

Manitoba Crop Pest Update

Issue 4: June 15, 2022

Summary

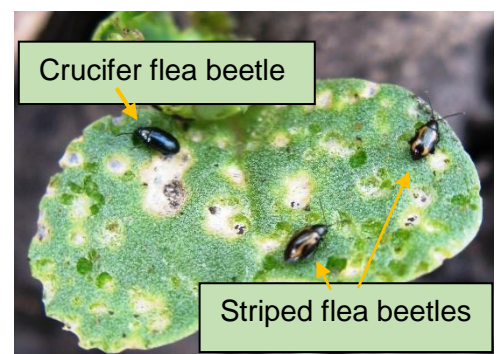
Insects: Flea beetles levels are at quite high levels in many areas. Some growers have applied up to three insecticide applications for flea beetles, and there has been some reseeding. Some fields of small grains and sunflowers have been sprayed for cutworms. Hatch of the potential pest species of grasshoppers is occurring; some control has occurred in the Central region.

Diseases: It has been wet lately. That is probably an understatement for many areas. As spring crops struggle to emerge and as fall crops move into the reproductive phase, unfamiliar symptoms are noticed by growers and agronomists. We provide a couple of examples of recent inquiries and challenge readers to put forward their best diagnoses.

Weeds: Good weather last week saw great seeding progress and sprayers were keeping up with burnoff before crops started to emerge. Heavy rains in the last couple of days have halted all operations including weed control. Perennial weeds and winter annuals have taken advantage of the moisture from last fall and this spring. Dandelions are flowering and setting seed, Canada thistle are 4 inches or more in size. Stinkweed and shepherds purse are flowering and setting seed. Annual weeds like round-leaf mallow, wild buckwheat, kochia, lambsquarters and red root pigweed are getting large. Warm season grasses like green and yellow foxtail and barnyard grass are emerging and growing rapidly. We're seeing lots of biennial wormwood this year, which despite its name acts like an annual weed. We will discuss biennial wormwood later in this report.

Entomology

Flea Beetle Management and Temperature – Some hot weather is forecast for later this week. A reminder that if you do need to apply foliar insecticides for flea beetles, and are using a pyrethroid insecticide (where there are high temperature restrictions), the ideal day for control would be when it is between about 15 and 25°C, and not too windy. Don't be applying pyrethroids (Decis/Poleci/Advantage Deltamethrin, Matador/Silencer/Labamba, Up-Cyde/Ship, Pounce/Perm-up/IPCO Syncro/Ambush) when the temperatures are in the high 20's or 30's.



Temperature and cutworm development:

Development of cutworms is dependent on soil temperatures, and is delayed by cooler soil temperatures. Cutworms may have been developing slower in some areas this year, because of the cool start to the spring. As temperatures and soils warm they will move through their stages quicker. As a guideline, once cutworms once larvae have reached lengths of 30 to 35mm, most of their feeding may have already occurred.



Redbacked cutworm:
larva and 2 pupae

Plant Pathology

Diagnostic Quiz – Plant Diseases

As you might expect, “plant disease” is a rather broad term in that it includes symptoms brought on by infection from pathogens, BUT ALSO symptoms that are the result of environmental conditions, nutrient deficiencies and other abiotic (non-living) causes. Try your hand at diagnosing the cause(s) of the symptoms evident in these images.



Fall rye that has recently headed. Symptoms most apparent on upper leaves.

Could it be?

- A fungal disease
- A bacterial disease
- Herbicide or fungicide injury
- A nutritional issue
- Effects of excess moisture

Photo credit: Marcel Valloton

Recently emerged canola. Beyond the obvious flea beetle feeding, what are your strongest suspicions?



- Sulphur deficiency
- Residual herbicide uptake
- Loss of soil nitrogen
- Root rot(s)
- Iron chlorosis

Photo credit: Lyndsey Friesen

Email or text your responses to:

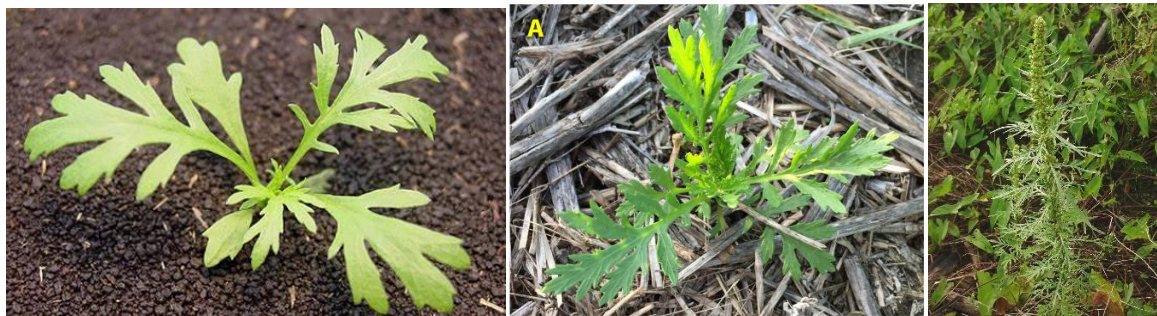
David.kaminki@gov.mb.ca

Please include **CPUJune15DQ** in subject line.

(204) 750-4248

Weeds

Biennial wormwood originally was a biennial plant but weedy biotypes that show up in crops act like annuals. This weed likes moist conditions and given the year we've had so far it's no surprise to see a lot showing up in fields. Biennial wormwood can get quite tall and produce up to 400,000 seeds per plant, it can reduce crop yield at relatively low densities. It can emerge all season and has allelopathic properties (negatively affects the growth of surrounding plants). Its hairless, with finely divided leaves that have pointy tips, often misidentified as common ragweed which is similar looking but has fine soft hairs on leaves and stems and leaf tips are rounder.



