to determine potential development near Brandon over the next two weeks. Results suggest that by June 22, Brandon populations will primarily be in the third instar, with first appearance of fourth instars.

Predicted grasshopper (*Melanoplus sanguinipes*) hatch (%) across the Canadian prairies as of June 6, 2021.



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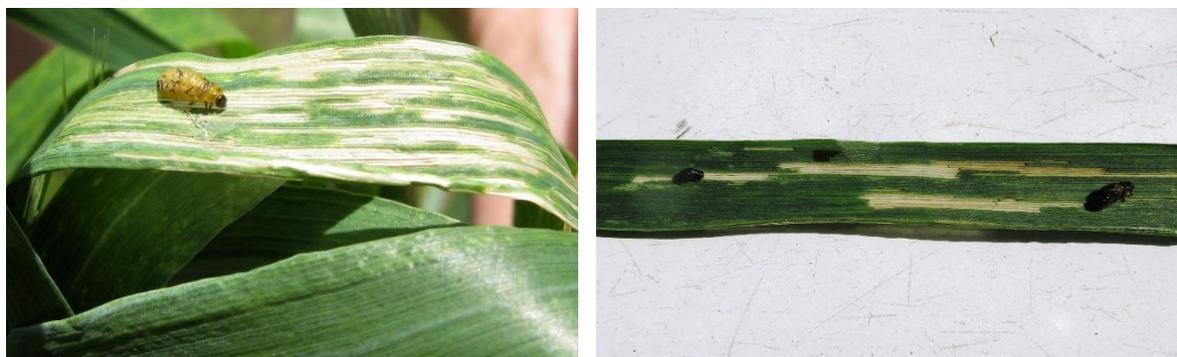
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Weiss and Vankosky (AAFC) 2021

Note when interpreting this map that the model was run on the migratory grasshopper, *Melanoplus sanguinipes*. At some sites that we have collected grasshoppers from this year, clearwinged grasshopper nymphs were quite abundant. They tend to hatch earlier than migratory grasshopper. The dominant species of grasshopper in an area may affect how accurately the model estimates grasshopper emergence. Clearwinged grasshopper is primarily a grass feeder, and rarely feeds on broad-leaved plants.

Fields with Cereal Leaf Beetles Needed: We are once again trying to track down cereal fields with cereal leaf beetle to collect samples to assess levels of parasitism. If you notice cereal leaf beetle will in a field, please either collect a sample if you have a container with you, or contact John Gavloski at the contact information at the end of this report. The photos below show what cereal leaf beetle larvae look like, and their feeding injury.



The larvae often have fecal shields on their backs (as shown on the photo on the right), and are small (about 4-5 mm when fully grown). They can easily be confused for dirt or debris on the leaves.

Plant Pathology

Does Canola need to be protected from Blackleg ... if it has survived the flea beetles.

Some producers, knowing they are tightening their canola rotation, have begun to use a foliar fungicide at early herbicide timing to limit the impact of blackleg. Is this warranted and, if so, what is registered? Further, how do we guard against selecting for resistance of the pathogen to fungicides.

Here’s a quick list of trade names, and the active ingredients:

resistance risk	trade name(s)	Group 3	Group 7	Group 11
High	Headline			pyraclostrobin
High	Quadris, Azoshy			azoxystrobin
Medium	Tilt, Bumper, Fitness, Pivot, Propel, Propi Super	propiconazole		
Lower	Quilt, Fungtion	propiconazole		azoxystrobin
Lower	Priaxor		fluxapyroxad	pyraclostrobin
Lower	Nexicor	propiconazole	fluxapyroxad	pyraclostrobin

Foliar fungicides in Fungicide Resistance Group 11 (strobilurins), have the highest risk of reduced efficacy from overuse. Next are Group 3 products (triazoles); they have a moderate probability of the fungus (*Leptosphaeria maculans*) that causes blackleg developing resistance. Fungicides that combine two or more modes of action are less likely to select for resistance.

But should you be using these product preventatively? Or, if you are, what are the things to watch out for? Here are four situations where a fungicide may be warranted:

- Tight rotation – growing canola on the same field more than once in three years.
- Carryover seed, stored in less than optimal condition – seed treatment that protects early seedlings from blackleg may be less effective. And, as with seed treatment insecticides that ward off hungry flea beetles ... the longer the plant takes to emerge after seeding, the less protectant remains to prevent blackleg infection.
- Unknown blackleg resistance in the cultivar being grown. Most available canola varieties are R-rated (the best available) but the more often you grow canola, the more you could encounter new pathotypes that overcome resistance. If you see blackleg later in the season, take the initiative to get your crop tested for blackleg resistance (PSI Labs).
- Flea beetles and other injuries open up damaged areas on the leaves that can serve as easy points of entry for the fungus.

