



**SNOBELEN FARMS**  
QUALITY WITHOUT COMPROMISE



## **FOOD GRADE SOYBEAN PRODUCTION GUIDE**

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### Four Step Process to Market



**Contract directly with growers** to produce the crop



**On-farm visits** – follow the crop as it grows



**Receive and process beans**



**Package and export to end users**

# OUR TEAM



**Colin  
Richardson**  
**Food Grade  
Products Manager**

M. Sc. Agriculture  
University of Guelph  
CCA-ON  
crichardson@snobelenfarms.com  
Cell: 519-441-0864  
@Rich\_ColinJ



**Brendan  
Zettler**  
**Grain Originator  
&  
Identity Preserved  
Soybeans**

B. Sc. Agriculture,  
University of Guelph  
CCA-ON  
bzettler@snobelenfarms.com  
Cell: 519-389-7591  
@formasafarmer



**Emily  
Helmuth**  
**Senior Grain Originator**

B. Sc. Agriculture Economics,  
University of Guelph  
ehelmuth@snobelenfarms.com  
Cell: 519-291-8099  
@emilyahelmuth



**Troy  
Tate**  
**Grain Originator-Brantford**

ttate@snobelenfarms.com  
Cell: 761-7350



**Hannah  
Simpson**  
**Grain Originator**

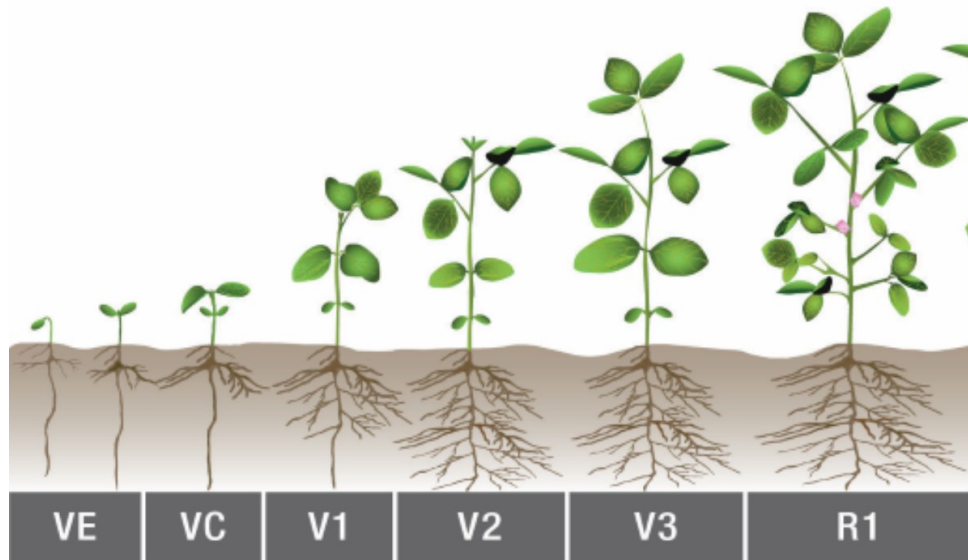
B. Arts  
University of Guelph  
hsimpson@snobelenfarms.com  
Cell: 519-525-2799  
@GrainHannah



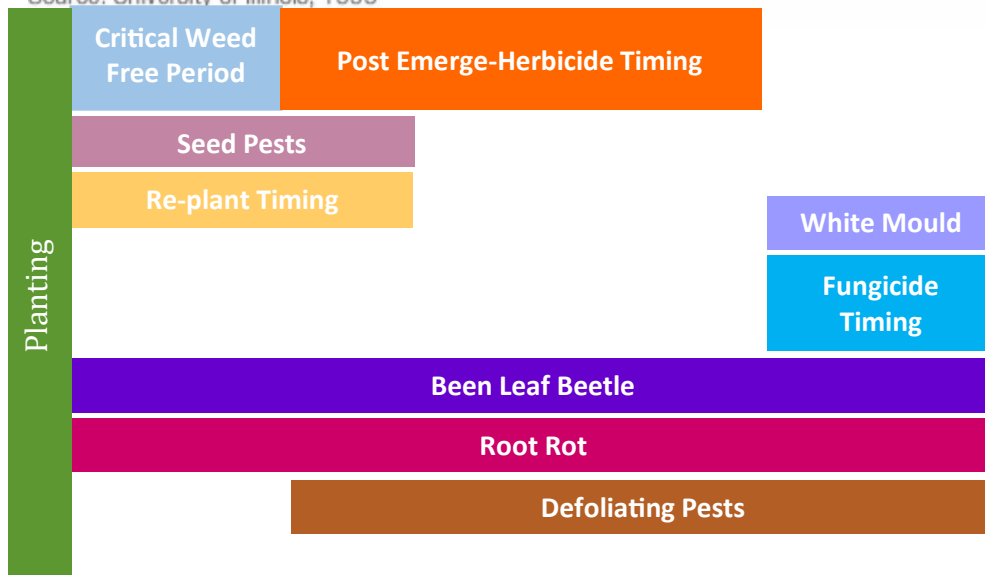
**Dalton  
Delisle**  
**Grain Originator**

