

Manitoba Crop Pest Update

Issue 9: July 20, 2022

Summary

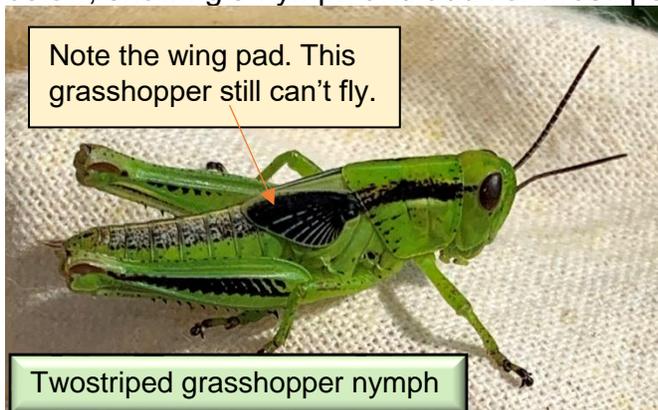
Insects: Grasshoppers and pea aphids in peas were the insects of greatest concern from the past week. High levels of armyworms were found in a wheat field in the Eastern region. There were some additional findings of soybeans aphids near Carman, but still just at low levels. Bertha armyworm larvae have been found feeding on canola and lambsquarters in the Central region, but so far just at low and not economic levels.

Diseases: Our annual disease surveys began this week with visits to winter wheat fields. These are at about the ideal stage for evaluation of Fusarium Head Blight, that is 10 days to two weeks following the completion of flowering. Trace amounts of FHB were evident 2 of 3 fields that had fungicide applied. One field which had not been sprayed had a Fusarium index of 2%. In the only field with no FHB, another disease - Take-all - was causing white heads on all tillers of scattered plants. Reports from agronomists and my surveying in the southwest region indicate that fungicide spraying in spring crops is in full swing. Later-seeded crops where stands have the potential for good yields are candidates for applications in the coming weeks.

Weeds: Herbicide applications have wrapped up for the season with generally good results. Frequent rains have led to new weed growth, but many weeds are heading now, making them easier to identify! Provincial weed survey starts this week.

Entomology

Grasshopper staging: We are just starting to see some adults of our potential pest species of grasshoppers, although a range of stages can often be found. Most are still juveniles, with a lot of them getting into the later juvenile stages. Both of the photos below, showing a nymph and adult of twostriped grasshopper, were taken on July 15th.



Two-striped grasshopper seems to be dominant species around Carman, and many areas of the Central region. This is the largest of our pest species of grasshoppers, with adults getting to approximately 26 to 40 mm. This species feeds on both grasses and broadleaved plants. Next week we will profile a species that could be confused for two-striped grasshopper, but is smaller and prefers to feed just on grassy plants.

Armyworm larvae found in eastern region: Armyworms, *Mythimna unipuncta*, sometimes known as true armyworms, do not overwinter in Manitoba but migrate north and in some years can occur in Manitoba at levels that cause crop damage. Trap counts to monitor adults have generally been low, but there have been some counts in Eastern Manitoba that suggest populations of adults have migrated in at levels that should warrant looking for larvae when scouting cereals and forage grasses. A higher population of larvae was found in wheat in the Whitemouth area of the Eastern region. Look on the ground and under debris for the larvae when out scouting cereals and forage grasses.



Plant Pathology

Take-all is a soil-borne root disease that shows up periodically, especially in wetter years. It has that name because it prunes away all of the secondary (supporting) roots and cuts off the plants ability to take up water, even though adequate moisture is available from the soil. This is apparent when affected plants are dug up. The real diagnostic symptom, however, is a black discoloration at the base of the stems, known as plaque. You will only see this symptom when you clear away the dried sheaths of the lowermost leaves.

Since the heads of infected plants show such a visual contrast among the heads of healthy plants, it is easy to overestimate the incidence of take-all. To get a good estimate, count about 20 plants at each of five separate sites in the field. That will provide a more accurate percentage of infected plants and potential yield loss.

Take-all is not the only cause of white heads in wheat. Others include common root rot, more common in drier situations, and the wheat stem maggot, *Meromyza americana*. With the latter, tugging on affected heads will cause the stem to come away easily just above the top node.



Weeds

Continue to monitor weed populations in fields and plan for dealing with the escapes or new growth. If you suspect resistance then you probably have it (get tested to know for sure) and you must prevent those weeds from going to seed. Roguing small patches and mowing larger patches now will save a lot of grief later. If resistant weeds go to seed now you will have a really big problem on your fields going forward.

