

## Summary of Insects on Crops in Manitoba in 2013

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Abbreviations used: The following abbreviations will be used in this document to indicate the following agricultural regions in Manitoba; NW=Northwest, SW=Southwest, C=Central, E=Eastern, I=Interlake.

Estimated acres: Estimated acres grown in Manitoba in 2013 (shown in brackets under each commodity title) are from the Manitoba Agricultural Services Corporation (MASC) 2013 Variety Market Share Report. The symbol ↑ indicates an increase in acres from 2012, whereas ↓ indicates a decrease in acres from 2012.

**Summary:** **Grasshoppers** were a concern in many crops this year, resulting in insecticides being applied to many fields and the edges of fields being treated to prevent them from moving into crops. **Cutworms** were also a concern in many crops in 2013. The known range of **cereal leaf beetles** (*Oulema melanopus*) in Manitoba has expanded to the southwest and central regions of Manitoba. Two releases of *Tetrastichus julis*, a parasitoid of the cereal leaf beetle, were done in the Treherne area. **Flea beetles** (*Phyllotreta* spp.) were a concern on canola in the spring and early-summer, in spite of most canola seed containing a neonicotinoid seed treatment for early-season protection from flea beetles. There were high levels of **bertha armyworm** (*Mamestra configurata*) larvae in some areas; with most of the control for bertha armyworm being in the southwest. Feeding from larvae of **alfalfa weevil** (*Hypera postica*) caused a lot of damage in some alfalfa fields from mid-June through the first 2 weeks of July. A sample of *Drosophila* collected in Manitoba in August, 2013 was sent to the National Identification Service in Ottawa and confirmed to be **spotted wing Drosophila** (*Drosophila Suzukii*).

### SMALL GRAIN CEREALS

**Wheat (spring)**-2,861,251 acres↑ + 3,531 acres organic↓; **Wheat (Winter)**-639,968↑+ 555 acres organic winter wheat↓; **Wheat (Durum)**- 1,320 acres↓  
**Barley**-468,079 acres↓; **Oats**-378,021 acres↓ + 4,281 acres organic↑; **Fall Rye**-85,403 acres↓; **Triticale**-884 acres↑)

**Wireworms:** There were reports of wireworm damage to cereal fields from several areas of Manitoba. There was some reseeded of winter wheat in the Eastern Region because of wireworms.

**Cutworms:** Some high populations of cutworms in western Manitoba were reported.

**Wheat midge** (*Sitodiplosis mosellana*): Wheat midge was not a major concern in 2013. In some regions, a lot of wheat was already flowering by the time of wheat midge emergence.

**Midge Tolerant varieties:** There was an increase in acres seeded to midge tolerant varieties in 2013. The wheat midge resistant variety blends CDC Utmost VB, Unity VB, Vesper VB, Goodeve VB and Fieldstar VB were seeded on about 120,782 acres, about 4.6% of the red spring wheat acres in Manitoba in 2013 (based on MASC estimates). Smaller amounts of Shaw VB were also grown. About 356 acres of the extra-strong wheat Glencross VB were seeded.

### Sap Feeders

**Aphids:** There were no reports of Aphid reaching economic levels in small grains.

**Thrips:** Thrips levels were generally low and not of concern in small grains. Some low levels of thrips were noted on wheat in the Red River Valley, but not at levels that were considered economical.

### Defoliators

**Armyworm** (*Mythimna unipuncta*): Armyworms were a concern in some small grain fields in the Ste. Rose (NW) and Beausejour (E) areas and some high levels were also reported from the North Interlake. Most of the higher populations of larvae were present in late-July and early-August. Samples of armyworms collected from the Central region for our Crop Diagnostic School turned out to be heavily parasitized.

**Grasshoppers:** Grasshoppers were a concern in many fields of small grains in 2013. Field edges and some fields were treated where there were higher levels. There was some grasshopper control on emerging winter wheat in September. Some were also noting evidence of fungal infections in grasshoppers late in the summer.

