

# Manitoba Crop Pest Update

## Issue 14: August 11, 2021

### Summary

**Insects:** Spider mites, and the light-coloured stippling they result in, are noticeable in many soybean fields. Some insecticide application for spider mites were reported from the Eastern region. Lygus bug levels are high in some canola fields in the Northwest and Southwest regions, with some fields being treated with insecticides in the Northwest. Flea beetle levels in canola are high in some areas, with some control being reported in the Eastern and Southwest regions. Control of diamondback moth in canola was reported from the Interlake and Eastern regions. Grasshopper control along the edge of some canola fields was reported from the Central region. There was some control of aphids in canola in the Central region.

**Weeds:** Preharvest weed control and desiccation are taking place as harvest continues. Many fields have patches of kochia, lambsquarters and other weeds that have either escaped in-crop weed control or emerged after spraying and are now large and green. Preharvest spraying can dry down these weeds, aiding harvest and storage. A new population of waterhemp has been found in the RM of Stuartburn. This Tier 1 Noxious Weed must be destroyed without condition, as it is extremely aggressive and competitive and is resistant to several herbicide groups.

### Entomology

**New thresholds for Lygus bugs in canola:** Recent research in Alberta on the economics of feeding by Lygus bugs in canola has resulted in a revision to the thresholds recommended for management. A threshold of 20-30 per 10 sweeps is suitable for good growing conditions. A lower threshold may be suitable for dry conditions, but since drought also restricts canola yield potential, growers should be cautious about spraying under the established threshold of 20-30 per 10 sweeps. Using the lower end of the threshold (about 20 per 10 sweeps) may be appropriate for stressed canola with less ability to compensate for feeding.

Threshold tables developed from previous research on lygus bugs were very specific about the estimated damage of each lygus bug in 10 sweeps relative to crop price and



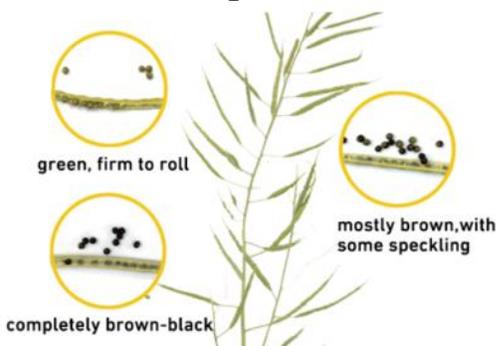
cost of control. That level of precision below one lygus per sweep is deemed inaccurate in light of new data from Agriculture and Agri-Food Canada in recent years. Even if the value of canola is high, control of Lygus bugs below 10 per 10 sweeps is not likely to be economical. With the previous tables, at higher canola values people were extrapolating to levels below 10 Lygus per 10 sweeps. We now know control will not be economical at these levels whether canola is \$10/ bu, \$20/bu, or hypothetically \$100/bu. At lower levels control is not economical regardless of the value of the canola. Research indicates that lygus numbers below 10 per 10 sweeps (one per sweep) can on occasion increase yield in good growing conditions – likely through plant compensation for a small amount of feeding stress.

Pods are the focus for crop protection efforts against lygus. The most vulnerable crop stage for lygus feeding is after flowering and when seeds are enlarging on lower pods. When most pods become “leathery” and when seeds inside are firm, lygus bugs can no longer penetrate the pods or seeds with their mouthparts and are no longer an economic threat.

## Weeds

**Preharvest:** Roundup, Heat and Reglone are used prior to harvest for different purposes and are applied in-crop at different timings. Roundup is used for perennial weed control and takes longer to act while Reglone is a desiccant and dries down the crop quickly. Heat lies in-between, when tank mixed with glyphosate it speeds drydown. Roundup must be applied at 30% grain moisture content or less, and check with your buyer to make sure using pre-harvest glyphosate is allowed. Check out [Resources to Grow Market-Ready Crops - Keep it Clean](#) for tips on preharvest glyphosate application, the photos for pre-harvest glyphosate timing are courtesy of that site.

Roundup on canola can be applied at 50-60% color change, seeds at the top of the plant can still be green but must not squish when rolled:



Reglone cannot be applied before 90% of the seeds have changed color, as green seed will not mature after application:

Green seed levels will not decrease after an application of Reglone Ion.



In canola, spray when: 90% or more of the individual seeds have turned brown on the entire plant across the whole field. Harvest canola as soon as dry down is complete.



