

# Manitoba Crop Pest Update

## Issue 6: June 28, 2023



### Summary

#### Insects:

**Armyworms** are now being found at economic levels in cereal and forage grasses in all agricultural regions. Fall rye is one of the crops where high levels are being noted.

**Grasshoppers** are advancing into the late juvenile stages, and are being controlled in some areas. Field edge spraying is more commonly occurring, but some full field spraying for grasshoppers has occurred.

There are reports of **sunflower bud moth** being quite noticeable in some fields, although this is quite variable and they are at low levels in other areas.

**Alfalfa weevil** remains a concern in some areas. In areas that received a lot of rain recently, watch for possible alfalfa weevil presence on regrowth after the first cut.

Notching from **pea leaf weevil** is quite noticeable in some fields in the Northwest region. This notching generally is not of economic significance, but is an indication that there could be high levels of larvae feeding on the nodules on the roots. Foliar insecticides are not an effective option for pea leaf weevil.

Feeding from **green cloverworm** is being noticed in some soybean and dry bean fields. So far there are no reports of the feeding being economical or insecticides required.

When assessing defoliation from green cloverworm in soybeans, consider that they preferentially feed at the top of the plant, and thresholds based on the percent defoliation consider the full plant, not just the upper leaves which have been fed on. Soybeans are quite good at recovering from defoliation.

**Diseases:** Although I am still deluged with calls, texts, and emails asking, "What's wrong with my crop?", only a few have proven to be pathogenic diseases. Recent showers, downpours and rainfall have improved the outlook for many field crops, but also inspired growers to look more closely at their crop stands and whether fungicides applications might be warranted.

**Weeds:** Herbicide applications have wrapped up except for some second pass canola and soybeans. Some canola is quite stagey due to dry conditions but recent rains will have helped. Most soybeans are flowering now so herbicide applications will be winding down. Much needed precipitation has helped out most of the province and good growing conditions will increase crop competitiveness against weeds.

## Entomology

**Armyworms - length of time as larvae and pupae:** The length of time armyworms spend as larvae depends on the temperature. In studies where larvae were kept at a constant temperature, larval stages lasted 16 days at 29 degrees Celsius, 26 days at 21 degrees Celsius, and 40 days at 17 degrees Celsius.

The length of time as pupae also depends on temperature; about 9 days at a constant temperature of 29 degrees Celsius, and 24 days at a constant temperature of 17 degrees Celsius.

There are usually two generations per summer in Canada with the first generation doing the greatest damage in late June and early July.



When scouting for armyworms, note that the later stages of the larvae are nocturnal, feeding at night and hiding on the surface, often under debris, during the day.

More information on the biology, monitoring, and thresholds for armyworms can be found at: <https://www.gov.mb.ca/agriculture/crops/insects/true-armyworm.html>

**Grasshopper stages:** For our potential pest species of grasshoppers, a lot of the population is advancing into the later juvenile stages. Adults are just starting to appear. Although adults for some of the non-pest species have been around for awhile, on June 27<sup>th</sup> I saw some adult twostriped grasshoppers. Most twostriped grasshoppers are still nymphs, but late-June is early for adult grasshoppers of our pest species to be present. The warmer than normal weather has resulted in them being more advanced than normal.



Adult of two-striped grasshopper; observed June 27<sup>th</sup> at Carnan, MB

**Sunflower bud moth identification:** Some are noticing signs of sunflower bud moth in their sunflowers. In some areas the black frass (excrement) can be easy to see around the entrance holes on the plants. Losses are generally not great when they are mainly in the stalks. In later planted sunflowers, more may be in the pith area of the head. If the larvae burrow into unopened buds, proper head development may be affected. Their feeding activity would be to the fleshy part of the head, and they do not feed on developing seeds.



Frass from sunflower bud moth



Sunflower bud moth larva

## Plant Pathology

Thanks to Sheila Elder for these two photos, both from a field of rye. The first is the honeydew spore stage of ergot. Such globules are attractive to many insects, especially flies, which carry the spores further into the field. Rye is very susceptible to ergot because it is open-pollinated. Open glumes allow spores to reach the developing ovules, replace the developing seed with ugly purplish black ergot bodies.