The Canola Council of Canada has an excellent resource in its Canola Encyclopedia (online). The document on blackleg – life cycle, diagnosis and management – has all you need to guide your spray decision. The critical window for blackleg infection from infected stubble, is from cotyledon to smaller rosette (0 – 6 leaf).

One final note – if you are tank-mixing fungicides with herbicides, be certain that they are both physically compatible **and** supported by the registrants of both products. Check in the [2021 Guide to Field Crop Protection](#). One wants to be sure that they will not reduce the effectiveness of either – herbicide or fungicide, but especially herbicide.

Weeds

Post weed control scouting should start soon after spraying, depending on the herbicide. Given the extreme conditions last week weed control may be less effective, as weeds had been hardened off by frost, wind, heat and drought. Evaluating how well the weed control worked will help plan for subsequent sprays this year (if possible) and in that field and crop next year. Recent rains have benefited crop growth and expect weeds to really start growing now. Watch crop staging guidelines, we may be nearing the end of labeled crop stage, despite crops being smaller or shorter in stature. That's due to the extreme conditions they been growing under. Even though growing conditions have improved with the very recent rains, it's always a good idea to use the maximum water volumes on the label. More water equals better coverage equals better crop safety and weed control.

Weed ID

Tough to identify grasses when they're just coming up, here's some pics. Bigger than last week, but still impossible to tell from the first picture. Is it barnyard grass? Green foxtail?? Yellow Foxtail??? Dig it up, look at the seed (if its there), bend the top leaf back and look for a ligule and/or auricles.



Pulling that top leaf back shows no auricle, no ligule, just shiny inside. That tells me this is barnyard grass, and seeing the seed covered with short, stiff hairs and an awn confirms that.

Forecasts

Diamondback moth. A network of pheromone-baited traps are monitored across the Canadian prairie provinces in May and June to determine how early and in what levels populations of diamondback moth arrive. So far counts have generally been low, with a few moderate counts in the Eastern region.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 9, 2021.

Region	Nearest Town	Trap Count
Northwest	Makaroff	22
	Grandview	16
	Grandview	13
	The Pas, Shortdale	8
Southwest	Minto	22
	Minto / Boissevain	8
	Fairfax	6
	Brandon	3
Central	Austin	7
	Edwin	5
	Starbuck	4
	Altona	2

Eastern	Stead	51
	Beausejour	42
	Hadashville	20
	River Hills	19
Interlake	Selkirk	5
	Teulon, Stonewall	2
	Warren, Arborg	2
	Grosse Isle, Warren	2

← Highest cumulative count

Highest counts 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/diamondback-moth-forecast.html>

Armyworms (*Mythimna unipuncta*). As a new monitoring program this year in Manitoba, a network of 29 pheromone-baited traps are being monitored from early-May until mid-July to determine how early and in what levels populations of armyworms have arrive. So far counts have been quite low.

Table 2. Highest cumulative counts of armyworms in pheromone-baited traps for five agricultural regions in Manitoba as of June 9, 2021.

Region	Nearest Town	Trap Count
Northwest	0 in all traps so far	
Southwest	Boissevain	4
	Fairfax	3
	Minto	2
	Elgin	1
	Remaining 6 traps in southwest all reporting 0	
Central	Kane	1
	Glenboro	1
	Remaining 5 traps all reporting 0	
Eastern	Lac du Bonnet	4
	Beausejour	1
Interlake	Gimli	0

A map showing armyworm counts from Manitoba, Eastern Canada, and several Northeast U.S. states is available at: <https://arcg.is/0Lry5a>. Go to the link "TAW". Those within the Manitoba government wanting to access this website, you may have to do it from your phones, as we seem to be blocked from accessing it on our computers.

Identification Quiz:

Question: The beetle in this photo was caught in a pitfall trap at the edge of a pea field near Carman. What is the beetle in this photo, and what does it feed on?



Hint - Note the large mandibles on this beetle, like a saber-toothed ??????

Answer: This is a species of tiger beetle, called the oblique-lined tiger beetle. Tiger beetles are a subfamily (Cicindelinae) within a large group of beetles called ground beetles. Tiger beetles are predators as both adults and larvae. Adults often have large bulging eyes, long, slender legs and large curved mandibles. They can move extremely quick. They run down their prey, and are also extremely fast fliers. The S-shaped larvae construct vertical burrows in the soil and anchor themselves with hooks.

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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.