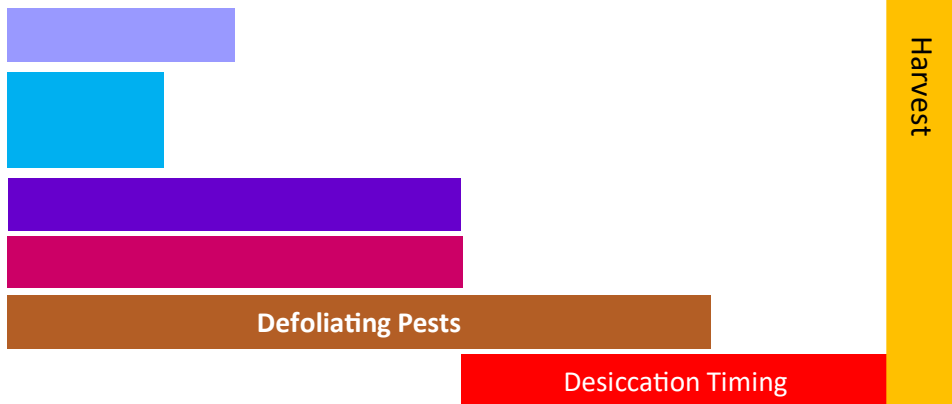
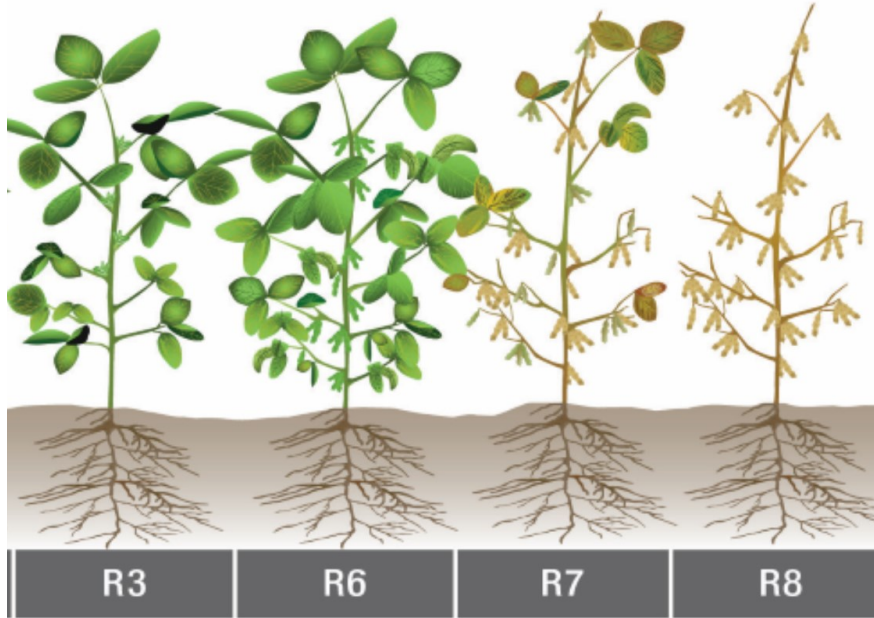
Fanshawe College  
ddelisle@snobelenfarms.com  
Cell: 519-450-9348

# PRODUCTION MANAGEMENT TIMING



Source: University of Illinois, 1999





# PRE-PLANT PREPARATION

## PLANTER/DRILL SET-UP

- When planting a Food Grade soybean we must ensure the planter/drill is clean and free from contaminants from transgenic crops example; RoundUp Ready Corn or RoundUp Ready, Xtend or Enlist soybeans.
- Vacuum out any old seed from previous crop, use compressed air to blow out seed tubes, seed cups, and seed boxes.
- Plant Identity Preserved soybeans before transgenic crops to avoid contamination.

## CERTIFIED SEED

- In order to receive the Premium for your soybeans, we require proof of purchase of certified seed. This can include keeping seed tags from each variety and seed lot of that variety.
- Other means of proof of purchase would include a seed invoice that shows the seed dealer, variety, quantity ordered, and date of purchase.



## OPTIMUM PLANTING DATE

Planting Date	Yield	Percent of Full Yield (%)
April 15-May 5	63.8 bu/acre	100%
May 6-May 20	63.3 bu/acre	99%
May 21-June 5	58.3 bu/acre	92%

## BIOSOLID APPLICATION RESTRICTION

The application of bio-fertilizer, sewage sludge or bio-solids (solid or liquid) is prohibited 2-years prior to harvest.

# SEEDING RATES

Number of Seeds/lb	7.5" Row 194,000 seeds/acre (2.8 seeds/ft. row)	15" Row 177,000 seeds/acre (5.1 seeds/ft. Row)	22" Row 172,000 seeds/acre (7.2 seeds/ft. row)	30" Row 162,000 seeds/acre (9.3 seeds/ft. row)
1800	108	98	96	90
2000	97	89	86	81
2200	88	80	79	74
2400	81	74	72	68
2600	75	68	66	63
2800	69	63	62	58
3000	65	59	58	54
	157,000 plants/ acre (2.3 plants/ft. row)	143,000 plants/ acre (4.1 plants/ft. row)	139,000 plants/ acre (5.9 plants/ft. row)	131,000 plants/ acre (7.5 plants/ft. row)

Seeding Rate in pounds/acre for each common row spacing and recommended seeds/acre (seeds/ft. of row)

Seeding rates are based on having a germination of 90% and an emergence of 85-90% (plant stand of 76-81% of seeding rate)

Derived from: PUB 811, Table 2-11

# SEEDING DEPTH

Soybean seed is very sensitive to planting depth. Under most conditions, soybeans should be planted around 1.5 inches deep. However, since soybean seed has a high water demand for germination, it is important to plant ½ inch into moisture. It is also important to achieve good seed-to-soil contact and to close the seed slot.

