

South Eastern/Interlake Agronomic Webinar



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Today's Topic

- Soybean and Pea yields in Manitoba
- High soil Nitrogen levels for Peas and Soybeans?
- Residue issues to watch out for in Peas
- Seeding Rate Calculator
- SCN in Soybeans
- Soybean regrowth
- CN Soybean Options

2022 Pulse acres and Yields

Crop	2021 Manitoba Harvested Acres	2021 Provincial Yield	Eastern RM's Yield	Interlake RMs Yield
Soybeans	1,138,749	28 bu/ac	33 bu/ac	21 bu/ac
Peas	201,419	36 bu/ac	25 bu/ac (1000 ac)	18 bu/ac
Dry Beans	172,611	1281 lbs/ac		

Field Peas/Soybeans

- Reason for higher nitrogen levels in 2021
 - Less crop uptake and removal
 - Some crops terminated early and reseed, but they did not germinate
 - Few losses to leaching and denitrification in dry conditions

<https://www.gov.mb.ca/agriculture/crops/seasonal-reports/pubs/soil-nitrate-concerns-pulses.pdf>

Soil Nitrate Concerns for Pulse and Soybean Crops

2021 will go down in history as a very different year. Dry conditions throughout most of the province meant extremely low yields in cereals and grasses on light sandy soils. Regions that received timely rains experienced growers with respectable yields. August saw some late season rains after most of the cereals were harvested and then in September, farmers had another surprise when soil test results started to come back with much higher nitrate levels on their cereal ground than they had experienced in the past. Soil nitrate levels can range from 50 to as high as 150 lb of residual N. How do peas and soybeans handle the high nitrogen N levels, and what will the effect be on nodulation in these crops?

There are 3 main reasons for higher nitrate levels this year:


- less crop uptake and removal
- some crops being terminated early and reseeded, but they did not germinate
- less losses to leaching and denitrification in dry conditions

Soybeans

High nitrate levels can be an asset for high N-use crops and a nuisance for N fixing crops. During the 2000s, when soybeans were introduced across Manitoba, high nitrate levels played havoc with good nodulation of first-time soybean fields. Based on field observations and a handful of studies, a loose rule of thumb was developed to avoid growing soybeans in fields with exceeded 60-70 lb N/ha.

As soybeans were grown more frequently, and background soil levels of nitrogen built up, the rule of thumb became less and less relevant. Research funded by the Manitoba Pulse and Soybean Growers indicated that growers should target a minimum of 50 residual per plant. A few field studies indicated that high N levels reduced nodule numbers on virgin fields below the 10 per plant target. On experienced fields, although high N levels reduced nodule numbers, the number of nodules usually exceeded the 10 per plant target (Hend et al. 2012). In the worst-case treatment of 150 lb N/ha as urea, soil nitrate levels averaged 130 lb N/ha or 73 lb more than the check. In this instance, first-time soybeans and all experienced soybeans had less than 10 nodules.

Soybeans do use and need some soil nitrate to get established. We measured that some 50 lb N/ha is taken up by the vegetative plant in the opening phase in Manitoba, which then produces the least 150-200 lb N/ha needed by the crop. The problem is when soil nitrate is high enough to inhibit nodulation, but insufficient to meet the whole yield potential of the crop.



High Nitrogen Peas/soybeans - What to Watch for !



- 50 lbs/ac N no changes to your typical program
- 100 + N change to a crop that makes better use of N.
 - Crops need N nitrogen throughout the season that's the benefit of nodulation
- 50 – 100 lbs of N- Liquid on seed , In furrow Granular/liquid
- If nitrogen is higher than 100 lbs/ac, one would expect to see reduced nodulation, but the field peas would still grow and have respectable yields given good growing conditions.
- For soybean on high N fields crow iron deficiency chlorosis (IDC) tolerant soybean varieties. High nitrate levels are one of the risk factors, besides salinity and free lime or calcium carbonate that lead to IDC in soybeans.

Good Launch = Good Location

Heavy Clay soil/poor drainage + Too much summer rain fall =Not a Good Launch



**Kane, Manitoba
Same Variety, Same
date- 2 miles apart**



Field Pea residue issues moving into 2022

- **Clopyralid**- Cimpreme, Draft CT, MPOWER Clobber, MPOWER Foxy CRX, Eclipse, Lontrel, Pyralid, MPOWER Battlefront, Prestige, Spectrum, Curtail, Akito, Momentum
 - * Restrictions due to Reduced rainfall

Field Pea residue issues moving into 2022

- **Flucarbazone** - Inferno Trio. Batalium, Everest, Sierra, Inferno Duo, MPOWER Himalaya Products
- * Restrictions due to reduced rainfall PLUS high pH(>7.5)/low % OM(<2.5), issues seen on eroded knolls

Field Pea residue issues moving into 2022

- **Pyrasulfotole** - Tundra, Velocity M3, Axial Extreme iPak or Infinity products

* *Restrictions for High PH(>7.5)/low % OM(<2.5)*

Other notes

- Re-crop 2 years for Assert, Muster, Command, Option
- All years not just this years conditions

