

Issue 4 – June 26, 2024

Fruit Crop Report



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Provincial Overview

Haskap harvesting started late last week and is continuing. Strawberry flowering of mid-late season cultivars continues, while early season cultivars have started to be harvested. Mid-season cultivars are in green fruit stage to $\frac{3}{4}$ ripe. Expect bulk of strawberry harvesting (u-pick and pre-pick) to start first week of July. With the continuing moist strawberry field conditions growers have been applying fungicides to protect berries from fruit rot/ grey mold (*Botrytis spp.*). Some fields have observed minor occurrence of common leaf spot disease on the cultivar Kent. Strawberry growers with alkaline pH soil fields and saturated soil moisture conditions have been applying iron foliar for yellowing due to iron chlorosis. Raspberries are nearing end of flowering while apples, saskatoons and sour cherries are in green fruit stage. Some apple orchards experienced less flowering and fruit set likely due to dry conditions the past two years.

The Prairie Fruit Growers Association has updated where to find fruit farms at www.pfga.com

Factsheets on strawberry and raspberry pollinators and visitors:

[Province of Manitoba: Agriculture: Strawberry Pollinators and Visitors: Focus on Bees](#)

[Province of Manitoba: Agriculture: Raspberry Pollinators and Visitors: Focus on Bees](#)

Save the Date! Horticulture School returns August 1, 2024, in Portage la Prairie.

[Horticulture School August 1, 2024](#)

Commercial Fruit Crops- Timely Topics

Managing Spotted Wing Drosophila in Berry Crops

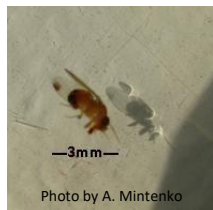


Figure 1: Male SWD. Note black spot on wing.

Berry producers should be on the lookout for Spotted Wing Drosophila (SWD). SWD infestation can occur from the time color starts to appear on the berry all the way through harvest. However, there are no benefits to applying chemical controls before berries begin to colour up. For full information on identification, monitoring and control of SWD see [Managing Spotted Wing Drosophila in Berry Crops Factsheet](#).

Cultural Controls

Harvest ripe berries frequently and cool berries quickly after harvest. At cool refrigerator temperatures SWD stops growing in the berry and eventually die. For raspberries, keep rows narrower to reduce favourable habitat for SWD. For all berry crops, if possible, remove unmarketable fruit and crush in alleyways.

Report compiled by Anthony Mintenko
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Chemical Controls

Weekly applications of approved insecticides are quite effective at controlling SWD and protecting the berry harvest from damage. If SWD are present, then control measures should start when berries begin to colour up. It is important to constantly rotate every application through different insecticide chemical groups to avoid potential insecticide resistance issues with SWD (for updated chemical controls see [Managing Spotted Wing Drosophila in Berry Crops Factsheet](#)).

Yellowing of Fruit Crop Leaves- Iron Chlorosis

Typically iron deficiency chlorosis is a common problem in fruit trees, berry crops and certain ornamental and shelterbelt species in high alkaline (soil pH >7.3) or heavy clay soils. Other conditions which can induce iron deficiency include excess phosphate in soil, along with low soil temperature, and excess quantities of copper and manganese in acid soils. Iron is a catalyst to chlorophyll formation in leaves of the plant.



Figure 3: Iron chlorosis on strawberry leaves, note green veins with yellowing tips and interveinal regions.

Symptoms

The first symptom is a gradual yellowing of the tissue between the veins on younger leaves while the veins themselves tend to stay green (figure 3). If unchecked this condition may advance throughout the plant causing the tips and margins of some leaves to turn brown and become dry and brittle. In severe cases the leaves can become so chlorotic that the leaves appear almost white. The leaf tissue is then so delicate that it easily scorches in the wind or sun. This may reduce fruit yields as resources required for fruit production may be reduced. Sometimes one portion of a plant or perhaps a few trees in an area or patch of plants may be affected. It is also possible to have an affected tree plant and a healthy plant of the same species growing side by side. In severe cases, entire plants can lose their leaves and die.

Treatment

When chlorosis is caused by saturated soils, the condition should be reduced when the soil dries out. If soils remain saturated or are alkaline, the first treatment (foliar sprays) suggested below may be the best solution. However, keep in mind that saturated soils stress root systems and are more susceptible to root rot and other diseases. Because of the complex nature of iron availability, treatments are not always successful. However, there are several treatments to choose from.