**As a general rule you can plant more shallow when:**

- Early planting
- High residue conditions
- Fine textured soils
- Moist soils

**You may have to plant deeper when:**

- Late planting
- Coarse textured soils
- Dry soils

The range of planting depth, depending on the conditions, is 1" – 2.5".

**Lucknow** 1-800-582-5669 **Brantford** 519-753-0533

# SEED TREATMENT OPTIONS

**Insecticide + Fungicide Seed Treatment:** You are more likely to see a response from an insecticide and fungicide seed treatment when the field has a history of manure, lighter textured soils, reduced tillage system and early planting.

**Examples-** Fortenza + Vibrance® Maxx by Syngenta Canada

**Fungicide Seed Treatment:** Use fungicide seed treatment when in minimum to zero tillage system on delayed emergence is likely to happen like cold, and wet soils.

**Example—** Vibrance® Maxx by Syngenta Canada

**Inoculant Seed Treatment:** Pre-inoculating soybeans is a cheap insurance for soybeans to have proper inoculation of the soil. When planting into virgin soybean ground remember to double the inoculation rate to ensure adequate inoculation in the soil. Pre-treat soybeans with products like Optimize® ST then treat the soybeans as filling the drill with Cell-tech Peat or liquid.

**Example—** Optimize® ST by Bayer Crop Science

**Soybean Cyst Nematode Seed Treatment:** Consider using a seed treatment to help limit the impact of soybean cyst Nematode (SCN) on soybeans use a current soil sample that tests for SCN to determine levels. Use good agronomic practices to control SCN, like growing a non-host crop for 3+ years, clean off all dirt on machinery between fields to limit the spread and in high population cyst field use a resistant variety and the correct seed treatment.

**Example—** Clariva® pn by Syngenta Canada

## Agronomic Tip

If rolling beans after emergence, it is important to roll during the heat of the day to avoid stem snapping.

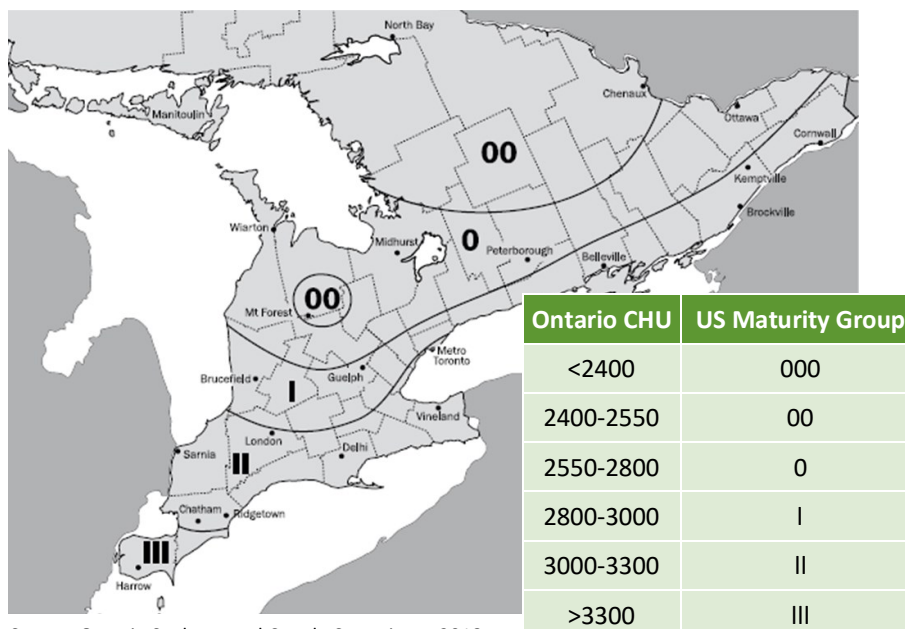
## Agronomic Tip

Ideal soil temperatures for germination and emergence is 18-22 degrees Celsius.