**Cereal Leaf Beetle** (*Oulema melanopus*): No economic populations of cereal leaf beetle were reported, however, the known range of cereal leaf beetles in Manitoba has expanded to the south and east. In 2013, cereal leaf beetle was found in fields near Brandon, Holland, Treherne, Killarney, and Pilot Mound.

A shipment of about 120 adult wasps of the parasitoid *Tetrastichus julis* (Eulophidae) was sent from Lethbridge, Alberta to Carman and released in a field near Treherne on July 18th. A second release of about 200 cocoons of cereal leaf beetle that contained *T. julis* was done on September 24<sup>th</sup> at the same location near Treherne. Cocoons were buried in groups of about 20 just outside the field.

## CORN

(334,620 acres grain corn↑; 87,787 acres silage corn↑)

**Cutworms:** Cutworm damage to corn was reported from the Eastern, Central and Southwest regions during June. In the Eastern region, a cornfield which had been in hay the previous season was damaged by glassy cutworm (*Apamea devastator*).

**Wireworms:** High levels of damage from wireworms were reported from some corn fields in the Letellier (E) area.

**Seedcorn maggot** (*Delia platura*): No damage to corn from seedcorn maggot was reported in 2013.

**European corn borer** (*Ostrinia nubilalis*): In 2013, acres of grain corn seeded to *Bt* varieties dropped to 26.8 %, and acres of silage corn seeded to *Bt* varieties was at 13.1%.

Percentage of acres of grain corn and silage corn seeded to *Bt* varieties in Manitoba.

Year	Grain Corn	Silage Corn
2013	26.8	13.1
2012	31.2	12.8
2011	40.8	21.2
2010	54.9	17.7
2009	56.3	17.6
2008	58.7	19.0
2007	63.9	10.8

This data is from the Manitoba Agricultural Services Corporation Annual Variety Market Share Reports.

Higher populations of European corn borer were noted in some fields of corn in the Central region. Some insecticide applications for European corn borer occurred into the second week of August.

### CANOLA and MUSTARD

(**Argentine canola**-3,262,419 acres↓; **Polish canola**-930 acres↓; **Rapeseed**-6,524 acres↓; **Mustard**-3,587 acres↑)

**Cutworms:** Cutworms were a concern in some canola fields in 2013. A field in the Sanford area (C) was reseeded because of cutworm feeding.

**Root Maggots** (*Delia* spp.): There were no reports of root maggot damage in canola in 2013.

### Sap Feeders

**Lygus bugs** (*Lygus* spp.): There were reports of a few canola fields with economical levels of Lygus bugs in the Eastern region in mid-July. Other than that Lygus bugs were not an economical concern in canola.

**Aster Leafhopper** (*Macrostelus quadrilineatus*): After a year of higher than normal levels of aster leafhopper in 2012, levels of aster leafhoppers were low and not of concern in 2013.

### Defoliators

**Flea beetles** (*Phyllotreta* spp.): Use of seed treatments containing neonicotinoid insecticides to manage early-season flea beetle populations continues to be common. Feeding damage to young plants at or above threshold levels was still reported from all agricultural regions of Manitoba. There are reports of some fields being sprayed with insecticides 2, 3, or 4 times early in the season, and some fields being reseeded because of excess feeding from flea beetles.

In early-July there were some reports in the Central region of flea beetles feeding on canola blossoms. There were also reports of high populations of flea beetles on canola in late-August.

**Bertha Armyworm** (*Mamestra configurata*): Pheromone-baited traps to monitor adult moths of bertha armyworm were set up at 89 locations in Manitoba in 2013. The monitoring period was June 3<sup>rd</sup> to July 28<sup>th</sup>. Cumulative moth counts suggested that some areas were at moderate risk of bertha armyworm being

problematic. Table 1 shows the highest trap counts for 2013.

Table 1. Highest cumulative counts of bertha armyworm (*Mamestra configurata*) moths in pheromone-baited traps in Manitoba in 2013.