Manitoba's Provincial Weed Survey starts this week. Our last provincial survey was in 2016, but these province-wide surveys go back decades, monitoring changes in weed populations and resistant weeds. We sample the top six crops (by acreage) – canola, spring wheat, soybeans, barley, oats and grain corn, and we've decided to also survey sunflower, pinto beans and field peas. We are looking forward to getting out into the fields as soon as its dry enough and see what's there!

Soils

Visual nutrient deficiency symptoms demand plant analysis for diagnosis

I've been out to several fields with apparent sulphur deficiency and other leaf yellowing. Some of this may be to general wetness, but others are indicative of nutrient deficiencies.

Corn

The sulphur deficiency in the photo below was verified with plant and soil analysis. Visual symptoms resemble many other leaf striping symptoms in corn— like zinc, iron and magnesium, the latter 2 which are not expected here. Deficiency occurred even though S had been applied at seeding. But on such a sandy soil the excessive spring moisture leached S out of the top zone and into the subsoil. The plant will root into it, but in the meantime visual symptoms are visible. For corn one could “wait” out the rooting time, but with canola an S application may be more urgent.



Wheat

Several reports of leaf yellowing of wheat— some due to manganese deficiency on peat soils or N and S in wet areas. The photo to the right, with subtle leaf striping, was diagnosed through tissue analysis as zinc deficiency. It's rare in Manitoba where our soil critical level is 0.25 ppm DTPA. Plant analysis helped direct the treatment and avoid an unwarranted N and S application in this case.



NOTE: Some agronomists/farmers mistakenly send plant samples to our Crop Diagnostic Laboratory at University of Manitoba to determine nutrient deficiencies. Our staff can only rely on visual symptoms and textbook photos. They are unable to perform the required chemical analysis to confirm deficiencies. For this type of diagnosis, samples must be sent to a commercial soil and tissue testing lab.

Forecasts

Armyworms (*Mythimna unipuncta*). Larvae of armyworms can cause significant feeding injury to cereals and forage grasses when levels are abundant. Adult moths of armyworms migrate to Manitoba in the spring from overwintering sites from the southern US. A network of pheromone-baited traps are being monitored at 11 locations from early-May until mid-July to determine how early and in what levels populations of armyworms have arrive. Some moderate counts have occurred from traps in Eastern and Central Manitoba. The highest cumulative count is 88, from a trap near Beausejour in the Eastern region. So far there has been one report of high populations of armyworm larvae, from the Eastern region.

Table 2. Highest cumulative counts of armyworms in pheromone-baited traps for agricultural regions in Manitoba as of July 19, 2022.

Region	Nearest Town	Trap Count
Northwest	Grandview	3
	Silver Beach	0
Southwest	Brandon	24
	Brookdale	13
Central	Rosenfeld	64
	Halbstadt	35
	Rosebank	18
Eastern	Beausejour	88
	Dominion City	66
	Lac du Bonnet	55
	Randolph	1



← Highest cumulative count

Highest counts in each region of Manitoba 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/true-armyworm-trap-results-july12-2022.pdf>

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".

Bertha Armyworm (*Mamestra configurata*). A network of pheromone-baited traps are monitored across the Canadian prairie provinces in June and July to determine levels of bertha armyworm adult moths, and forecast risk of their potentially being economic levels of larvae somewhere in the region. Traps are set up at 50 locations in Manitoba this year. The traps do not determine risk for the field specifically that the trap is in, but can estimate regional risks, which can help prioritize scouting for larvae. All the cumulative counts in Manitoba are currently in the low risk category. The highest cumulative trap count so far is 61 near Miniota in Southwest Manitoba.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) in pheromone-baited traps for five agricultural regions in Manitoba as of July 20, 2022.

Region	Nearest Town	Trap Count
Northwest	Dropmore	52
	Durban	48
	Bowsman	32
	Bowsman	28
Southwest	Miniota	61
	Glenboro	51
	Killarney	45
	Boissevain	44
Central	Belmont	32
	Rosenort, Baldur	19
	Horndean	16
	Altona	14
Eastern	Beausejour, Stead	11
	Whitemouth	7
	Ste. Anne	5
Interlake	Arborg	2

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

← Highest cumulative count

Highest counts from bertha armyworm traps 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/bertha-armyworm-forecast.html>

Identification Quiz:

Question: There are two insects in this photo. You may find some of each in a lot of different field while out scouting crops. What are they?

Answer: The bottom insect, holding its catch in its mandibles, is a lacewing larvae. They are obviously predators, and quite good ones.

The insect trapped in the mandibles of this lacewing, and about to have its body fluids sucked out, is the nymph of a Lygus bug.

Lygus bugs use their beak to inject digestive enzymes into plant material, and suck the plant juices in the area. They feed on many different types of both crop and wild plants. They prefer to feed on the nitrogen-rich growing points and reproductive parts of the plant such as buds, flowers and young seeds.



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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.