# RE-PLANT TIMING

Row Spacing (inches)	Row Length	Desired Plant Population per Acre						
		105,000	110,000	130,000	150,000	175,000	200,000	225,000
		Seeds per Foot Row						
30	17 ft, 5 in.	6.0	6.3	7.5	8.6	10	11.5	12.9
22	23 ft, 9 in.	4.4	4.6	5.5	6.3	7.4	8.4	9.5
15	34 ft, 10 in.	3.0	3.2	3.7	4.3	5.0	5.7	6.5
10	52 ft, 3 in.	2.0	2.1	2.5	2.9	3.3	3.8	4.3
7.5	74 ft, 9 in.	1.5	1.6	1.9	2.2	2.5	2.9	3.2

Feet of row representing 1/1,000 of an acre at different row widths (Source: Corn and Soybean Field Guide, IPM 1 & Mississippi State University Extension Service)



Source: Ontario Soybean and Canola Committee, 2018

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# POST PLANT: VE-R8

## CROP PROTECTION

### **-NOT ALLOWED-**

**For registered soybean herbicides please follow OMAFRA  
Publication 75 “Guide to Weed Control”**

#### **HERBICIDES - Not Allowed**

**Active Ingredient:** Pyroxisulfone

**List of Trade names but are not limited to this list:**

- Fierce (Nufarm): Combination of Valtera (flumioxazin) + Pyroxisulfone
- Focus (UAP/FMC): Combination of Aim (carfentrazone- Ethyl) + Pyroxisulfone
- Authority Supreme (UAP/FMC): Combination of Authority (Sulfentrazone) + Pyroxisulfone
- Zidua (BASF) : Pyroxisulfone

**For registered soybean insecticides and fungicides please follow  
OMAFRA Publication 812 “Field Crop Protection Guide”**

#### **INSECTICIDES - Not Allowed**

**Active Ingredient:** Afidopyropen – Group 9D

**Trade name of product:** Sefina Insecticide (BASF) for Aphid control

#### **FUNGICIDES - Not Allowed**

**Active Ingredient:** Pyraclostrobin + Metaconazole

**Trade Name of product:** Headline AMP (BASF)

**Active Ingredient:** Pydiflumentofen + Azoxystrobin + Propiconazole

**Trade Name of product:** Miravis Neo (Syngenta)

**-Please follow all label rates and application guide lines as  
set out by the manufactures-**

# POST-PLANT CHECKLIST

- Work with your agronomist to select a desired herbicide program that chooses multiple modes of action to kill your targeted weeds and provide residual herbicide activity
- Whether you are conventional tillage (plough or chisel plow in the fall) to minimum or no-tillage system. We advise using a pre-plant, pre-plant incorporated or pre-emerge herbicide program.

## Emergence (Re-plant Timing)

- ☐ Are all the seedlings coming up together and within 1 week of planting? (If not, re-check every few days and check your planting depth)
- ☐ What maturity stage is the crop?
- ☐ Is there any insect feeding (above or below ground) on the seed that will reduce stands?
- ☐ Is the soil crusting, making it difficult for the seedling to emerge?
- ☐ Do you need to replant?
- ☐ Determine your population —> refer to 'Row Width Chart', page 7.

## Herbicide Resprays

- ☐ Are there any weed escapes?
- ☐ How heavy is the weed population? Will they affect your yield?
- ☐ How big are the weeds? (1 inch or smaller is the optimal time for Post emergence herbicides)
- ☐ Could the weeds have a herbicide resistance?
- ☐ Will the weeds stain or contaminate the soybean at harvest?

# CRITICAL WEED FREE PERIOD: VE-V1

It is critical to stay weed-free from emergence (VE) to 1st trifoliate (V1) if a grower wants to maximize yield potential. On average, soybeans can have a yield loss of up to approximately 50-60% during this time if weeds are not controlled. This percentage can increase depending on the weed.

"In contrast to that, if you're the unlucky guy and you get a couple of rain events, and it prevents you from applying that post-emergence herbicide when it should have been applied, our data says that in the most competitive environments, you can lose up to two bu./ac. per day." - Dr. Peter Sikkema

# FIELD MAPS

- Once you have planted your field, as a part of the traceability protocol, Snobelen Farms require a field location map for each field.
- This could include; google map screenshot, from a GPS system, or hand sketch as seen below.
- This allows the SFL staff to scout your field (s) to ensure adequate weed control and quality.
- This needs to be submitted with your signed acreage contract, and seed tag, shortly after planting.



## Field Location Map

*1 sheet per field please*

Producer Name: John Smith

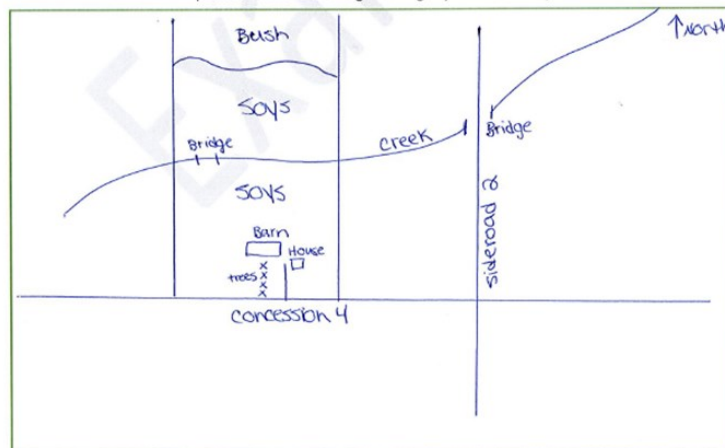
Field Name: Home Farm Contract # 1052

Previous 2 Crops: Last year corn 2 years ago SRW

Variety	Lot	Concession	Township	911 #	Road	Acres
OAC Strive	1	4	Huron	473	4	75

*Draw field map or attach separate page(s)*

*(Indicate if there is a neighbouring soybean GM field)*



# PESTICIDE APPLICATION LIST

- As part of the traceability program, we require a list of your pesticide records that you have applied to the field. This will include rate, date, and product.
- This will include any herbicides, insecticides, fungicides, and any burndown products if used.
- This sheet must be submitted to Snobelen Farms head office before harvest.
- Please see example below.



