Manitoba Crop Pest Update
Issue 1: May 20, 2020

Manitoba Agriculture

Summary

Insects: Some cutworm feeding noted on forage crops in the Central region. Flea beetles have been noticed feeding on whatever cruciferous plants are around. Diamondback moth trap counts have generally been low.

Diseases: Currently there are no diseases, of pathogenic origin, being reported from the field. Crops planted weeks ago have just begun to emerge. Nor have there been reports of abiotic disease symptoms. Though it's late on the calendar, biological indicators of planting readiness are lagging 10 days to 2 weeks behind 2019.

Weeds: Perennial weeds continue to enjoy the growing conditions, and the heat is bringing on the annuals. Wind is drying out the fields but preventing pre-seed herbicide applications.

Soils: Time to check for stand problems resulting from excessive seedplaced fertilizer.

Entomology

Temperature and insect development: Prior to the recent warmer weather, one of the questions that came in was **"**with this cool and damp weather will we see a slower development of cutworm and wireworm issues?"
Development of cutworms and wireworms will both be delayed by cooler soil temperatures. For cutworm species that overwinter as eggs, hatch would have been delayed; for those that overwinter as partially grown larvae their development would be slower in the cooler soil conditions.
Wireworms have multi-year lifecycles. So it still may be possible to find more advanced larvae in the soil, but feeding would have been reduced under the cooler conditions. Once the soil heats up they will increase their feeding, then move deeper in the soil as it eventually becomes too hot and dry for their liking.

Seed lubricants for corn and soybeans: A reminder that when planting corn and soybeans, if a neonicotinoid insecticide is part of the seed treatment, the use of fluency agent is mandatory. Graphite and talc can not be used as seed lubricants in these crops, if they contain a neonicotinoid seed treatment. This will help minimize the levels of neonicotinoids being exhausted in the dust from the planter. Neonicotinoid seed treatments in corn include Cruiser Maxx Corn, Poncho 600 FS, Nipsit Inside, and Sombrero; in soybeans they include Cruiser Maxx Vibrance Beans, Alias 240 SC, Sombrero, and Stress Shield 600.

When spraying for flea beetles makes sense: Canola seed will likely all be treated with a seed treatment that contains an insecticide. This will kill flea beetles that would feed on it for the first 3 or 4 weeks, depending on the seed treatment and weather conditions. Would it ever be economical to additionally apply a foliar spray to seedlings before the seed treatment wears off? This would be redundant, and not economical, as the plant tissue already contains a lethal dose of insecticide. Do scout canola as the seed treatments approach the end of their effective period. If we get good growing conditions (good soil moisture and warm temperatures) as the canola emerges and during the seedling stage, seed treatments alone may be all that is required to protect the plants. It is when growing conditions prolong the seedling stage that risk of injury by flea beetles increases, and scouting and potentially foliar insecticides may be necessary.

Plant Pathology

Now that we seem to have turned the corner with soil and air temperatures (and risk of frost), it is full steam ahead with seeding of nearly all field crops. In low residue situations, you may see the effects of wildly fluctuating temperatures at the soil surface. This can result in cereal banding in grass crops or pinched stems in broadleaf crops like peas and canola. In most cases, these are conditions from which the crop can bounce back.

A year ago, I had a question about common root rot (CRR) in wheat that had quite variable seeding depth. It's a delicate balance, but prolonged time to emergence always puts stress on plants and leaves them vulnerable to soil-borne pathogens.

Photo courtesy Amber Knaggs, Shur-Gro – circled area shows active CRR, Arrows indicate the node that is the crown (where secondary roots normally emerge) and the area below that is the sub-crown internode. These plant had to push beyond the protection of the coleoptilar sheath.

Weeds

How windy is too windy?

- Some breeze is good – dead calm is not good
- Use caution when the wind is above 15 km/h (9 mph)
- *Sprayers101.com* suggests **the upper limit is 20-25 km/h if precautions are used**
- Consider the following:
  - Herbicide – will it be effective with an application using a coarse or ultra-coarse droplet?
  - Droplet size – try to reduce the amount of driftable fine droplets, decreasing pressure can help, so can the addition of drift reduction agents that increase the viscosity of the spray solution – be sure this is compatible with the herbicides
  - Nozzle type - along with pressure impact on droplet size
  - Volatility – formulation can have an impact on potential drift
  - Lower your boom – nozzles will impact on boom height, the spray pattern should achieve 100% overlap to prevent strips of over or under-application of the herbicide
  - Know what is downwind – spray sensitive areas when the wind is in the least harmful direction, leave buffers when that isn't possible.

