

2022 Snobelen Farms Yield Challenge Newsletter

Weed of the Week: Volunteer Corn

Volunteer corn is a very competitive weed and can be yield limiting. Volunteer corn can also aid in the survival of corn rootworm, seedcorn maggot and gray leaf spot disease. This factor makes corn-soybean rotations less beneficial. The genetic traits are carried over in the volunteer corn and make control a challenge. Clumps of volunteer corn are more yield limiting than individual plants scattered throughout the field. It is important to get this weed under control.



Management

According to Mike Cowbrough the only option for controlling volunteer corn in Soybeans is to use a post emergence herbicide from the Group 1 mode of action. It is important to not wait until all the volunteer corn has emerged or else targeted plants will be too large for control. Early control in volunteer corn is very important.

The following charts are courtesy of Ryan Benjamins *correction FMC should be FBN*

<i>Quizalofop-P-ethyl</i>		<i>Surfactant Options</i>
Assure	AMVAC	Suremix in the case (might be too much or not enough)
Contender	IPCO	Some boxes contain MSO, some sold separately. Can use any option below.
Leopard	Adama	XA Oil/Carrier/Suremix/Turbocharge/Merge/Journey/MSO
Idol	Nufarm	XA Oil/Carrier/Suremix/Turbocharge/Merge/Journey/MSO
Yuma	Gowan	XA Oil/Carrier/Suremix/Turbocharge/Merge/Journey/MSO
Elegant 10% EC	FMC	XA Oil/Carrier/Suremix/Turbocharge/Merge/Journey/MSO

If you are growing IP soybeans and tank mixing with Reflex you MUST use Turbocharge, Suremix, Carrier, or Journey as the surfactant.

Always read and follow label directions!



Soybean Cyst Nematode- *Known as the silent yield robber*

It is important to know what your SCN levels are at, testing yearly helps give you an idea on whether your management practices are working. If your levels continue to rise every year you will know your management practices are not working. Sampling for SCN in the fall is the perfect time as it can coincide with your soil samples. Just take a few more samples from the field mix them together and send half for SCN testing and half for fertilizer recommendations. If you find patches in your field, ensure you are taking soil from the outer parts of those patches. The SCN are most active on the outer parts of those patches.

Table 1. Potential risk of yield loss for various SCN population levels (based on soil test results)

SCN population(eggs/100gm of soil)	Risk Rating	Potential Yield Loss	Rotation
0-500(coarse, sandy soils)	Low risk	0%-20%	4-year
0-1,000(fine-textured silt or clay)	Low risk	0%-20%	4-year
1,000(coarse, sandy soils)	High risk	20%-50%	6-year
2,000(fine-textured silt or clay)	High risk	20%-50%	6-year
10,000(all soil type)	Resistant variety may be damaged	50%-100%	non-host

Source: T.Welacky and A. Tenuta. Agriculture and Agri-Food Canada and OMAFRA, 2014.

The chart pictured above is an efficient way to interpret your SCN sample results. (OMAFRA)

Management

Once you have SCN in your field it is best to keep populations low instead trying to lower high populations. It is not possible to eliminate from your field once you have it, so management is key. Crop rotation is an important management practice when it comes to SCN. A good crop rotation will limit the food source available to the SCN and hatching eggs will die. Make sure crops in your rotation are not hosts of SCN. Alternate hosts include beans (adzuki, bush, dry, green, lima, mung, red and snap), clover (alsike, crimson, scarlet, sweet), cowpeas, vetch, garden peas, common mullein, birdsfoot-trefoil, chickweed, purslane, pokeweed, winged pigweed and ground cherry. It is important to control the hosts, in other crops so the SCN do not have anything to feed off when you are rotating between soybeans. Keep in mind that SCN can also feed on edible beans so including them in your rotation is not a good option. If you have a history of SCN rotate with resistant soybean varieties and use different sources of resistance. Seed treatments are another good option when it comes to management. Seed treatments include products like Clariva, Saltro, and Ileva to help suppress the nematodes. These are not 100% fixes but help with keeping populations in check.

Sudden Death Syndrome & Soybean Cyst Nematode



<https://fieldcropnews.com/2020/08/omafra-field-crop-report-august-13-2020/>

One concern is if you see Sudden Death Syndrome in Soybeans check for Soybean Cyst Nematode. The nematode opens the plant up to allow the pathogen Sudden Death Syndrome to enter through the roots and will kill the plant eventually.



Avoid spreading SCN by planting and working fields that are infested last. Cleaning equipment before moving to another field is another good way to limit the spread. Anything that moves the soil will spread SCN and should be cleaned ex. your boots, truck, sprayer, combine, and planter. At Snobelen Farms we have taken biosecurity measures to ensure we are not spreading SCN when scouting fields.

Damage

Soybean plants will show stunting and chlorosis ranging from slight to severe. Symptoms of SCN can appear similar to symptoms seen in nitrogen and potassium deficient soybeans. The cysts on the roots first appear as white-yellowish coloured lemon shapes on the outsides of the root. As time progresses the cysts turn to a dark brown colour. Damage is seen as circular or oval shape in the field. The less stress the soybean crop is under the less yield loss.

Favourable Conditions

Higher populations of SCN are associated with sandy and well drained soils. No-till fields with high clay tend to have lower levels of SCN. High soil pH can also be associated with high SCN levels.

<https://www.syngenta.ca/pests/disease/en/soybean-cyst-nematode/Soybeans>
<https://soybeanresearchinfo.com/soybean-disease/soybean-cyst-nematode-scn/>
https://crops.extension.iastate.edu/soybean/diseases_SCNbiology.html

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 21-28	Crop Heat Units June 21-28	Cumulative Growing Degree Days	Cumulative Crop Heat Units
Brantford	467.2	184.2	2823	1056.1
Lucknow	449.6	177.3	2754.8	1006.0
Palmerston	437.5	169.5	2660.1	937.7
Stratford	443.7	174.0	2702.3	967.4
Tiverton	447.6	175.8	2759.5	1011.5