When applying Roundup to peas most pods should be yellow to brown and seeds in bottom pods should be detached and rattle when shaken:



Reglone can be applied to peas when upper pods are fleshy green or starting to turn yellow, middle pods are shrunken and leathery and are light green to yellow in color. Seeds will split when squeezed. Bottom pods are dry, translucent and seeds are detached from pods and rattle when shaken.

In cereals Roundup can be applied when seed moisture is less than 30%, at hard dough stage where an impression from your thumbnail will leave an impression:



**Waterhemp:** A new population of waterhemp has been found in the RM of Stuartburn. The following photos are from that field:



Some of these plants are large, as tall as me (5'6") and I can't get my arms around the whole plant. We see these sticking up above the crop. The right hand photo shows the size of the stem, these plants are too big to pull and must be dug out. Other plants are smaller and still at the top of the canopy or below. While some have been affected by glyphosate (sprayed three times at 1L/acre REL) they are still growing and will set seed. There are also many small plants that have germinated recently, possibly after the last glyphosate application.



Waterhemp can be resistant to groups 2,3,4,5,9,14,15,27, previously found populations in MB were resistant to Group 2 and 9. The new population pictured above has been confirmed to be resistant to Groups 9 and 14. Large plants are capable of producing up to 1 million seeds per female plant, averaging 300,000 to 500,000 seeds plant. It's very difficult to grow corn and soybeans once waterhemp shows up, as in-crop herbicides are extremely limited.

If you see any plants that you suspect may be waterhemp please contact myself or the local Weed Supervisor/Weeds Inspector. This is a Tier 1 weed and must be eradicated.

## Soil fertility

There are continued reports of potassium (K) deficiency coming in. The latest is on soybeans in some very sandy soil east of the Red River. Plants are showing the characteristic chlorosis of the leaf margins. With the plant at later reproductive stages, soybeans would normally now be moving some K from the leaves to pod-fill. That may be why a margin deficiency earlier is showing up so vividly now. The solution – soil testing and potash applications as required.



Figure 1 and 2. Potassium deficiency symptoms in soybeans on sandy soil (photo credit: D. Thoms)

## Forecasts

**Grasshopper Survey:** A reminder for those participating in the grasshopper survey that counts are done during August, when the majority of grasshoppers are in the adult stage. Agronomists and farmers who would also be interested in estimating grasshopper numbers in or around the fields they are in and have this information included in the survey are encouraged to see the survey protocol (at the link below) for more details of the survey and where to send data.

Estimates of grasshopper levels can be collected during regular farm visits. "Estimates" of grasshopper populations is stressed as it will not be possible to accurately count grasshoppers along a field edge or ditch area as they will be moving around as you get near the area of the count. But estimates of what is present gives us some idea of the relative numbers that are present in different areas.

Data from the survey, along with weather data during the egg laying period of the grasshoppers, will be used to produce a forecast for 2022.

The protocol and data sheet for the grasshopper survey is at:

<https://www.gov.mb.ca/agriculture/crops/insects/pubs/grasshopper-survey-protocol-2021.pdf>

## Identification Quiz:

### Question 1) What's wrong with my sweet corn?

Besides everything else going wrong with sweet corn (drought and heat resulting in poor pollination and temperatures too hot for pyrethroids to control European corn borers) – I caused these “barbell” shaped cobs below. What did I do wrong?

Hints: they are on the outside rows beside my “raccoon guard” of late planted spring wheat. About 1 in 3 cobs in outside rows are affected but other rows are normal.



Answer: I sprayed the late planted wheat with a mixture including 2,4-D Ester, which must have wafted into the outside row. Such hormonal type herbicides can cause strange things to happen in corn – twisting, brittle stalks, poor pollination – and are to be avoided.

**Question 2)** The larva in this photo was seen on a corn plant. Would this be feeding on the corn plants? What are the little red bumps on the sides of the thorax and right side of the abdomen (next to the orange arrows).

**Answer)** This is a lady beetle larva. These are predators, so good to see them present in the corn. The little red bumps are red velvet mites. This is a case of a parasite feeding on a predator. Red velvet mites are a family of mites (Trombidiidae).



They are active predators as adults, but as early instars are often parasites on insects and some arachnids. You can also find them on grasshoppers, where they seem to like getting under the wings.

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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.