

2022 Snobelen Farms Yield Challenge

Newsletter

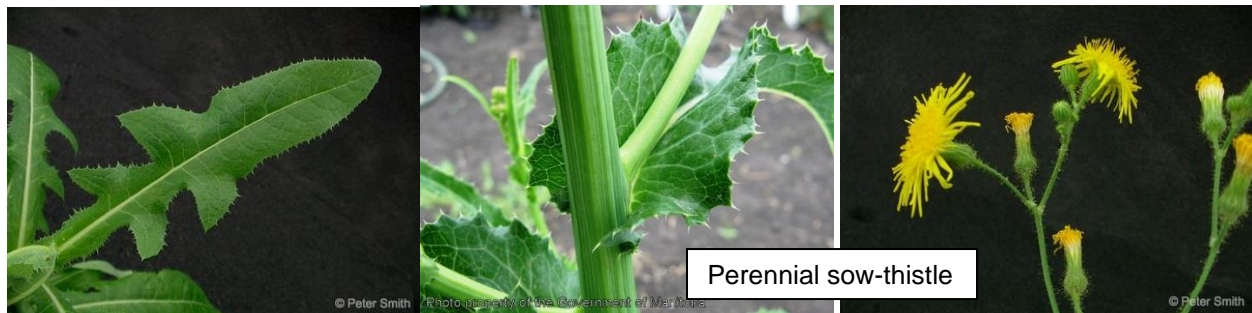
Perennial sow-thistle vs Spiny annual sow-thistle vs Canada thistle

Perennial sow-thistle

Leaves: Has elongated wavy toothed divided leaves. They are close to hairless and are slightly spiny.

Roots: They have vegetative shoots from the rhizome, so they commonly develop in colonies

Mature Plant: The stem is hollow and up to 1.5 meters high with hairs on the upper part. Stem leaves have rounded auricles that clasp the stem. Flower heads are yellow with glandular hairs. "Smooth perennial sow-thistle" does not have the glandular hairs on their flowers.



OMAFRA & <https://www.gov.mb.ca/agriculture/crops/weeds/perennial-sowthistle.html>

Control:

According to the Pest Manager app the best control for perennial sow-thistle in soybeans is:

Post-emerge

Trade name	Control percentage
Basagran Forte	70% control
Blazer, Ultra	70% control
Classic	70% control

Spiny annual sow-thistle

Leaves: Has elongated, wavy toothed leaves that are divided with spines.

Roots: Can be distinguished from perennial sow-thistle and Canada thistle by its tapering root.

Mature Plant: The stem is hollow and grows up to 1.2 meters in height with no hairs. Stem leaves have large spiral auricles that clasp the stem. Flower heads are yellow and slightly smaller than those of perennial sow-thistle plants.



OMAFRA

Canada Thistle

Leaves: Leaves are deeply divided prickly, spiny and have crinkled edges, they arise from the roots. There are white hairs on the under side of the leaves.

Roots: Like Perennial sow-thistle vegetative shoots arise from the roots.

Mature Plant: Stem is branched and can grow to 1.2 meters high. Stem leaves are very spiny and will no longer have whiter hairs underneath. Flowers are a pink-purplish colour and are 10-20mm in diameter.



<https://www.gov.mb.ca/agriculture/crops/weeds/canada-thistle.html> & OMAFRA

Post-emerge

According to the Pest Manager app the best control for Canada thistle and spiny annual sow-thistle in soybeans is:

Trade name	Control percentage
Basagran Forte	80% control
Cleansweep co-pack	80% control
Blazer, Ultra	70% control
Classic	70% control

Double Cropping Soybeans



Everyday after July 1st equals a loss of at least a bushel an acre. If you must, harvest the wheat at 22% moisture pay for the drying and get your soybeans in as soon as possible.

When double cropping soybeans it is important to have a plan. Ensure your timeline allows you to get the beans planted as soon as possible. Maturity is very important when looking for a successful double crop. Planting date is required when picking the best variety. Depending on the date in July you should be shorting your maturity group, the later into July the more it should decrease. **Seeding rate on July 1st should be around 225,000-250,000 seeds/acre** the later you

plant the more the seeding rate should increase. By July 10th seeding rate should be anywhere from 250,000-275,000 seeds/acre. This is so the canopy is closed by the time the soybeans move into flowering. Planting should be done by a drill or an air seeder at 7.5 inches. Good moisture is ideal for a successful double crop. Do not be afraid to plant as deep as 3 inches to get to that moisture.

<https://www.youtube.com/watch?v=CFQv9C3awnA>

Bean Leaf Beetles

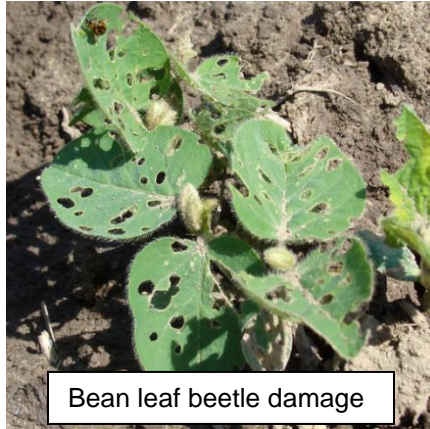
Information courtesy of Early Season Field Crop Pests

Adults are 4-9mm and vary in colour most commonly they are yellow, orange, tan or red. Can have 4 black square spots on their wings, all will have a black triangle on their wings.