What is impact of lack of rainfall on PRE herbicides?

The answer depends on many factors which include:

- water-solubility of the herbicide
- sensitivity of the weed species to the specific active ingredient
- stage of the weed seedling when exposed to the herbicide
- will the weed seedling receive a high enough dose to overcome any natural herbicide tolerance or metabolism mechanisms
- how moist the soil was when the herbicide was applied

WSSA Group	Timing	Example Products	Precipitation for activation
2	PRE	Sortan IS, Permit WG	Modest amounts
3	PPI (soil active)	Edge, Treflan, Fortress MicroActiv	No effect once incorporated
5	PPI (soil active)	Aatrex, Primextra II Magnum	½" within 7 days of application
8	PPI (soil active)	Avadex, Fortress MicroActiv	½" within 2 weeks of application
14	PRE (surface)	Authority, Valtera	A - 10 - 20 mm within 10 - 14 days V - Rain or irrigation shortly after application

	residual soil activity		
15	PPI, PRE (surface) with residual soil activity	Focus, Zidua, Dual II Magnum	½" shortly after application, Dual II – within 10 days

Weed control questions this week:

1. Volunteer alfalfa in corn – would you use 2,4-D with glyphosate? My answer was no, the 2,4-D is not labelled for that particular use pattern, but Eclipse XC is registered for use in corn. The rate of application is less than the labelled rate for volunteer alfalfa control, but at least there is demonstrated crop tolerance.
2. Dandelion control in alfalfa or alsike clover - Controlling dandelion in a broadleaf forage legume crop is very challenging. Ideally the dandelion population should be controlled prior to stand establishment. 2,4-DB in seedling alfalfa and alsike clover is an option for top growth control. The other option in alfalfa could be Velpar but it needs to be applied in late fall or early spring.

Soil problems

Seedplaced fertilizer injury symptoms: If you placed a "no fertilizer check" stamp in your field, you can soon assess the possible adverse effect of seedplaced fertilizer. https://www.gov.mb.ca/agriculture/crops/seasonal-reports/current-crop-topics.html
Here is what injury symptoms of excess N appear like in wheat seedlings:

Figure 1. The range of injury symptoms where excess N is placed with wheat seed.

Some crops were seeded after preplant-banded nitrogen, and seeds placed over that injection row may have localized stand thinning and similar seedling symptoms (see corn below over anhydrous ammonia bands).

Figure 2. Corn seedling response based on proximity to a shallow preplant ammonia band.

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 1 higher count in the south Interlake.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of May 20, 2020.

Region	Nearest Town	Trap Count
Northwest	Benito	1
	All other traps reporting 0	
Southwest	Justice	1
	All other traps reporting 0	
Central	Rosetown	3
	Emerson, Altona, Culross	1
Eastern	Tourond	4
	Beausejour	1
Interlake	Warren	30
	Gunton	6

Highest counts in each region and a monitoring summary are updated weekly 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

Weeds: Winds will prevent some valuable pre-seed herbicide applications and there will be increased pressure on the post-plant pre-emerge timing for weed control. Make sure to scout for ground crack and emerged crop prior to applying a herbicide that could jeopardize the crop stand. Nothing beats boots in the field to ensure success.

Identification Quiz:

Question: These were found in barley stubble. What are they?

Photo from: Corey Blad, Shur-gro

- **Answer**: These are grasshopper eggs. The individual eggs look a bit like brown rice. Eggs are deposited in the soil in clusters, held together by a frothy secretion that, when dry, forms a rigid covering. The eggs and frothy secretion are collectively known as an egg pod.

Question: What are these “tiny” weeds?

Answer: Yellow whitlow grass (Brassica family) on the left and pygmyflower (Primrose family) on the right. Yellow whitlow grass has hairy leaves, so even in the rosette without the distinctive Brassica family flower and seed pod, it can be differentiated from pygmyflower which has smooth leaves.

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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.