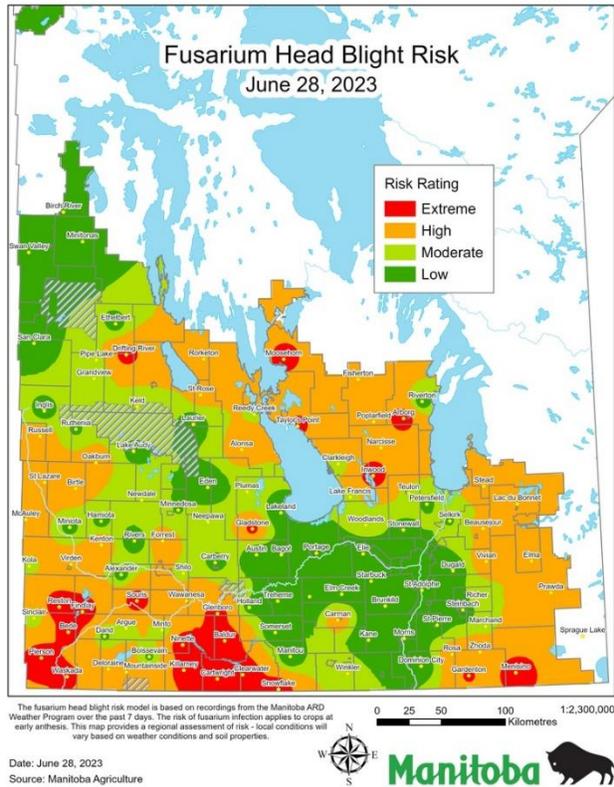


The second picture shows **powdery mildew** on another rye crop. I had a report of the same disease on winter wheat not too long ago. A full crop canopy holds humidity within.

Powdery mildews are favored by hot dry days and cool nights – dew-forming conditions.



The Fusarium Head Blight risk forecast maps have been posted and are updated daily, as well as a 7-day animation of how the risk has increased or decreased over that time. This is today's forecast.



Finally, if your canola crop has cabbaged out and is bolting, you may see the symptoms of **downy mildew** on the larger leaves. Yellow splotches on the upper leaf surface correspond with felty grey sporulation on the leaf undersides. This is a minor concern and rarely, if ever, of any economic consequence. Thanks to Elmer Kaskiw for this image.



## Weeds

As herbicide applications wind down its time to assess how everything worked. What do we do when things went wrong? Was there crop damage, and how much – part or all of the field? Are there weed escapes? What can be done about either of those scenarios?

Crop damage could be due to misapplication – was it the right rate, the right crop stage, the right adjuvant, did you use the appropriate water volume? Was it too hot when you sprayed and was the crop under stress afterward because it was hot and dry? Check your records and local weather station data to make sure the right product was applied under the right conditions. Was it tank contamination from a previous spray? Tank or boom contamination usually forms distinct patterns (W, V or bow-tie shaped) and is rarely field-wide.

Crop damage can also occur from drift. If only part of the field, especially along an edge was affected, then look at the neighboring crop to see what could have been sprayed. Spray drift is usually most concentrated along a field edge and becomes less harmful further into the crop. Herbicides that volatilize or products that were sprayed during inversions can move off-site and cause more extensive field-wide damage to sensitive crops.



Suspected Group 4 injury on soys. Look at the new growth in the pic on the left the leaves are cupped and curled up. A close-up in the pic on the right shows new leaves with distorted growth, edges are crinkly and leaf strapping (leaves are longer and thinner with parallel veins) has occurred. All three leaves in each leaflet appear to be equally affected.

*Photo courtesy of Callum Morrison*

If crop damage from drift is suspected gather as much information as possible as soon as the damage is noticed. Take lots of pictures of damaged and undamaged areas. Take plant samples of damaged and undamaged plants in the same field and freeze them in case you need them later. With good growing conditions a drift damaged crop may recover, but every case is different and you may not realize the extent of the damage until its harvested. Work with all parties involved and work out a resolution.

When herbicides damage a crop there isn't much that can be done. Time and good growing conditions can help crops recover from stress, sometimes damage isn't too bad but in other cases yield can be affected.

What about weed escapes? There can be a number of reasons why weeds evade herbicide applications. Keep scouting to monitor herbicide effectiveness and watch for weeds that weren't controlled. We will go into more detail next week on reasons for weed escapes and what to do about them.

## 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 69 out of 79 traps that counts have been reported from. Trap counts were low until the week of May 21-27<sup>th</sup>, when some moderate counts occurred in traps in the Eastern region. The following week (May 28-June 3<sup>rd</sup>) higher counts occurred in some traps in the Eastern and Central region, with counts in 4 traps approaching or exceeding 100. The week of June 4-10<sup>th</sup> there were 3 traps with counts exceeding 100, two in the Eastern region and one in the Central region. One of the traps in the Eastern region (near Beausejour) continued to have a high moth count the week of June 11 – 17, although many traps had lower numbers that week. A trap near Whitemouth exceeded 100 diamondback moth the week of June 18-24.

The highest cumulative trap count so far is 513 from a trap near Beausejour in the Eastern region.