Producer Name: John Smith

Acreage Contract #: 1052

*One section per field history. Pre-emerge and post emerge may be recorded in same box.*

Field name or number Home Farm Variety OAC Strive

Field name (must match name used in maps)	Date of application	Rate of application	Type of app (pre or post emerge, burndown, etc.)	Weather conditions (sunny, cloudy, windy, breezy, etc.)
Name of Product				
Roundup Transfer 6	May 10	0.67 L/ac	Pre-emerge	Sunny
Boundary	May 10	1 L/ac	Pre-emerge	Sunny
Authority 480	May 10	0.1183 L/ac	Pre-emerge	Sunny
Reflex	June 25	0.4 L/ac	Post-emerge	overcast
eragon Lg	Sept 15	59 mL/ac	Burndown	Sunny
Merge	Sept 15	0.4 L/ac	Burndown	sunny

Field name or number \_\_\_\_\_ Variety: \_\_\_\_\_

Field name (must match name used in maps)	Date of application	Rate of application	Type of app (pre or post emerge, burndown, etc.)	Weather conditions (sunny, cloudy, windy, breezy, etc.)
Name of Product				

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# WEEDS: V1-V3



**Nightshade**

- Seed stain
- Toxic



**Pokeweed**

- Seed stain
- Toxic



**Volunteer Corn**

- Grain contamination



**Ragweed**

- Possible seed staining at harvest
- Nutrient/resource competition



**Lamb's Quarters**

- Possible seed staining at harvest
- Nutrient/resource competition



**Canada Fleabane**

- Nutrient/resource competition



**Sow thistle**

- Nutrient/resource competition



**Pigweed**

- Nutrient/resource competition

Photos courtesy of: Michigan State University, Ag Pest, CountryGuide, Bayer Crop Science USA, Cornell University, OMAFRA, Real Agriculture

### **Agronomic Tip Tip**

Soybeans can sense the presence of weeds before they emerge. Weed control is essential.

### **Agronomic Tip Tip**

A 60 bu/acre soybean yield removes 55 lbs. of phosphorus & 94 lbs. of potassium

# DISEASES: VE-R3



**Phytophthora  
Root Rot**

- Occurs across many environments, but is most common in warm and wet



**Pythium  
Seeding Blight**

- High soil moisture increases disease severity



**Rhizoctonia  
Seeding Blight**

- Usually occurs in warm, moist, sandy soils



**Sudden Death Syndrome**

- Symptoms usually begin during the flowering stage and get progressively worse by the R6 growth stage



**Soybean Cyst Nematode (SCN)**

- Often mistaken as a herbicide injury
- Can be found on plant roots



**Frog Eye Leaf Spot**

- Timely fungicide applications, when thresholds have been observed, will control Frog Eye Leaf Spot.



**White Mould**

- Resulting in premature death of stems
- Heavily dependant on weather conditions during soybean flowering and early pod development

Photos courtesy of: Crop Protection Network, Manitoba Pulse & Soybean Growers, Mississippi State University,

# FUNGICIDE TIMING: R1-R2.5

- Think of a fungicide as a preventative measure. Disease can not be reversed once present in the plant.
- Flowering is fungicide timing. Ideal timing is R2.5 (pods are starting to form, on the bottom of the plant but still flowering).
- Considering a fungicide application? Ask these questions! Talk to your agronomist about your risk.
  - Is manure in the crop rotation?
  - Is there good air flow underneath the canopy?
  - Is there a history of disease in this field?
  - What is the season like? Has it been wet and cool?

