

Manitoba Crop Pest Update

Issue 6: June 24, 2020

Summary

Insects: Some foliar insecticide applications for flea beetles in canola continued over the past week, although this seems to be coming to an end. Cutworm control continues, but is also decreasing. Grasshopper nymphs are present in high levels in some areas; control around field edges has begun and some full fields have been sprayed for grasshoppers.

Weeds: Multiple modes of action are being added to the tank, be aware of compatibility issues and when in doubt, at least do a jar test. It's time to be scouting for potential efficacy issues and possibly identify problems with resistance or weed escapes. Low winds can be an issue, that may result in the enigma of an inversion - be cautious with very low winds and more volatile herbicides.

Entomology

Armyworms: Armyworms have been noticed in some cereal fields and forage grasses in the Central and Eastern region. Levels have not been economical, and larvae are still relatively small. Note that the larvae can vary quite a bit in colour.



Armyworm - larvae



Armyworm – adult stage.

Note the small white spot on each forewing of the armyworm moth.

Barley Thrips: Barley thrips are being reported from some barley fields in the southwest. Sample for barley thrips from when the flag leaf is first visible until the head is completely emerged from the boot. There can be an edge effect with barley thrips.

There are usually more barley thrips near protected field margins than other areas of the field. Most barley thrips will be found under the top two leaf sheaths. Unroll the leaf sheaths away from the stem to look for the thrips.

Economic thresholds are available for barley thrips. One adult thrips per stem resulted in a loss of 0.4 bushels per acre. The following formula can be used to determine if control is economical: $\text{Threshold (thrips/stem)} = (\text{Cost of control} / \text{expected \$ value per bushel}) / 0.4$. This often works out to about 7 or 8 thrips per stem on average, but best to do the math to see a more precise threshold for your situation. Insecticide treatments are only economical when applied before heading is complete.



Grasshopper hatch: Degree day models indicate grasshopper hatch is almost complete in many areas, with the exception of some areas of the Northwest region.

It is good to be scouting for grasshoppers, and if high populations are found this is the ideal timing to be applying controls (when hatch is nearly complete, but grasshoppers are still young).

Location	% Hatch	% Eggs	% 1st Instar	% 2nd Instar	% 3rd Instar	% 4th Instar	% 5th Instar	Mean Instar
Northwest								
Swan River	50.5	49.5	17.8	1.8	30.8	0.0	0.0	2.3
Roblin	55.6	44.4	16.8	28.5	10.3	0.0	0.0	1.9
Dauphin	88.9	11.1	16.7	45.8	26.4	0.0	0.0	2.1
Southwest								
Brandon	96.9	3.1	8.3	50.1	24.8	13.7	0.0	2.5
Minnedosa	90.1	9.9	15.6	43.4	27.2	3.9	0.0	2.2
Viriden	94.5	5.5	10.1	46.7	34.1	3.6	0.0	2.3
Melita	96.8	3.3	3.0	52.4	27.3	14.1	0.0	2.5
Cartwright	96.2	3.8	20.5	42.0	33.6	0.3	0.0	2.1
Central								
Winnipeg	99.8	0.2	9.1	20.6	56.5	13.5	0.0	2.8
Portage La Prairie	96.7	3.3	7.7	53.3	25.4	10.3	0.0	2.4
Carman	98.6	1.4	10.1	28.2	41.1	19.2	0.0	2.7
Morden	99.9	0.1	16.0	21.8	37.4	20.7	3.9	2.8
Eastern								
Steinbach	94.2	5.8	19.1	38.2	18.6	18.3	0.0	2.4

Weeds

What weed is it?



There are a couple of options for what exact plant this is: Marsh fleabane, northern swamp groundsel, marsh ragwort, or mastodon flower OR a closely related (and similar in appearance) plant is butterweed, also known as cressleaf groundsel. Butterweed is a winter annual that grows erect on a hollow, succulent, smooth stem from a basal rosette. You will note in the picture provided, the stem is hairy on this particular plant, so I am voting for swamp ragwort/marsh fleabane. Swamp ragwort is an annual or biennial, with a hollow stem that has strong vertical ridges and short bristly hairs, becoming more hairless with age. This weed tends

to be observed when water levels are dropping and there are new wet areas for growth.

The literature indicates that ragwort contains compounds (pyrrolizidine alkaloids) that when broken down in the intestines and liver of livestock causes damage to cells. This weed is not listed in the Noxious Weeds Act, so there is no obligation to destroy or control it due to that legislation. Mowing to prevent seed set and minimize regrowth is likely the best option for control, since the herbicides that are typically effective – many of the non-crop herbicides like Reclaim or Milestone may impact on ground water. If this weed is significant, prevent livestock from grazing it now, and with good grass competition in future years, the infestation should be managed. In dry years, 2,4-D or glyphosate may be effective on the rosettes, if there is a need.

Prickly lettuce

Prickly lettuce can look very similar to sowthistle or dandelion when it is young, but fairly early on it is distinguished from those other weeds by a row of prickles on the mid-rib of the leaf. Later the buds are drastically different than the sowthistles, sort of droopy and round, while sowthistle buds remind me of Hershey kisses.