1. **Foliar sprays (best for strawberry/ raspberry crops)-** at the onset of symptoms spray leaves with a foliar iron solution. Spray as a very fine mist. If the treatment is successful, the plants should begin to green up about 10 days after spraying. Foliar applications are a temporary measure and successive treatment may be necessary. This treatment may be the best solution with chlorosis caused by saturated soils. Iron foliar applications are a standard practice by strawberry growers when growing in high alkaline

soil pH fields.

2. **Soil application of iron chelates (best for fruit tree crops)** - Apply iron chelates to the soil in the early spring by working them into the top 3 to 5 cm of soil around the base of the tree and watering well. Iron chelates are available from most garden centres. Soil application of iron chelates is the most effective treatment for chlorosis. Results, while not immediate, should last for one to two seasons. This treatment is more effective in soil types that typically cause chlorosis (high lime calcareous or heavy clay soils).

Prevention

If the condition is due to saturated soil conditions, providing good surface and internal drainage may reduce incidence of chlorosis. When the condition is known to persist in an area, caused by high lime calcareous (soil pH >7.7) or heavy clay soils, then susceptible plants such as strawberries, raspberries, currants, apples, high bush cranberries should not be planted.

Strawberry Leaf Diseases Common to Manitoba

Strawberry fruit fungal diseases are usually not a problem during an average dry prairie summer. Prairie strawberry growers do not regard leaf diseases as a serious concern since they do not appear until after picking. After renovation, a healthy foliage canopy must be maintained for fruit bud set and storage of winter food reserves.

Risk of strawberry leaf and fruit diseases is reduced with renovation and removal of tops from the field. Tops are an inoculum source that may reinfest foliage the following year under suitable conditions.

Plants and leaves are mostly susceptible early in the growing season and in late summer, especially where growth is very succulent. Some cultivars, like Kent, are more susceptible to leaf diseases than more recently released cultivars. Timely fungicide sprays are an effective method of control.

Symptoms of Common Leaf Diseases

Common Leaf Spot



- Fungus *Mycosphaerella fragariae*
- Initially 3-6 mm purple spots
- White centres, later purple borders
- Kent cultivar susceptible

Angular Leaf Spot



- Bacteria *Xanthomonas fragariae*
- Angular spots (not rounded)
- Lesions appear as “windows” when lit from behind
- Unique in that its a bacterial infection not fungal
- Kent cultivar susceptible

Leaf Scorch



- Fungus *Diplocarpon earliana*
- Irregular purple brown-blotches
- Tissues around lesions turn purple to bright red
- Kent cultivar susceptible

Leaf Blight



- Fungus *Phomopsis obscurans*
- Initially circular reddish-purple spots
- Older spots coalesce into larger v-shaped lesions
- Rare

Cultural Controls

- Plant less susceptible cultivars.
- Removing old and infected leaves at renovation.
- Allow for good air flow across the field with sufficient spacing between rows.
- Avoid applying excess nitrogen fertilizer which can result in excess growth and dense canopies.
- Use of drip-irrigation systems greatly reduces water on leaves and reduced spread of fungal spores.

Chemical Controls

Many of the fungicides that control fruit rot are also effective for some leaf diseases. See [OMFRA Crop Protection HUB](#) for registered control products based on the leaf disease present. Confirm on the label that products registered for use in Manitoba (i.e. not restricted for use in eastern Canada or BC only).

Image Sources:

Angular Leaf Spot: D.E. Legard, University of Florida; Leaf Blight: D.E. Legard, University of Florida; Common Leaf Spot: MB AG;

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References

[Province of Manitoba | agriculture - Strawberry Production \(gov.mb.ca\)](http://www.gov.mb.ca/agriculture/production/strawberry/)

[Province of Manitoba | agriculture - Commercial Strawberry Production on the Prairies- Guides and Publications \(gov.mb.ca\)](http://www.gov.mb.ca/agriculture/production/strawberry/production-on-the-prairies-guides-and-publications/)

Berry Harvest Picking Tips

The Prairie Fruit Growers Association (www.pfga.com/picking-tips/) provides customers with picking tips for all fruit crops with a focus on strawberry, Saskatoon and sour cherry.

High Tunnel Strawberry Trial Update

Early Season Strawberry Production in a High Tunnel Trial

June-bearing strawberries that were started last August and overwintered are still being harvested. Harvesting is done twice a week. Cabot, a June-bearing strawberry, planted in early May has grown significantly with heavy bloom and green berries developing (figure 4). Various insect pollinators are visiting the flowers inside the high tunnel. With the cool nights in June we have been closing the north and south doors overnight/ early morning to maximize warmer temperatures in the high tunnel (figure 5).



Figure 4: High tunnel planting of 'Cabot' June-bearing strawberries.



Figure 5: High tunnel at the Research Orchard, Portage la Prairie AAFC Station.