



2022 Snobelen Farms Yield Challenge Newsletter

Weed of the Week: Eastern Black Nightshade



Picture courtesy of OMAFRA

Seedling

Cotyledons are green on top and maroon on the lower surface, they are an oval shape and smooth.

Mature Plant

The plant can grow up to a meter in height, the stem is mostly hairless and becomes very branched on the upper part of the stem. Leaves are alternate and are a pale green colour and appear almost translucent. Flowers are small and in groups of 2-5, they are white in colour. The fruit are black berries, each containing around 100 seeds.

Favourable Conditions

Can be seen throughout Southern Ontario, common in cultivated fields with row crops.

Resistance

There is some resistance to Sulphonylurea and imidazolinone (group 2) ex. Classic and Pursuit in Ontario.

Management

Night tillage can reduce emergence by approximately 60%. It can be controlled by a rotary hoe as long as the plant is not taller than 1/4inch. Spring tillage and a later planting date can assist in reducing populations. Soybeans planted in 7.5 inch rows can help to reduce nightshade growth as well as berry production.

Growing Degree Days and Crop Heat Units

The following table will provide a look at the approximate growing degree days and crop heat units in your area for a planting date of May 10th.

Table 1: Cumulative growing degree days and crop heat units

Location	Growing Degree Days June 14-21	Crop Heat Units June 14-21	Cumulative Growing Degree Days	Cumulative Crop Heat Units
Brantford	457.3	183.2	2355.8	871.9
Lucknow	452.8	177.8	2305.2	828.7
Palmerston	435.0	169.8	2222.6	768.2
Stratford	441.1	173.5	2258.6	793.4
Tiverton	453.0	178.7	2311.9	835.7

Herbicide Damage in IP soybeans

As we continue to scout IP soybean fields, we are consistently finding herbicide damage throughout fields. Here are some pictures of the herbicide damage we are finding and what is causing it. Most plants will grow out of the damage, and it is unlikely it will be yield limiting.



S-Metolachlor Injury
Seedling shoot growth inhibitors (Group 15) The most common symptom pictured above is the heart shaped leaflets. Fields that received tank mixes of group 15 products before a heavy rain are likely to show these symptoms



Group 9 injury
EPSP Synthase Inhibitor (Group 9) ex. Glyphosate and roundup



HPPD Inhibitor (Group 27) ex. Callisto, Impact, Laudis. Symptoms are white or bleached leaves.



ALS Injury
ALS inhibitors (Group 2) ex. Classic, Pursuit, and FirstRate. Leaves show chlorosis and a red coloured leaf vein.

Hot Topics from the June 21st Exeter/Mt. Forest Agribusiness Breakfast Meeting

- Today is the first day of summer.
- Seeing Yellow corn in Bruce County from 2 consecutive cold nights and a bit of sun scald. It will grow out of the yellowing.
- If you are thinking of planting soybeans after Winter Canola, Winter Barley/Wheat, plant narrow rows and keep populations high like 275,000 seeds/acre.

Horst Bohner, OMAFRA:

- Tough looking beans across the province.
- Soybeans can only start flowering at 3rd trifoliolate or later.
- If you want max yield in Ontario, you have to plant early so that by the time we hit summer solstice (June 21st) your soybeans are at the 6th trifoliolate. You want as many trifoliolate as possible before flowering.
- No soybean aphid populations yet.
- Planting at 3" deep was a big mistake this year on heavy clay soils with crusting and slow emergence it has really hurt the soybean stands.
- Horst is starting to believe you can judge a soybean crop by the harvest from the previous fall. For example, the wet fall last year has created some compaction which can limit root growth.

Robert Maloney, Boyd's Farm Supply:

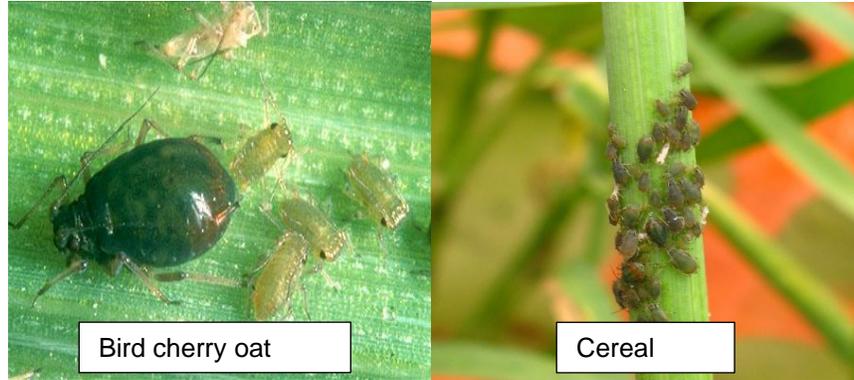
- Seeing damage on tap roots of soybeans from insect feeding because of slow emergence and cool soils which allowed the insects to thrive.

Agricorp:

- There were 800 calls on spring replants, winter kill, taking time to get through all the claims.
- There were 280 clients that have unseeded acre claims which was June 15th closing date.

Peter Johnson:

- Cereal aphids not at serious levels yet but keep an eye on them.
- In Winter Wheat the threshold for wheat that is headed is 50 aphids/head. Let the beneficials (like lady bugs) build up before spraying.
- In spring cereals, the threshold is 15 aphids/plant preheading.
- There are 2 kinds of aphids, bird cherry oat aphid & Cereal aphid.