<https://www.syngenta.ca/pests/insects/en/bean-leaf-beetle/Soybeans>

Life cycle: Adults will overwinter in the grass edges of the field underneath death leaves. They emerge around the end of April and will feed on early emerging soybeans or forages and will live until late June. They will lay lemon shaped, orange-coloured eggs at the base of soybeans. The larvae will feed on the soybean roots but are not of economic concern. First generation adults emerge in July and feed until they begin to over winter.



Damage: the overwintering generation will leave circular holes between the main leaves. The first generation will also leave circular holes on leaves as well as on soybean pods. When they feed on the pods, they leave only a thin film over the seed. Making them susceptible to seed diseases like *Alternaria*.

Favourable conditions: Soybean fields beside alfalfa or other legumes or earliest planted soybean fields in an area.

Threshold:

Seedling stages (VC-V2): 16 adult beetles per 30cm of row. If plants are clipped off at the stem, control is needed.

Vegetative stages to R4: Pre-bloom 30% defoliation warrants spray and from R1-R4 15% defoliation warrants spray.

Pod fill to maturity (R4-R6): 25% defoliation or 10% of the pods on the plant having feeding injury and beetles are still active spray is warranted.

Management strategies:

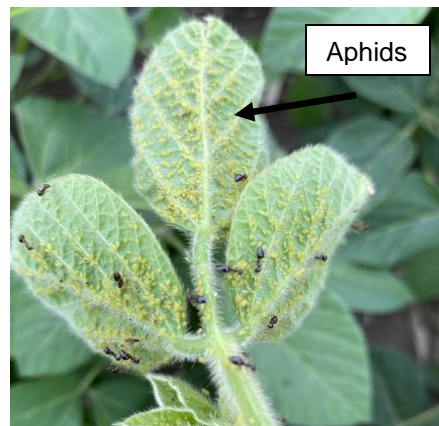
Preventative and cultural control: In areas with a history of injury wait till the end of May to plant so the overwintering generation has already emerged. There is still the possibility of injury from the first generation. Try not to be the first field to emerge in your area if you have a history of seedling injury.

Chemical control: Insecticide seed treatments are a good option if the field has a history of early season bean leaf beetle feeding damage. Foliar insecticide treatment is available if defoliation thresholds have been met.

Aphids in Ayr

Aphids have been spotted in Ayr, ensure you are monitoring your fields for aphids if you are in this area. (Courtesy of Meagan Loi (Griffiths)).

Recent rains will help with controlling aphid populations. Scout for lady bugs which feed on soybean aphids.



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 28- July 5	Crop Heat Units June 28-July 5	Cumulative Growing Degree Days	Cumulative Crop Heat Units
Brantford	451.5	182.4	3274.5	1238.5
Lucknow	433.8	169.8	3188.6	1175.8
Palmerston	422.6	163.8	3082.7	1101.5
Stratford	434.5	173.0	3136.8	1140.4
Tiverton	433.0	169.3	3192.5	1180.8

Highlights from our yield challenge summer meeting!

When spraying a fungicide need to get good coverage of the plant. This is for plant health to cover the leaves. This is also because need to hit the flowers of the plant if you want white mould control. White mould starts in the bottom of the plant and moves up. Need to protect early for white mould. If you see a white mould in the bottom of the plant and you apply a fungicide you will protect the unaffected part but yield will be decreased because you can not reverse the infection.

When trying to control volunteer corn in IP Soybeans very easy to do with herbicides like Assure II/ Yuma/Contender etc... which have the active ingredient Quiazalofop- ethyl. These are less expensive graminicides and have a wide application window. Watch the pre-harvest interval when applying these graminicides. When comparing these to Venture-L (Fluazifop-P and S-isomer) or Select (Clethodim), Venture-L has some LIMITED residual activity but is limited to 4-leaf corn. Assure II and Select or their generic counter parts are registered to 6 leaf corn for control. Doesn't matter which product you choose ALWAYS READ THE LABEL.

Example- Select herbicide and Arrow herbicide are the same active ingredient, Clethodim. BUT Arrow All-in has the surfactant built in vs Select does not!!! And the rates are different because of this. Select use rate is 75mL-150mL/acre VS Arrow All-in use rate is 152mL – 304mL/acre. Know before you spray!!

Planting depth was a hot topic too!