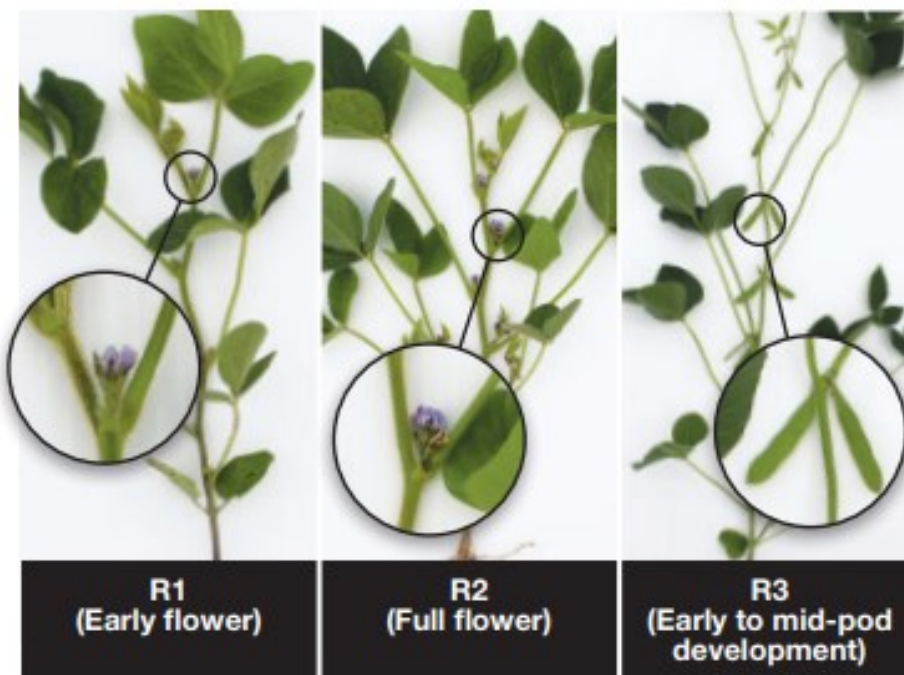


Photo courtesy of BASF Canada, 2019 Crop Production Guide

# INSECTS: VE-R6



**Bean Leaf Beetle**

- Defoliation
- Can be an issue all season
- Can be many colours



**Stink Bug**

- Yield Pest
- Causes wrinkled Seed



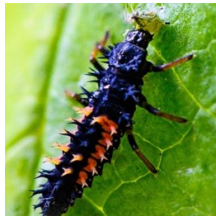
**Aphids**

- Hot dry weather
- Can cause other viruses and diseases-



**Two Spotted Spidermites**

- Hot dry weather along grass ditches



**Ladybug Larvae**

- Beneficial Insect: feeds on aphids



**Slug**

- Early season defoliation
- Usually in moist conditions



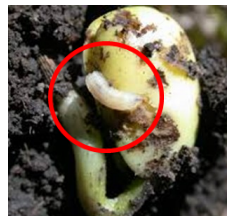
**Wireworm**

- Feeds on seed below ground
- Usually in sandy soils



**Grub**

- Below ground seed pest
- Sandy soils



**Seed Corn Maggot**

- Soil seed pest
- Cool wet conditions
- Common in manure fields



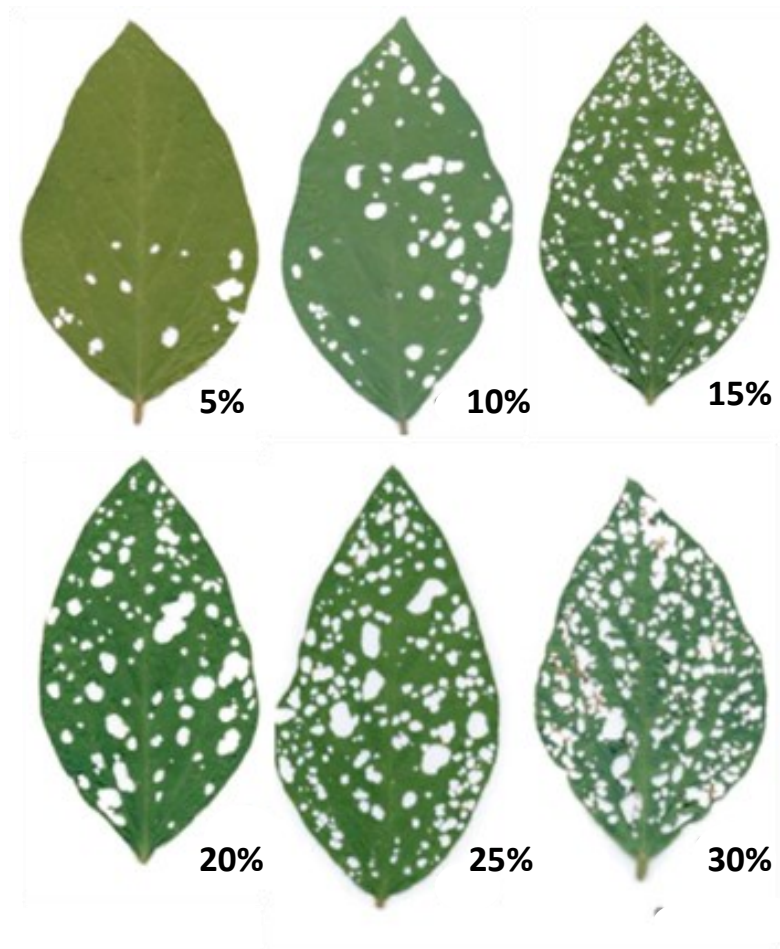
**Japanese Beetle**

- Defoliation

Photos courtesy of: Iowa State University, DuPont Pioneer, Kansas State University, Ontario Hop Growers' Association

# ECONOMIC THRESHOLD

The chart is a visual of when yield is impacted by a pest and a pesticide is warranted. Determining the Economic Threshold is important to avoid Economic injury level. Economic injury level varies based on the stage of soybeans and severity of pest damage. Consult your agronomist for thresholds.



Source: North Dakota Soybean Producers Association

# PRE-HARVEST TIMING: R7-R8

## Crop Staging:

Apply when 90% of the pods have changed colour, with lower pods essentially being all brown and the upper pods a yellowish-brown or grey in some varieties. At this point 80% of leaves should have dropped with the remaining leaves being yellow.



