Manitoba Crop Pest Update
Issue 3: June 5, 2019

Manitoba Agriculture

Summary

Insects: Flea beetles and cutworms are the main insects of concern. There has been significant foliar insect applications and reseeding of canola because of flea beetles, or a combination of flea beetles and other stresses. Grasshopper egg hatch is starting.

Diseases: Due to persistent dry conditions, evidence of pathogenic disease in field crops is minimal. There was one report of wirestem – usual culprit the root pathogen *Rhizoctonia* – in canola that was planted on soybean stubble.

Weeds: The continuing saga of a lack of moisture and an abundance of heat, crops are slow to grow, weeds are slow to emerge too unless they are perennials or winter annuals.

Entomology

Flea Beetles: There continues to be a lot of foliar insecticide applications and reseeding because of flea beetle feeding. Some questions from the past week and reminders:

- When will the feeding slow or end? Flea beetles populations gradually die out over June and will be very low by the end of the month. Unfortunately we probably have another one to two weeks until this is very noticeable, given the very high populations this year. All the adult flea beetles you see now are what was produced last year (no new adults have been produced this spring). Once this current batch of adults dies out it will be late-July or August until we have new adult flea beetles.
- How advanced does the canola need to be to adequately compensate for flea beetle feeding? Once canola reaches the 3 to 4 leaf stage it should be able to compensate for further feeding.

Photo from Tammy Jones, Manitoba Agriculture

Cutworms: Cutworm levels remain high, and have been causing concern in several crops. Over the past week, control or reseeding from cutworm feeding was reported in oats, corn, sunflowers, canola, soybeans, peas and faba beans.

How long until the cutworms are done? This is a tricky question, as there are different species of cutworms. Most dingy cutworms seem to be quite big. Based on photos and samples I've seen over the past week the redbacked cutworm population seems quite variable. A general guideline is that if most cutworms are an inch long or more (when stretched out) they will be completing their cycle soon. It may be more economical to wait for them to pupate in these situations, except in extreme situations where populations are well above threshold. If the cutworms are above the threshold and most are still less than an inch, however, this is where control with an insecticide can be economical. In the photo to the right, the redbacked cutworm larva is in the middle, on either end is a cutworm pupa. Economic thresholds for cutworms can be found at: https://www.gov.mb.ca/agriculture/crops/insects/cutworms-field-crops.html

Grasshoppers: Egg hatch for the potential pest species of grasshoppers has begun. So it is good to start checking field edges, ditches, and fields that had lots of green vegetation late last year (such as soybean fields, etc).

We are in the early stages of egg hatch, which can spread over a few weeks. By the end of June most egg hatch should be done. So if you see building populations of grasshoppers, here are a few things to consider:

- Stage of the grasshopper. When they first hatch they are about the size of a wheat kernel. They won't be adults, and able to fly, until sometime in July. So early populations will not be moving too far from where they hatched.
- Are they feeding on the crop? If high populations are noted, but these early populations are mainly in a ditch or field edge and doing minimal crop damage, it may be best to wait before trying to control them. More egg hatch is yet to come. Do keep an eye on the edge rows and how severe feeding from the grasshoppers is. There may be instances where control is desired. But holding off until hatch is closer to complete is desirable if practical.

Control options and tips:

- There are both foliar sprays (from 4 insecticide groups) and bran baits containing an attractant (Eco Bran) available for grasshopper control in field crops. Either can work well.
- For a lot of the foliar insecticides as well as Eco Bran, lower rates can be used for nymphs than adults.
- If using a foliar insecticide for early populations, consider using a product that may have a longer residual to get some of the later hatch.

Plant Pathology

Canola seedlings showing wirestem, *Rhizoctonia solani*

Photo credit: Randy Tully with Chappell Ag Ventures

Weeds

How thick is a thick patch of weeds?
While this is an extreme, it is important to know plant density when making decisions about spray volume and application rates. I noticed this patch of oak-leaved goosefoot and was curious on the plant density, so I grabbed a small handful (the small circle area in this patch). How accurate is you assessment on how many plants are in that clump?

Answer: **167 plants**. This patch is likely due to one or two plants that were not controlled the year previous, demonstrating how weed populations can explode.

I have received a number of questions about identifying nightshade species. This seedling is hairy nightshade, the cotyledons finish in a point and there are hairs present (see the Table below).

Nightshade Seedlings – eastern black or hairy

Eastern black nightshade	Hairy nightshade
• Seedling with stem • Leaves alternate • Cotyledons oblong to elongated, 10- 15 mm (2/5- 3/5 in.) long • Underside often purplish	• Seedling with stem • Leaves alternate • Cotyledons oblong to elongated, finishing in a point, 10- 15 mm (2/5- 3/5 in.) long • Presence of hairs

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Forecasts

Entomology:

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.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 5, 2019.

Region	Nearest Town	Trap Count
Northwest	Bowsman	98
	Dauphin	26
Southwest	Brookdale	12
	Justice, Carberry	8
Central	Roland	27
	Elm Creek	22
Eastern	Steinbach	73
	Tourond	31
Interlake	Teulon	33
	Gimli	11

Delta Trap baited for diamondback moth

Diamondback moth levels are generally still low, however a couple of traps in the Northwest and Eastern region have some higher numbers. The 98 from Bowsman were all caught over the past week.

Plant Pathology: Although fall rye has begun to head, the few fields of winter wheat that we have seen are still about a week away from heading. Until significant rainfall begins do drive up humidity, the risk of FHB infection remains very low.

Weeds:

What happens when plants are moisture/heat stressed?

Crop injury and decreased weed control are both possible in dry and hot conditions. Plants may develop a thick wax layer on the leaf surface (lamb's quarters is the prime example) which is a barrier to herbicide absorption. Moistures stress will also result in smaller leaves and shorter stems, which means smaller targets to aim for with herbicide.

This 8-leaf lamb's quarters plant is only 3 inches tall, showing shortened internodes due to lack of moisture.

To minimize water loss, plant leaves will curl/roll or wilt, becoming a smaller target for herbicides to hit.

The first goal in timing a spray application is to avoid the heat of the day. When plants are stressed, plant leaves reduce overheating and excessive water loss by curling/rolling (for example, corn) or by wilting (angling their leaves to hang vertically) which reduces the surface area exposed to the hot sun and also reducing herbicide interception.

The best time of day to apply a particular herbicide also depends on how that herbicide works. Systemic herbicides should be applied early in the morning, after plants have recovered from the heat of the previous day. Contact herbicides are best applied in the evening after the temperature has decreased and when there will be several hours of moderate temperatures for the herbicide to take effect.

.Identification Quiz:

Question: This beetle was found in our canola plots at the University of Manitoba research farm. What is it? What does it feed on?

Answer: This is a ground beetle. There are 376 species of ground beetles in Manitoba, and this group is considered beneficial, as they can be valuable predators. This larger ground beetle belongs to a genus called *Calosoma*. Some Calosoma are referred to as caterpillar hunters, because one of their preferred foods is caterpillars.

Photo from Shelby Orchard, Manitoba Agriculture

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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.