Nearest town	Region	Trap Count	Risk Category
Elm Creek	Red River	1,094	Moderate
Ridgeville	Eastern	1,091	Moderate
Sperling	Red River	1,008	Moderate
Zelena	North Parkland	996	Moderate
Manitou	Pembina	925	Moderate
Notre Dame	Central Plains	873	Uncertain

Peak trap catches occurred in most traps during the first or second week of July.

The highest trap catch in a single week was 730 at a trap near Elm Creek on the week of June 24-30<sup>th</sup>.

There were some areas of Manitoba that had high levels of larvae of bertha armyworm and insecticides applied to control them in early-August. Most of the insecticide applications for bertha armyworm were in the southwestern regions or Manitoba; with reports of insecticide applications in fields near Deloraine, Killarney, Coulter, Wawanesa, Boissevain, and Ninga. A couple of canola fields near Dominion City (E) were also sprayed with insecticides to control bertha armyworm.

**Diamondback moth** (*Plutella xylostella*): Pheromone-baited traps for adult moths were set up at 66 locations in Manitoba in 2013. The monitoring period was generally from April 29<sup>th</sup> to July 1<sup>st</sup>.

Table 2 summarizes the results from the traps.

Table 2. Dates of first detection of diamondback moth (*Plutella xylostella*) in pheromone-baited traps in Manitoba in 2013.

Region	Week of first diamondback moth in traps	Week when trap (s) from region first reports cumulative count of > 10	Week when trap (s) from region first reports cumulative count of > 100.	Highest cumulative count from region and location
Eastern	May 13-19	May 20-26	June 3-9	746 Steinbach 317 Beausejour
Interlake	May 13-19	June 24-July 1	--	18 Teulon
Central	May 6-12	May 27- June 2	June 3-9	296 Morris
Southwest	May 13-19	June 10-16	--	14 Miniota
Northwest	May 20-26	June 10-16	--	59 The Pas

The highest single week count was 373 near Steinbach (E) during the week of June 10-16. Highest trap catches were in the eastern and central parts of Manitoba.

Diamondback moth was controlled in some canola fields in the Eastern region of Manitoba.

**Grasshoppers:** Grasshopper populations were high in many areas, resulting in some insecticide applications to canola and field edges.

**FLAX**

(Flax-77,276 acres↓ + 1,087 acres organic flax↓)

**Potato aphid** (*Macrosiphum euphorbiae*): There were no reports of aphids at threshold levels in flax in Manitoba in 2013.

**Grasshoppers:** Grasshopper populations were of concern in many areas. There were reports from the Central region of clipping of flax bolls warranting control of grasshoppers in August.

**SUNFLOWERS**

(41,212 acres non-oil↓; 33,630 acres oil↓)

**Cutworms:** Cutworms damage was evident in some fields of sunflowers, and there were reports of control being applied for cutworms in some fields in the Eastern, Central and Southwest region in June.

**Sunflower beetle** (*Zygogramma exclamationis*): No high populations or spraying for sunflower beetles were reported in 2013.

**Grasshoppers:** There was some concern in the Central region regarding defoliation of sunflowers by grasshoppers.

**Seedhead Insects**

Some fields of confection sunflowers were treated with insecticides during early flowering to control seedhead insects such as **Lygus bugs** (*Lygus* spp.) and **banded sunflower moth** (*Cochylis hospes*). In most instances *Lygus* bugs were the most common of the seedhead insects of concern. Populations of **Red sunflower seed weevil** (*Smicronyx fulvus*) were very low again in most areas this year.

**BEANS (Dry Edible)**

(93,988 acres↓: Pinto-36,404 acres↓, white pea (navy)-28,913 acres↓, black-9,535 acres↓, kidney-8,734 acres↓, cranberry-1,834 acres↑, other dry edible-8,568 acres)

There were no reports of insects being at economic levels in dry edible beans in 2013.

**PEAS (Field)**

(49,046 acres↓)

**Pea aphids** (*Acyrtosiphon pisum*): There were no reports of economic populations of pea aphids in 2013.

**SOYBEANS**

(1,056,652 acres↑)

**Cutworms:** Some cutworm control in soybeans was reported in the Central region.

**Soybean Aphid** (*Aphis glycines*): Soybean aphids started to be noted in very low levels in soybean fields in late-July; the first report of soybean aphid this year was July 18<sup>th</sup>. Populations remained low and there were no reports of high or economical populations for the second year in a row.