Photo courtesy of: BASF Canada, 2019 Field Crop Production Guide

### To desiccate soybeans, you may follow one of these recommendations:

- Glyphosate (0.67L/ac of 540 g/l concentration) + Aim (48mL/acre) PHI= minimum 7 days
- Glyphosate (0.67L/ac of 540g/l concentration) + Eragon LQ (30ml/ac) + Merge (0.4L/ac) PHI= minimum 7 days
- Eragon LQ (59ml/ac) + Merge (0.4L/ac) PHI= minimum 2 days

# ON-FARM STORAGE

Bins must be thoroughly cleaned out and inspected prior to storing Identity Preserved soybeans. There should be NO visible residue such as corn, wheat or any other transgenic crops other than the intended soybean crop.

- Thoroughly sweep or brush down walls, ceilings, ledges, rafters, braces and handling equipment, and remove all debris from bins.
- Equipment used to unload storage bin must be thoroughly cleaned and inspected prior to usage. Example, augers, conveyers, gravity wagons and trucks and trailers.
- Growers must periodically check the condition of stored grain to prevent spoilage. Snobelen Farms must be able to inspect the grain as needed.
- Monitor grain for moisture, temperature, visual quality and insects in the bin multiple times throughout the year.
- Growers should keep written records of which crops were in their storage bin prior to filling with Identity Preserved soybeans.

**When delivering your soybeans there is ZERO tolerance for contamination from anything other than the intended crop such as corn, wheat or other crops.**

**If there are any quality concerns, contact  
Snobelen Farms immediately.**

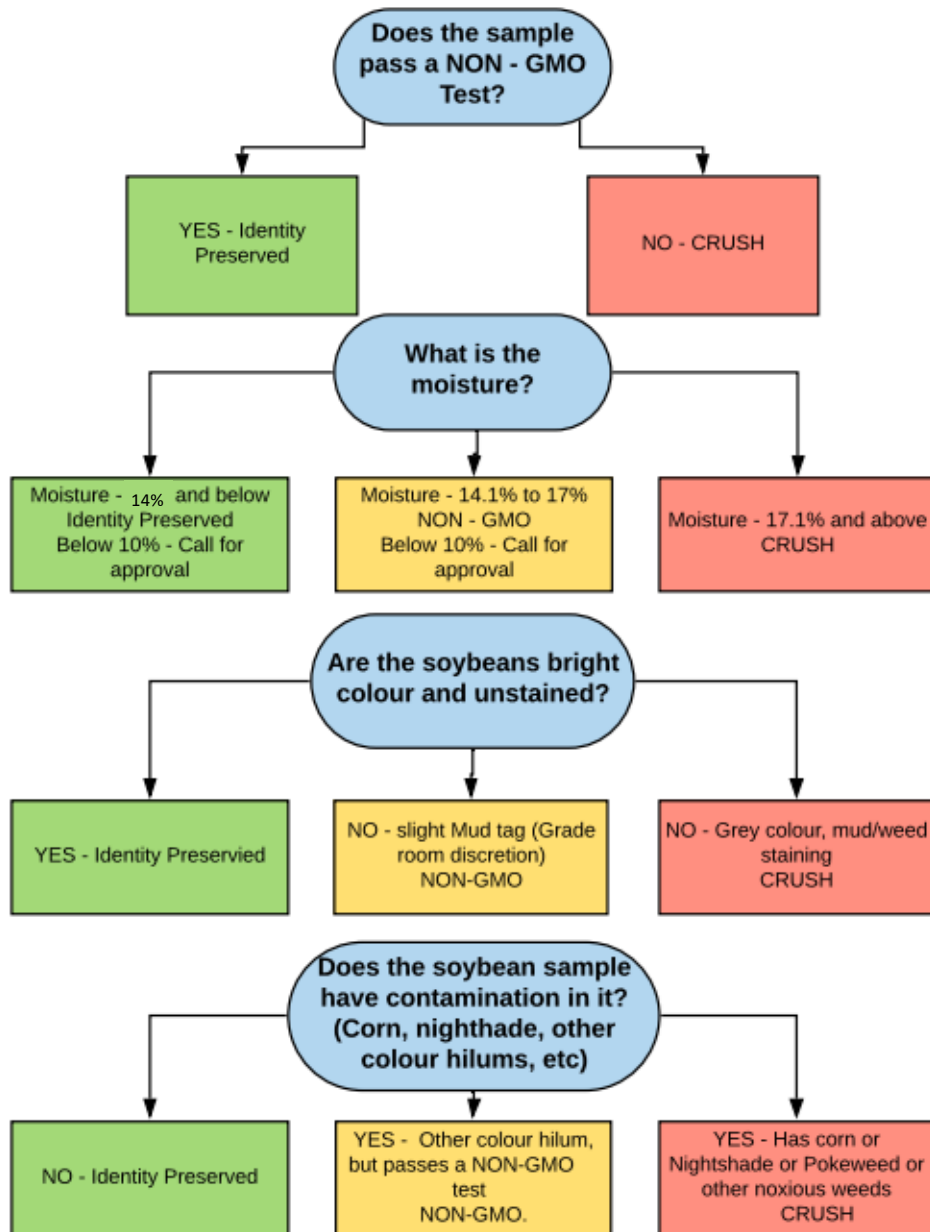
## ADDITIONAL RESOURCES

- Snobelen Farms Ltd: [www.snobelenfarms.com](http://www.snobelenfarms.com)
- Publication 811: Agronomy Guide for Field Crops, OMAFRA/University of Guelph
- Publication 812: Field Crop Protection Guide, OMAFRA
- Publication 75: A Guide to Weed Control Field Crops, OMAFRA
- Publication 611: Soil Fertility Handbook, OMAFRA
- Soybean Production Guide: BASF: [www.basf.com](http://www.basf.com)
- Provincial Yield Trials, Ontario Soybean and Canola Committee: [www.gosoy.ca](http://www.gosoy.ca)
- SeCan: [www.secan.com](http://www.secan.com)