Seeding rate calculator

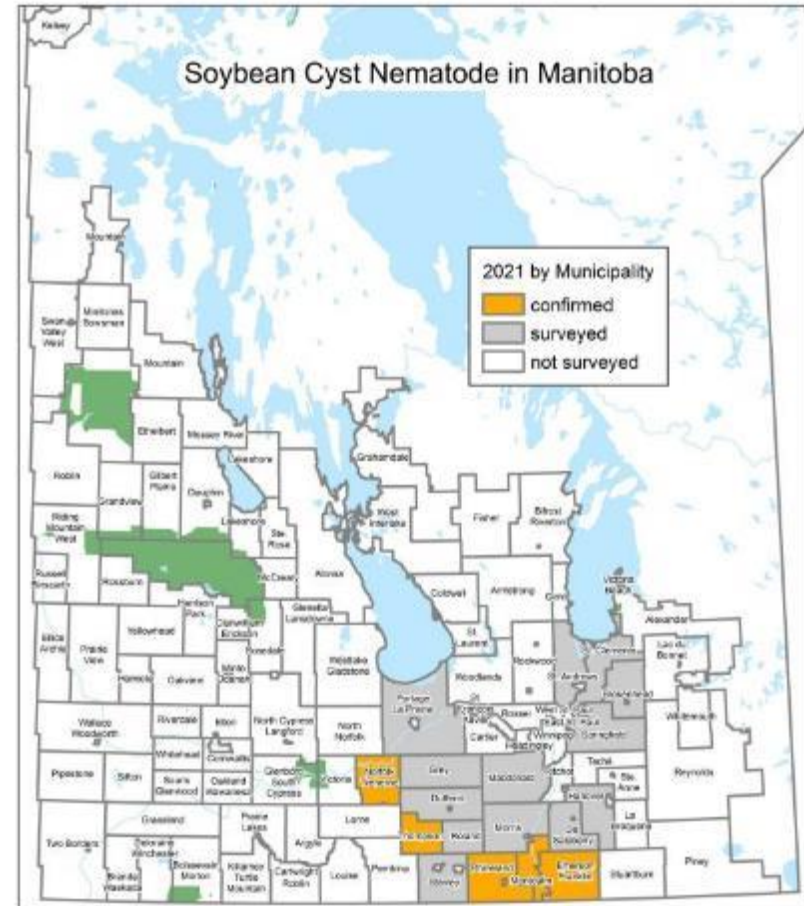
- <https://www.gov.mb.ca/agriculture/farm-management/production-economics/cost-of-production.html>

[calculator-seeding-rate \(4\).xlsm](#)

SCN in Manitoba



egg levels were 1250-1700 eggs/100ml of soil a low to moderate level



Author: Les Mitchell
 Source: MB ARD confirmation
 Date: July 20, 2021

SCN in the Field



Source M. Keen



Source M. Tenuta

SCN Next steps

1. Scout your fields in early July for yellow stunted yellow patch's
2. Dig up roots and examine and look for immature white cysts of the females
3. If you find cysts try and pop them open between your fingers if pop like a zit then it not a young nodule and likely SCN.
4. Give me a call and we can discuss getting field tested.

SCN – Slowing the progress if you have or think you may have

- Cleaning soil from equipment when moving fields
pressure washing or air pressure
- Stretching out rotation between soybean crops and also dry beans
- Use of resistant varieties in rotation. Listing can be found in Seed Manitoba Soybean Variety Description table

Marquette September 2021



Emerson 2021



Brunkild September 2021



So what are Conventional Soybean / Identity Preserved(IP) Soybeans

- Typically they are food grade soybeans with clear/yellow hilum's and are NOT tolerant to glyphosate.
- IP Soybeans have desired quality traits such as taste, Protein and oil content desired by the end users
- IP beans are used in some of the major markets such as Japan, China, Korea and Malaysia.
- Conventional acres made up of about 2.5 % of total MB acres
- Looking at switch up herbicide control weed control programs

Talk to your buyer- Find out which variety they prefer?

- The first step in growing conventional beans is identifying the buyers.
- I have identified four main buyers in MB
- Prograin- Shawn Rempel
- Sevita – Brent Kosie thru Nadeau Seeds,
- DNS Commodities St. Adolphe, Denis Cloutier
- Viterra , Carman, Brett Takvam

- There are typically premiums for growing IP soybeans. Check with your local buyer to see if these levels fit your farm.
- Having a conversation with the people who are going to buy your beans will help you identify premiums, choose preferred varieties, and understand what quality factors are required to grow and market these beans.

Harvest Considerations

- Clean Combine, Clean Augers and Belt Conveyors, Clean Bins, Clean trucks. No RR Soybeans should be found in any of these locations
- If you grow Both RR and CN Soybeans, if you can harvest CN beans first that will help to avoid contamination.
- Equipment cleanout important, combines, Belt conveyors, Grain bins and trucks. (let the employees know)

For Further Information



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