The consensus was to plant between 1"-1.5" deep. The seed representatives present felt there is no need to plant 3" deep. Horst Bohner, OMAFRA Soybean Specialist has made this comment before as well. Soybeans struggle if there are planted much deeper than 2". Brendan Zettler- Snobelen Farms IP Program coordinator had to plant 2" deep and his reasoning is; planting no-till ground, planting to moisture on sand but also he had to plant to 2" because that was where he could get the seed slot to close the trench. Crusting was a big issue as always. Some customers had planted deeper than 2" and had a big rain on the soybeans and crusted the soil.

This led into discussion of whether to roll beans before they emerge or after they emerge.

More and more people are trying rolling after emergence to lessen the issue of crusting. Ideal timing 2nd trifoliolate and a very hot day was the best time to roll the field. The field we were in was rolled after



emergence and we saw a few plants where they had broken off the latest trifoliolate, but you could see where it was trying to regrow from the point of damage.

NO SPROCKET PACKERS just smooth drum rollers if you want to try the post emergence rolling of soybeans. A few customers said they still use the sprocket packer behind the drill on conventional tilled soybeans which leaves it firmer but has a little more texture to the soil so prevent crusting was there thinking.

Saw a lot of seedcorn maggot this year a bit of wire worm feeding on the soybean seed. Thoughts are that beans were slow to emerge, and this provided ample time for the insect to feed on the beans. No matter what seed treatment you have on your soybeans they have to bite the soybean to ingest the insecticide to die. So, you will see some minor feeding if you have an insecticide on it. We saw some extensive feeding on the soybean seed when it could not get out of the ground and there was some lost plant stand due to it.

The hidden yield robber – Soybean Cyst Nematode (SCN)

One representative had mentioned seeing egg counts for a soybean field with 30,000 eggs!!! That is HUGE. 10,000 eggs/sample is a big yield loss. What do we do? If you have numbers like 30,000 eggs you need to stop growing soybeans and get into a crop like alfalfa, corn, wheat and other non-host crops for a while to get the numbers down. Once you have SCN you have SCN. You need to soil sample to know what you have for populations to make the right choice.

Look for patches of soil that are round to oblong that started out okay but start dying in the centre and keep getting bigger. The reason you may see oblong patches is because the tillage is moving the circle and stretching in the direction that you worked the ground. When you sample for SCN in these patches make sure you sample around the outsides of the patch since the SCN will be most active there vs. in the middle where they are done feeding and have killed the host. Sometimes when you sample a farm/field you will get a zero count for eggs, but you KNOW that SCN exists in the field. This is possible that you missed the high populations or the wrong time of year etc... The SCN will show up first on the lighter soils and have the worst impact vs a heavy clay soil though they can still have an impact there too.

P188788 resistance is the most common strain of resistance bred into Ontario soybean genetics. Using the same variety of soybean if you know you have SCN this is not a good management strategy as SCN can build up resistance to P188788 and it has in the USA. Alternatively, there is another line of resistance which is PeKing. Unfortunately, it is a good strain for resistance, but the yield is not sufficient to advance the varieties to have a second option. BASF and 2 other companies are releasing a new biological/strain in the US to fight the SCN. This will be something to watch in the next few years especially areas with 10,000 + eggs in their samples.

Seed treatments are another line of defense along with the bred in resistance. Current offerings right now are Ileva from BASF or Clariva from Syngenta and a new seed treatment called Saltro from Syngenta to help push back on SCN damage to soybeans. There was also mention that they are working on biological control of SCN as well to help with the issue. At very high levels of SCN egg counts you should be looking at using seed treatments and bred in resistance. Syngenta and Secan are both aware of the issue with SCN and with new variety development it is important to have those options for lower maturity soybean for maturities like 2600 CHU.

A good point from one representative was that if you use seed from your bin to plant and it has a bit of soil stuck to the seed that could be a carrier for SCN and transmit it to a new field.



If you see Sudden Death Syndrome in soybeans, be sure to dig up the roots of the plant and investigate for SCN. The two like to work together but NOT always. SCN allows the Sudden Death Syndrome (SDS) in the door and they both kill the plant. One benefit of Saltro is that it works to protect against both SDS and SCN.

Being it has been quite dry across the province with lack of moisture the next potential to watch for is Spider mites which come in from the field edges and can spread rapidly throughout the field when it stays dry. IF we get rain that can drop the populations of spider mites and keep them in check.

Also, so far, no real issues with Soybean Aphids yet. Remember if you had treated the soybeans with an insecticide, you will have some protection against aphids for a period of time which helps. A newer product from BASF that has been on the market now for a year or two is Sefina which is an insecticide for Soybean Aphids but does not kill the beneficial insects. new insecticides are coming out that are specific on what they kill and gentle on beneficials.

- For optimal herbicide control weeds should be smaller than a match box
- Group two herbicides do not translocate well throughout the plant. They require good and even contact
- If rolling soybeans after emergence, ensure that they are at the second trifoliolate and it's the heat of the day when the beans
- Soybeans can regrow if not snapped off below the cotyledon

One of the big take aways is NOTHING is 100% effective. Whether that is herbicides, SCN seed treatments, SCN breeding in varieties or fungicides they will not obtain 100% control.