**Table 1.** Highest cumulative counts of diamondback moth (*Plutella xylostella*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 28, 2023.

Lower Risk: 0-25    Elevated Risk: 26-200    Higher level of moth catch: 200+

| Region    | Nearest Town  | Trap Count |
|-----------|---|------------|
| Northwest | Durban  | 26         |
|           | Makaroff  | 25         |
|           | Russell, Shell Valley   | 17         |
|           | Birch River   | 16         |
|           | Minitonas   | 14         |
| Southwest | First week with weekly trap count greater than 25: June 18-24 |            |
|           | Lauder  | 103        |
|           | Tilston   | 72         |
|           | Miniota   | 23         |
|           | Minnedosa, Russell  | 19         |

|           |   |     |
|-----------|---|-----|
|           | Minto   | 17  |
| Central   | First week with weekly trap counts greater than 25: May 28 – June 3. Weekly trap counts greater than 100 occurred at the Brunkild and Altona traps for the week of June 4 – 10.                   |     |
|           | Altona  | 294 |
|           | Horndean  | 177 |
|           | Rosenfeld   | 165 |
|           | Brunkild  | 162 |
|           | Gretna  | 91  |
| Eastern   | First week with weekly trap counts greater than 25: May 21 – 27. Weekly trap counts greater than 100 occurred at the Beausejour trap for the weeks of May 28 - June 3, June 4-10 , and June 11-17 |     |
|           | Beausejour  | 513 |
|           | Whitemouth  | 278 |
|           | Hadashville   | 74  |
|           | Stead   | 60  |
|           | Ste. Anne   | 44  |
| Interlake | First week with weekly trap count greater than 25: June 4-10  |     |
|           | Teulon  | 46  |
|           | Ashern  | 41  |
|           | Poplarfield   | 39  |
|           | Arborg  | 35  |
|           | Stonewall   | 33  |

← 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/pubs/diamondback-moth-monitoring-05-24-2023.pdf>

Larvae of diamondback moth have been found in some areas, although not at economic levels. Look for diamondback moth larvae when doing crop scouting in canola or other cruciferous crops.

**Removal of diamondback moth traps:** A reminder for those monitoring traps that after you check your traps for diamondback moth this week (June 26-30), traps can then be removed and your final counts for this insect entered or submitted. Traps for bertha armyworms and armyworms stay up through July. Thanks for everyone’s work and contributions to the diamondback moth trapping program for this year.

**Bertha armyworm:** Cumulative counts are still all in the low risk range in the traps for bertha armyworm. The highest cumulative trap count so far is 263 near Waskada in Southwest Manitoba.

**Table 2.** Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of June 28, 2023.

| Region    | Nearest Town          | Trap Count |
|-----------|-----------------------|------------|
| Northwest | Durban                | 22         |
|           | Russell, Shell Valley | 21         |
|           | Minitonas             | 17         |
|           | Angusville, Bield     | 16         |
|           | Makaroff              | 15         |
| Southwest | Waskada               | 263        |
|           | Minto                 | 87         |
|           | Miniota               | 52         |
|           | Whitehead             | 30         |
|           | Pierson               | 28         |
| Central   | Lowe Farm             | 110        |
|           | Emerson               | 49         |
|           | Altona                | 10         |
|           | Carman, Gretna        | 9          |
|           | Horndean              | 8          |
| Eastern   | Beausejour            | 44         |
|           | Stead                 | 21         |
|           | Whitemouth            | 13         |
|           | Ste. Anne             | 9          |
|           | Tourond               | 5          |
| Interlake | Hodgeson              | 41         |
|           | Poplarfield           | 34         |
|           | Arborg                | 28         |
|           | Ashern                | 26         |
|           | Stonewall             | 25         |

← Highest cumulative count

0-300 = low risk  
 300-900 = uncertain risk  
 900-1,200 = moderate risk  
 1,200+ = high risk

## Identification Quiz:

**Question:** These caterpillars were both found on leafy spurge this past week. What are they?  
Could they be the same species?

**Answer:** These are both larvae of the spurge hawkmoth, *Hyles euphorbiae*.

The spurge hawk moth was introduced from Europe to help control leafy spurge. Young larvae are variously patterned with green, yellow, and black while older larvae have a distinctive red, black, yellow, and white pattern. Both old and young larvae have a prominent horn near the rear end. The mature larvae can reach 10 cm in length.

In addition to defoliating a noxious weed, adults moths of spurge hawk moth are also pollinators for a rare flower only found in Canada in a 101 km<sup>2</sup> area west of Vita, Manitoba, the Western Prairie Fringed Orchid (Fox et al. Biological Conservation, Volume 167, 2013, Pages 316-324).




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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.