Although biennial wormwood is naturally tolerant to many herbicides, control (80% or better) can be achieved with pre- and post-emergent herbicides. According to *The Biology of Canadian Weeds* pre-emergent herbicides flumioxazin (eg Valtera, Fierce), metribuzin (eg Sencor), and sulfentrazone (Authority) offer good to excellent control. Post-emergent products must be applied when biennial wormwood is less than 8 cm in height. Atrazine (AAtrex), bentazon (eg Basagran), clopyralid (eg Lontrel), dicamba (eg Banvel), glufosinate (eg Liberty), glyphosate (eg Roundup), MCPA and 2,4-D offer good control. Split applications of bentazon or glyphosate offer good control on multiple flushes of biennial wormwood seedlings. What doesn't work? Biennial wormwood has a tolerance to many or most herbicides in Group 2, Group 3, Group 27, Group 14, and Group 15. In addition bromoxynil (eg Pardner) and fluroxypyr do not control this weed. For more information consult the current Guide to Field Crop Protection and the product labels.

Soils

Nitrogen Patterns in Fields

A grower submitted this photo last week where fall applied NH_3 had been applied. They were concerned about this stripping in the crop. I suggested they sleep better at night, because:



- These bands were obviously still very intact, meaning much of that NH_3 overwintered in the NH_4^+ form, held on the CEC (clay and OM) surfaces and resistant to conversion to nitrate (NO_3^-) and losses
- As soils warm up, this NH_4^+ will rapidly convert to mobile NO_3^- and move in the soil. Root activity and uptake will increase with heat also.
- Within days this crop greened up and strips disappeared.

More on nitrogen – losses and suggested actions

Our excessive rainfall and prolonged wet spring soils will be reducing soil nitrate-N levels. Soil temperatures are now between 15-20C, so denitrification will be proceeding at a rate 2-4 times higher than the loss of 2-4 lb N/ac/day that we experience when soils are 5C. And on sandier land leaching of nitrate-N has occurred.

Much more detail on this at: <https://www.gov.mb.ca/agriculture/crops/soil-fertility/wet-soils-influence-soil-fertility.html>

The suggested action from this above article is:

Supplemental N rates should not be based on full N loss and replacement to original application levels. For cereal and canola crops consider the following suggestions:

- Where N losses are estimated to be high and yield potential is still good – apply up to 2/3 of original targeted N rate
- Apply up to 1/3 of original targeted N rate if estimated losses are moderate but yield potential is good – or if estimated losses are high but potential yield is only fair.

Fortunately, fertilizer prices have declined substantially from the record high winter /spring prices and so growers may wish to consider these options.

Forecasts

Diamondback moth. A network of pheromone-baited traps are being monitored across Manitoba in May and June to determine how early and in what levels populations of diamondback moth arrive. So far, diamondback moth has been found in 29 traps. Levels are generally very low, with the exception that some moderate counts have occurred in the Eastern and Central region, particularly over the past few weeks. The highest cumulative trap count so far is 130 from a trap near Beausejour in the Eastern region. There are some areas in the Eastern region where looking for larvae while crop scouting would be good to prioritize.

Table 1. Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 15, 2022.

Region	Nearest Town	Trap Count
Northwest	Makaroff, Russell	4
	Grandview	3
	Inglis, Grandview	2
Southwest	Rivers, Rossburn	2
	All other traps with 0 so far	
Central	Gnadenfeld	19
	Altona	18
	Belmont	14
	Halbstadt	11
Eastern	Beausejour	130
	Hadashville	75
	Stead	73
	Whitemouth	43
	Tournond	15
Interlake	Arborg	1

← Highest cumulative count

Highest counts in each region and a monitoring summary are updated weekly on the Insect Page of the Manitoba Agriculture website at:

<https://www.gov.mb.ca/agriculture/crops/insects/diamondback-moth-forecast.html>

Armyworms (*Mythimna unipuncta*). A network of pheromone-baited traps are being monitored from early-May until mid-July to determine how early and in what levels populations of armyworms have arrived. Counts so far have generally been low, with armyworm moths only being caught in 6 traps, however some moderate counts have occurred recently from traps in Eastern Manitoba. The highest cumulative count is 45, from a trap near Beausejour in the Central region. So far there have been no reports of larvae of armyworms being found in Manitoba.

Table 2. Highest cumulative counts of armyworms in pheromone-baited traps for agricultural regions in Manitoba as of June 15, 2022.

Region	Nearest Town	Trap Count
Northwest and Southwest	All traps with 0	
Central	Rosenfeld	21
	Rosebank	18
	Halbstadt	16
Eastern	Dominion City	14
	Beausejour	45
	Lac du Bonnet	28



← Highest cumulative count

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". The highest counts so far have been in the East-Central states, with some higher counts having occurred in Michigan and Wisconsin.

Identification Quiz:

Question: This week's quiz is a hopper quiz, and were not just talking about grasshoppers. There are other "hoppers" you may see, and that sometimes can be abundant, when scouting some of the vegetation along the edge of your field. This photo shows a young grasshopper nymph on the left. What is the insect on the right?



Answer: This is an adult leafhopper. Leafhoppers, like grasshoppers, will jump. There are many species of leafhoppers; 1,097 species have been recorded in Canada. Don't panic, it is just 2 species that are potential crop pests here in Manitoba. At times there can be a lot of different species, mainly of non-pest species of leafhoppers, in the same areas where people do their early-season scouting for grasshoppers. They will both hop when disturbed. Note the larger legs on the grasshopper. Do not mistake leafhoppers for young grasshoppers when doing your scouting for young grasshoppers.

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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.