

# Manitoba Insect and Disease Update

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To report observations on insects or plant pathogens that may be of interest or importance to Farmers and agronomists in Manitoba, please send messages to the above contact address.

To be placed on an E-mail list so you will be notified immediately when new Manitoba Insect Updates are posted, please contact John Gavloski at the address or numbers listed above.

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## Preparing bins and equipment for harvest

A reminder that anywhere even small amounts of grain have been left for the past few month, such as emptied bins, combines, truck beds, augers, etc., there is the potential that stored grain insects could be feeding on the grain and be a source for populations to get established when new grain is placed in bins. So make sure to remove any old grain to reduce the likelihood of stored grain insects. Also note that some oilseed crops such as canola, flax, and sunflowers should not be stored in bins recently treated with malathion.

## Programs

**Collection of obsolete or unwanted pesticides:** The link below lists the dates and locations for Clean Farms Obsolete Pesticides Collection Program for 2012 in Manitoba. There are 20 locations across the province where obsolete or unwanted pesticides can be dropped off between October 23 and 25<sup>th</sup>.  
<http://www.cleanfarms.ca/collectioncampaign/>

## Surveys and Forecasts

**Grasshopper Survey:** A reminder to those involved in the grasshopper survey, that counts are done during August, when the majority of grasshoppers are in the adult stage. See the survey protocol for more details of the survey and where to send data. <http://www.gov.mb.ca/agriculture/crops/insects/fad95s00.html>

## Recent Insect and Plant Pathogen Activity

**Crop Stages and Insect Feeding:** Crops are advancing to stages where many insects that agronomists and farmers have been monitoring will be less of a concern. The stages of soybeans that are most susceptible to spider mites are the R4 (full pod) through R5 (beginning seed – when seeds are filling) stages. Once the soybeans reach R6 (full seed or green bean stage) the feeding from spider mites will have less impact on yield. Some fields are advancing past the stages where spider mites could be most economical.

For sunflowers, when flowering has finished (by R6) and the ray flowers are wilting, the seeds are probably too mature to sustain damage any longer. Concern is greater when heads are just beginning to flower and the seeds are immature.

## Corn

**Goss's Wilt:** Symptoms of the bacterial disease, Goss's Wilt, have been reported in corn fields yet again this season. This disease causes a leaf and vascular blight which can result in severely wilted plants (Figure 1) and significant yield loss. Initial symptoms include water-soaked lesions on the leaves later accompanied by "freckling". Symptomatic leaves often appear shiny due to the bacterial exudate present on the leaf surface (Figure 2). Plants that are damaged by hail, wind, or sand-blasting are susceptible to infection by the bacteria that overwintered in the corn stubble. Wet weather and high humidity favour development of the disease, although disease spread under hot, dry conditions has also been documented. Management of Goss's Wilt includes tillage, crop rotation, removal of grassy weed hosts (green foxtail, barnyard grass, etc.), and genetic resistance. Fungicides are not effective against this disease as it is caused by a bacterial pathogen. Genetic resistance is the primary management strategy, and therefore affected growers should contact their seed providers about resistant corn varieties.



Figure 1. Corn field showing severe wilting due to Goss's Wilt.



Figure 2. Corn leaf showing typical Goss's wilt symptoms. Note shiny leaf surface and freckling within lesions.

### Insect Identification Quiz

What are the 3 Orthopterans in these photos? Are any of these potential crop pests? What do field crickets eat?



A)



B)



C)

**Answer:** A) is a fall field cricket, B) is a camel cricket, C) is a katydid (broad-winged bush katydid). The insect order Orthoptera consists of grasshoppers, crickets and katydids. This order is further subdivided into 2 suborders based on whether the antennae are long or short. Our species of grasshoppers that potentially can be pests of crops are all short-horned grasshoppers belonging to the family of grasshoppers known as Acrididae. So they will have shorter antennae. In figure c) you will notice that the katydid has quite long antennae. Katydids belong to a family of Orthoptera known as long-horned grasshoppers (Tettigoniidae) because they are flattened side to side like grasshoppers, but have very long antennae like crickets. None of our species of katydids are regarded as pests, and some are noted for their songs.

Field crickets belong to a family known as Gryllidae. These are somewhat flattened, and the males are good songsters. Field crickets will feed on quite a few things, but are generally not regarded as pests.

One of the things field crickets will eat a lot of is weed seeds. A study of the fall field cricket at Michigan State University found in a 24 hour period female and male crickets consumed an average of 26 and 9 giant foxtail seeds, 87 and 69 crabgrass seeds, 223 and 90 redroot pigweed seeds, and 12 and 8 velvetleaf seeds, respectively (*J. of Economic Entomology*: 1999: 825-829). The crickets were only being provided weed seeds to feed on in the study, but it does show the potential of crickets to eat large numbers of weed seeds if weed seeds are quite abundant. In addition to weed seeds, field crickets will prey on grasshopper eggs (*The Canadian Entomologist*. 1925: 79-84), apple maggot pupae (*The Canadian Entomologist* 1971. 52-58), alfalfa weevil adults (*Great Lakes Entomologist*. 1979: 153-155), green cloverworm pupae (*Environmental Entomology*. 1983: 662-668), and adult flea beetles (*The Canadian Entomologist*. 1987: 495-496).

Camel crickets belong to a family of Orthoptera known as Gryllacrididae. They are less commonly seen than field crickets and are usually wingless.