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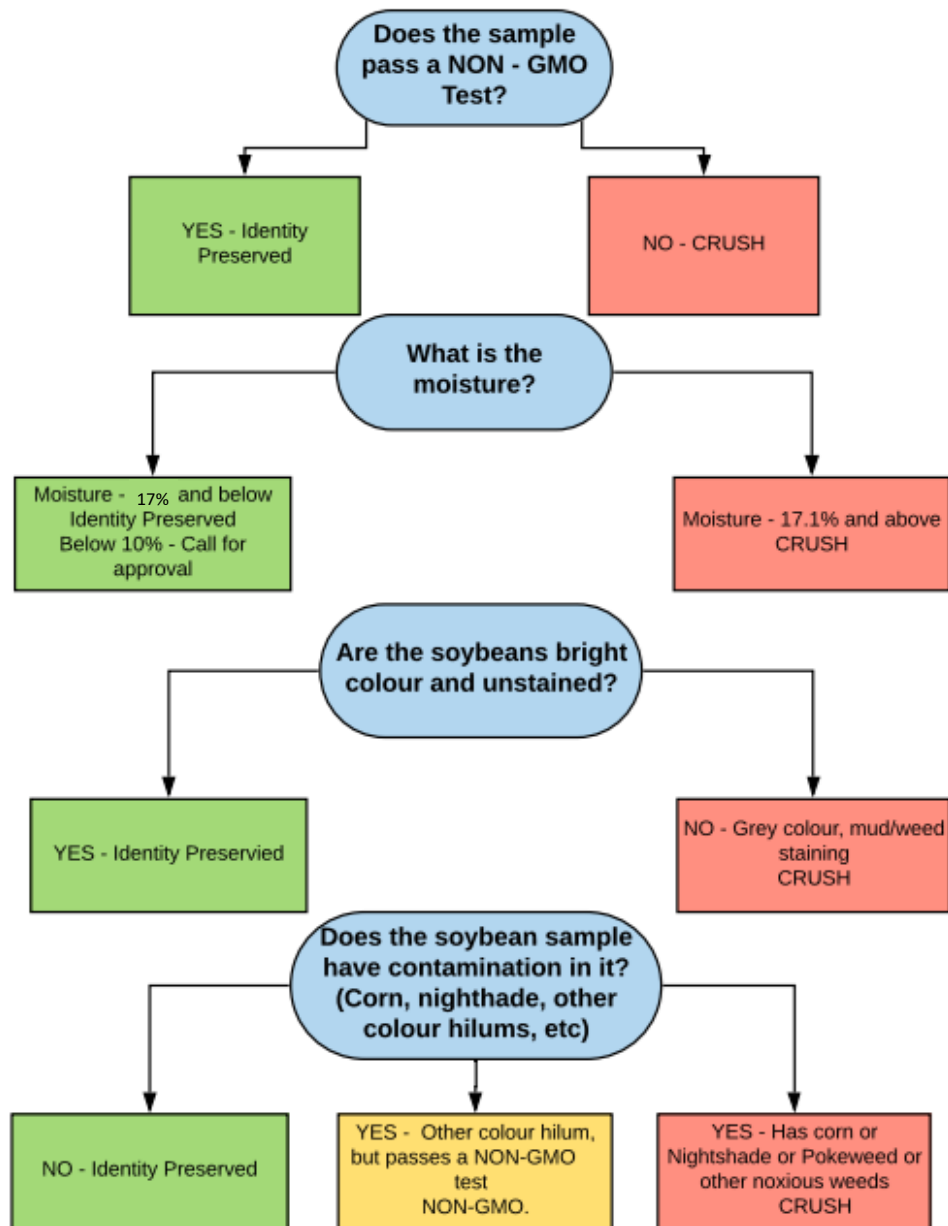
# SOYBEAN RECEIVING PROCEDURES

## Yellow Hilum



# SOYBEAN RECEIVING PROCEDURES

## Dark Hilum



# SOYBEAN QUALITY



## Non-GMO

- Off colour
- Slight staining

## Good Quality

- Bright colour
- No stain
- No contamination

## Crush

- Dark colour
- Stained (Mud Tag)

## NOTES

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There are no vertical margin lines, and the paper is completely blank except for the lines.



[www.snobelenfarms.com](http://www.snobelenfarms.com)

**LUCKNOW**

P. 519-528-2092  
F. 519-528-3542  
Box 29, 323 Havelock Street  
Lucknow, Ontario  
N0G 2H0

**BRANTFORD**

P. 519-753-0533  
F. 519-753-2982  
1739 Colborne St East  
Brantford, Ontario

**PALMERSTON**

P. 519-343-3630  
F. 519-343-2037  
5220 King's Hwy 23  
Palmerston, Ontario  
N0G 2P0