Manitoba Crop Pest Update
Issue 1: May 22, 2019

Manitoba Agriculture

Summary

Insects: Crucifer-feeding flea beetle have been emerging. Striped flea beetle is currently the dominant species. No reports of economic damage to canola currently. Some cutworms being noticed, but not at economic levels.

Diseases: Last week saw some major fluctuations in temperature from a high in the upper 20s on Monday to a low of -3C on Friday morning. In cereal crops with scant trash cover, cereal banding was evident. Pictures and explanation of this abiotic phenomenon are provided below.

Weeds: A dry layer of topsoil has slowed germination of some weeds, but not stopped perennials and winter annuals from flourishing. Growers who have skipped a pre-seed herbicide application will need to be vigilant on weed staging to ensure herbicides are applied at an effective time.

Entomology

Pea Leaf Weevil Feeding Survey

Pea leaf weevil, *Sitona lineatus*, has never been found in Manitoba. But surveys for this insect in Saskatchewan have found it not far from Manitoba. So for those scouting pea or faba bean fields, it would be helpful if you could be looking for notching on the young leaves (as shown in figure 1).

Figure 1. Feeding from pea leaf weevil
Photos from Henri Goulet, AAFC Ottawa

Figure 2. Adult pea leaf weevil

If notching is seen, it does not mean we have pea leaf weevil, as there are other closely related weevils that we have in Manitoba that can do similar notching. It would suggest that we need to look for the weevils. We have pheromone traps at the ready should we find any fields that have the feeding typical of pea leaf weevil. So your observations can help us target out trap placement should such feeding be noticed. The adult feeding is not an economic issue for pea leaf weevil. The larvae feed on the nitrogen-fixing nodules on the roots. When there is lots of feeding from the larvae, the plants can't fix as much nitrogen.

Plant Pathology

Cereal Banding

Have you ever been scouting a recently emerged cereal crop and found repeating bands of color across an otherwise green and healthy leaf? This "rugby-stocking" effect is caused by the drastic fluctuations of temperature that commonly occur right at the soil surface, especially in a low-residue situation.

These oat plants, with only one leaf expanded beyond the coleoptilar sheath, are exhibiting **heat banding**, usually evident as yellow bands. The injury usually occurs in mid-afternoon when temperatures peak. The leaf continues to lengthen as the temperature drops, thus the green bands are wider.

Figure 3. Heat banding (Photo credit: Jason Voogt)

Another variant, seen here in wheat, is **cold banding**, which is more likely to result in a reddish or purple band. In either case, where the temperature fluctuation is extreme, the bands may become necrotic (tan-brown and dead).

Fortunately, there are no long-term consequences for the seedlings' survival. At this point, the growing point is protected within the coleoptile and new leaves will emerge normally.

It is both a transient phenomenon and one that doesn't occur every year, so those new to crop scouting may not have encountered cereal banding before. Just another one to file for future reference.

Figures 4 and 5. Cold banding

Weeds

Critical Weed Free Period

Without a pre-seed herbicide, this crop of wheat is rapidly losing yield potential due to weeds.

Different crops have different critical weed free periods. During this time, it is important to minimize weed competition to maximize yield potential and minimize use of soil moisture and nutrients. As well, smaller weeds are usually easier to kill (just not too small). If a herbicide application is not done prior to crop emergence, the crop is in a significant yield loss situation. In-crop weed control needs to occur as soon as possible. The longer the weeds persist from the point of emergence until they are dead, the greater the yield loss. The larger the weed at the time of crop emergence, the greater the speed at which yield is lost following emergence.

CROP	CRITICAL WEED FREE PERIOD
Spring wheat	1 to 3 leaf stage
Canola	2 to 4-6 leaf stage
Soybean	Emergence to 3rd trifoliate leaf
Corn	3 to 10 leaf stage

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. So far there have been no high counts in the traps in Manitoba, and no counts have gone above 10 in the western regions of Manitoba.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of May 22, 2019.

Region	Nearest Town	Trap Count
Northwest	The Pas	6
	The Pas	7
Southwest	Rosedale	2
		0

Delta Trap baited for diamondback moth

Central	Elm Creek	21
	Roland, Oakville	5
Eastern	Tourond	4
	Steinbach	25
Interlake	Teulon	11
	Clandeboye	3

Plant Pathology: Cool, dry soil conditions will delay emergence of some crops and the beneficial effects of fungicidal seed treatments begin to wear off. Fusarium spp. are the opportunistic root pathogens that will predominate. Look for brown sunken lesions on the taproots of broadleaf crops or dark elongate lesions on the subcrown internodes of cereals.

Pest Identification Quiz:

Question: What mite these small red critters often seen on the soil in the spring be?

Answer: These are red velvet mites, technically a mite and not an insect, although we still like them. The adults prey on insect eggs and other small arthropods. The immature stages of these mites are parasitic on grasshoppers and other insects. So yes, there are mites that are beneficial.

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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.