**Spider mites:** Spider mites started to be noticed in some fields in late-July and August. In most instances populations were not economical, however there was some field border spraying for spider mites in the Central region.

**Green Cloverworm (*Hypena scabra*):** Green cloverworms were present in fields of soybeans in the Eastern, Interlake and Northwest regions. They were generally at levels below economical importance, however there were some fields of soybeans in the Eastern region that were sprayed with insecticide in July because of high levels of green cloverworm.

**Grasshoppers:** Grasshopper populations were high in many areas, resulting in some insecticide applications to soybeans and field edges.

### HEMP

(11,297 acres for grain↓)

No insect concerns were reported for hemp in 2013, although there was a report from the Northwest of **red flour beetles (*Tribolium castaneum*)** being present in stored hemp.

### FORAGES AND FORAGE SEED

**Plant bugs:** Some forage seed fields were treated for Lygus bugs (*Lygus* spp.) or alfalfa plant bugs (*Adelphocoris lineolatus*).

**Alfalfa weevil (*Hypera postica*):** Feeding from larvae of alfalfa weevil was reported to be causing a lot of damage in some alfalfa fields from mid-June through the first 2 weeks of July. Reports of high levels of damage from alfalfa weevil were from across Manitoba. Some alfalfa for hay was cut early because of the presence of alfalfa weevil, and some insecticide applications were made to control alfalfa weevil.

**Grasshoppers:** There were reports of some localized high populations of grasshoppers on red clover in the Northwest requiring control, as well as grasshoppers needing control on newly established forage seed crops. An alfalfa field in the Steinbach (E) area needed control of grasshoppers, and in June some alfalfa in the Gladstone area was reseeded because of damage from grasshoppers.

### FRUIT CROPS

A sample of *Drosophila* collected in Manitoba in August, 2013 was sent to the National Identification Service in Ottawa and confirmed to be **spotted wing *Drosophila* (*Drosophila Suzukii*)**.

**Strawberries:** There were some reports of damage by **thrips** to flowers and fruit of strawberries in late-June and July. It is not common for thrips to reach economic spray thresholds in strawberries in Manitoba. Some producers of day-neutral strawberries had to provide control of **Lygus bugs, fourspotted sap beetles (*Glischrochilus quadrisignatus*)**, thrips and **spotted wing *Drosophila* (*Drosophila Suzukii*)** late in the summer.

**Raspberries:** Raspberry berries were infested by spotted wing *Drosophila* (*Drosophila Suzukii*), Lygus bugs and also fourspotted sap beetles (*Glischrochilus quadrisignatus*).

## VEGETABLE CROPS

A few samples of **Colorado potato beetles** (*Leptinotarsa decemlineata*) were submitted to Ian Scott at AAFC for neonicotinoid sensitivity testing. This class of chemistry does not appear to be performing as well as it used to in a few locations. Results are not yet available.

Dr. Vikram Bisht is coordinating **potato psyllid** (*Paratrioza cockerelli*) monitoring in Manitoba as part of a national program being led by Dr. Dan Johnson at the University of Lethbridge. No potato psyllids were found in Manitoba in 2013.

**European corn borer** (*Ostrinia nubilalis*): Some tomato seedling were damaged by European Corn borers early in the season. European corn borer also caused significant damage to commercial bell peppers late in the season. Some sweet corn was sprayed for European corn borer.

**Crucifer vegetables:** As canola matured in August, high numbers of **flea beetles** (*Phyllotreta* spp.) moved on to crucifer vegetables. Spring flea beetle pressure on Brassica vegetable crops was also high.

**Carrots and Onions:** Aster leafhopper numbers were significantly lower in 2013 as compared to 2012, resulting in very low level of aster yellows on carrots. Onion thrips infestation was also lower than in 2012.

Thrips and mites were a problem in some tomatoes and eggplants in greenhouse crops.