Photo from Prairie Root Co-op - Starbuck

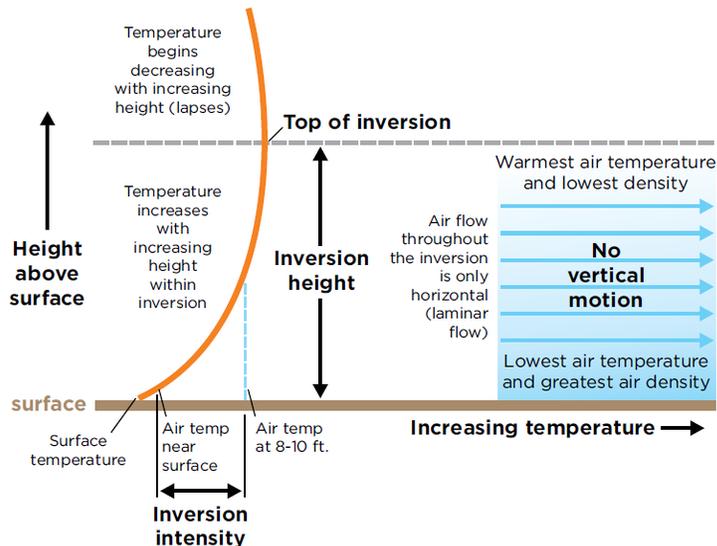
This weed seems to be popping up more this



year than most, but the phenoxies, glyphosate and a number of other herbicides tend to control it fairly well, so hopefully it won't be problematic to control in most crops.

When you can't fit it all the herbicides in one tank – There has been a lot of creativity for herbicide concoctions this year as we try to kill every weed in one pass. There are limits, and usually when we get to three or four actives in one tank, there starts to be concerns about antagonism or surfactant load or compatibility. A split application may be the best “solution”, in which case, there needs to be time for the pants to recover from one application before the next application. Thumb rule: Graminicide alone, wait two days and spray broadleaf. If a broadleaf herbicide is applied, it's usually best to wait 5 days before applying the graminicide or next broadleaf.

Inversions



OK so the winds have decreased and now spraycasts say “Don’t spray” because of low winds. If the dust from the gravel road is just hanging in the air, I worry about an inversion and the potential for off-target movement of herbicides. Since there are so many factors that play into inversions beyond just temperature and wind, and I don’t want to get it wrong, I will provide a link - I really liked the presentation that Andrew

Thostenson, Extension Pesticide Program Specialist at NDSU did at Crop Connect last year. I stole this diagram from the publication that they have developed and the link to that publication is here: <https://www.ag.ndsu.edu/publications/crops/air-temperature-inversions-causes-characteristics-and-potential-effects-on-pesticide-spray-drift>

Herbicide resistance testing questions



This redroot pigweed was sprayed with multiple modes of action and the question becomes – why isn’t it dying? I do see some Group 4 symptoms, but unfortunately it does not look like impending death. Perhaps a sublethal dose of herbicide, or maybe herbicide resistance is an issue. To test for herbicide resistance, you can grow out some plants and try a respray or collect seed and send away for testing. AgQuest is a Manitoba lab that can do herbicide resistance testing on a variety of active ingredients.

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. Highest counts have been in the Eastern and Interlake regions. Counts in these region have climbed substantially in the past few weeks.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 24, 2020.

Region	Nearest Town	Trap Count
Northwest	The Pas	123
	The Pas	30
	Bowsman	29
	Bowsman	27
Southwest	Hamiota	13
	Brookdale	7
	Foxwarren	5
	Rivers	3
Central	Gladstone	57
	Reinland	30
	Portage la Prairie	12
	Kilarney	10
Eastern	Lac du Bonnet	336
	Whitemouth	228
	Stead	228
	Beausejour	106
Interlake	Warren	225
	Vidir	119
	Balmoral	111
	Gunton	98

Counts remained quite low in traps in the southwest

Higher counts in Eastern region started the week of May 31 – June 6

Larvae of diamondback moth are now being observed in some areas, though there are no reports of them being near damaging levels. When scouting canola, make sure to assess levels of diamondback moth, particularly in the Eastern and South Interlake regions.

Soil Fertility

Striped Corn – What's the culprit?

A number of nutrient deficiencies or stresses can lead to striping symptoms of corn. In our environment and soil characteristics, it is more typically either sulphur and zinc deficiency. The photo below left is zinc deficiency (slight), confirmed by soil and tissue testing. It is most common where soil pH is high, organic matter low and if any subsoil has been exposed, through erosion or land leveling.



Zinc deficiency (left) and sulphur deficiency (right)

Sulphur (S) deficiency is more general yellowing and full-length extension of the stripes on leaves. It is more likely where S is leached from the top soil, and S has not applied to other crops in the rotation.

Diagnostic sampling, ie paired tissue and soil sampling of poor versus adjacent better areas, is recommended.

Window is Closing for Split Nitrogen for Wheat Yield and Protein Increases

If you have planned to split your nitrogen (N) applications on wheat, the last slug should be targetted between the stem elongation and flagleaf stage (photo). In Manitoba research, the last 30-60 lb of N/ac was applied as urea plus urease inhibitor broadcast at these stages and fortunately followed by some 1/5" inch rain within 5 days – so leaf damage was avoided, N uptake occurred and yields were 1-3 bu/ac greater and protein 0.1-0.9% greater than when all N applied at seeding. Now few growers have granular fertilizer spreaders to operate in lengthening wheat and may choose to use high clearance sprayers to apply UAN. Leaf burn may be severe (below). To reduce burning, dribble rather than spray, dilute with water if possible, apply when cooler in the evening and avoid applying on dew as it increases leaf coverage.



Stem elongation and flag leaf stages of wheat (left). Leaf scorch from UAN (right).

Reference: <https://www.gov.mb.ca/agriculture/crops/seasonal-reports/pubs/nitrogen-splits-for-wheat.pdf>

Identification Quiz:

Question: Note the eggs on stalks on the stem in the photo below. This was a field where some small diamondback moth larvae had been noted. What type of insects will these eggs hatch into?



Photo by Amber Knaggs – Shur-gro

Answer: These are green lacewing eggs. The larvae that will hatch out are predators. They will feed on aphids, thrips, mites, small caterpillars and beetle larvae. They will eat diamondback moth eggs, larvae and cocoons.

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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.