<https://entomology.k-state.edu/extension/insect-information/crop-pests/wheat/bird-cherry.html>
<https://www.gov.mb.ca/agriculture/crops/insects/print,aphids-on-cereals.html>

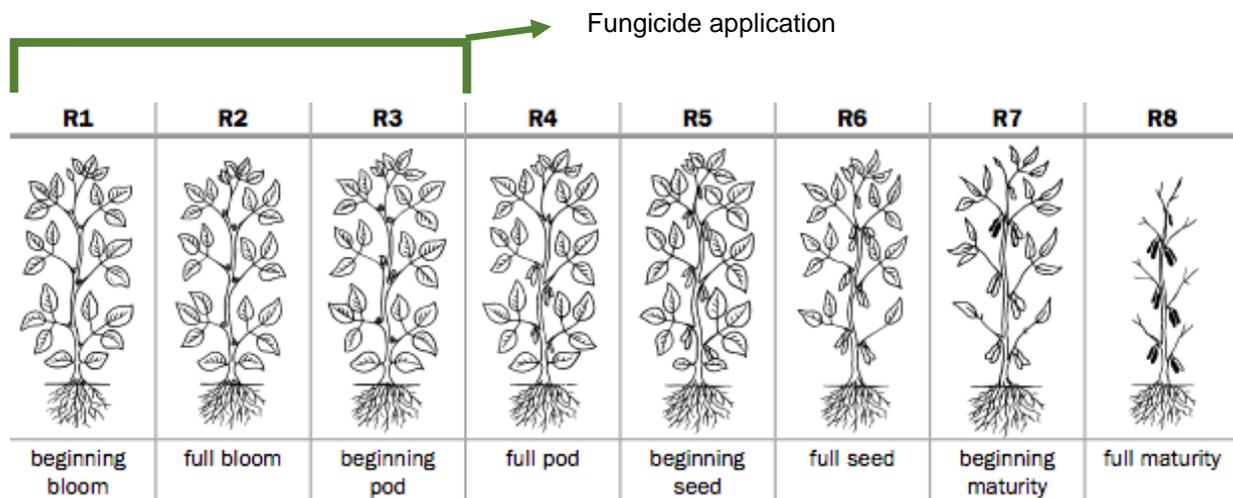
- Wheat harvest is coming in sooner than normal. Approximately 4-6 days ahead of normal based upon when flowering happened plus the high temperatures which is shortening grain fill time which impacts grain yield.
- There is a report that a grower in Harrow, Ontario has wheat in the milk stage already.
- There is a report of leaf hoppers in the alfalfa fields which comes from storms from the US. Keep an eye out for them.

Fungicide Timing

It's time to start thinking about a fungicide application on your soybeans. With the high moisture we have experienced so far this year there is a high potential for white mold if weather trends continue as they have.

So why should you be using a fungicide? Soybeans are susceptible to diseases that can have major yield impacts. It is said for every 10% incidence of white mold there is an estimated yield loss of 3.7 bu/acre. With the good crop prices its best to protect your yield and take advantage of the high prices.

If you have decided you want to have a fungicide applied to your soybean. Fungicide applications should begin at the R1 stage and have shown to be effective up to the R3 stage. In the R1 stage 50% of the plants in the field need to have started flowering. In the R2 stage the plants should be in full flower with open flowers at the upper most nodes. R3 stage is the beginning pod stage.



If you do have high incidence of white mold such as history of white mold, manure in the rotation, very lush and thick crops you may have to consider applying 2 fungicides about 2 weeks apart. ALWAYS mix up your modes of action and don't use the same product twice. If you have white mold and can see it, it is too late for prevention and the likelihood of payback decreases. The fungicide is preventative not curative; we can not paint the plant green with a fungicide.

OMAFRA research and independent research has shown that adding a Potassium product like Alpine's with a high concentration of Potassium there is a synergistic effect with a 1+1=3 for yield. Always do a jar test first to check for compatibility! This does not happen every time but in cases where the pressure is high a big payback can happen.

Trying to get the biggest bang for your buck on fungicides? High water volumes like 15-20+ gallons/acre. You need to cover the plant to get disease suppression for issues like Frog-eye spot or if you are trying to protect against white mold you need to get at the flowers of the plant and thus high-water volumes are important.

The downfall to fungicides is you are not always guaranteed a reduction in white mold. It can also delay harvest because of the added plant health benefits means disease is not pre-maturely killing the plant.

If you are having trouble deciding what fungicide to use both Syngenta and BASF have very competitive fungicides.

BASF- Cortegra

- Combines the two leading active ingredients targeting white mold in canola, in a convenient liquid premix
- Provides industry leading management of white mold in soybeans, canola and dry beans.
- Designed to protect soybeans from white mold and other key foliar diseases, including frog eye leaf spot and Septoria brown spot



Source: **AgSolutions**® Performance Trials, Ripley, ON, 2017



Syngenta- Miravis Neo

- Keeps plants healthier longer, in a way that is visually distinguishable from other treatments
- Helps crops reach full yield potential with three active ingredients
- Creates a reservoir within the wax layer of the leaf that withstands rain and degradation
- Distributes evenly within the leaf for consistent protection

