



# SNOBELEN FARMS

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



# 2023

## SOYBEAN SEED GUIDE

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## Lucknow



- Head Office
- Food Grade Soybean Facility
- Commercial & I.P. Receiving Facility
- Cleaning, Processing, & Packaging Seed
- Seed Treating

## Palmerston



- I.P. Receiving Facility
- Cleaning, Processing, & Packaging Seed
- Seed Treating



# THE SNOBELN FARMS DIFFERENCE

Snobelen Farms Ltd. is an independent, family-owned company that was founded in 1971. We specialize in commercial grains, pedigreed seed, and the production, processing and sales of food grade soybeans for markets across Canada and internationally. We take pride in combining years of experience with attentive customer service to complement the premium quality of our agricultural products. With eight locations we are able to serve the needs of growers across Ontario.



We are CIPRS + HACCP  
Certified

## **We specialize in:**

- Multiplying, processing, and selling the best genetics for our area
- Testing and growing the varieties that work for the farmer and the end users
- Selling certified seed to farmers and retailers across Ontario

# The Seed Team



**JODIE EADIE**

*Seed Business Manager*

Masters in Environmental  
Studies; University of Waterloo

jeadie@snobelenfarms.com

Office: 519-343-3630

Cell: 519-524-0713

@snobelenseeds



**BRENDAN ZETTLER**

*Grain Originator &*

*I.P. Program Coordinator*

B. Sc. Agriculture;

University of Guelph

CCA-ON

bzettler@snobelenfarms.com

Office: 519-528-2092

Cell: 519-389-7591

@formasafarmer



**SHERRI HALDENBY**

*Sales Rep & Lucknow*

*Seed Administrator*

shaldenby@snobelenfarms.com

Office: 519-528-2092

Cell: 519-525-1367

@haldenbysherri



**TERESA TEUNE**

*Palmerston Seed*

*Administrator*

B. Sc. Agriculture;

University of Guelph

tteune@snobelenfarms.com

Office: 519-343-3630

Lucknow 1-800-582-5669

Palmerston 1-877-343-3630



# Soybean Variety Description

Food Grade		
Yellow Hilum		
<b>OAC Malory</b> <ul style="list-style-type: none"> <li>• SCN Resistant</li> <li>• Excellent yield potential</li> <li>• Excellent field appearance</li> </ul>	<b>OAC Kamran</b> <ul style="list-style-type: none"> <li>• SCN Resistant</li> <li>• Excellent lodging score</li> <li>• Short to medium plant stature</li> </ul>	<b>OAC Strive</b> <ul style="list-style-type: none"> <li>• Impressive emergence and early season growth</li> <li>• Ideally suited for 7" to 15" rows</li> </ul>
<b>OAC Bruton</b> <ul style="list-style-type: none"> <li>• Tall plant height and Phytophthora root rot resistance</li> <li>• Well suited for clay soils</li> <li>• SCN resistant</li> </ul>	<b>OAC Lakeview</b> <ul style="list-style-type: none"> <li>• High yielding, stable performance across most environments</li> <li>• Excellent tolerance to Phytophthora root rot</li> </ul>	Dark Hilum
		<b>OAC Wallace</b> <ul style="list-style-type: none"> <li>• High yielding variety in both wet and dry areas</li> <li>• performs well in conventional and no-till operations</li> </ul>

Technology Traited R2 + R2X + XF		
<b>Altitude R2</b> <ul style="list-style-type: none"> <li>• Top yield potential</li> <li>• Good Podding height and no pod shatter</li> </ul>	<b>Ramage XF</b> <ul style="list-style-type: none"> <li>• New XtendFlex variety with three modes of action</li> <li>• SCN Resistant</li> <li>• Excellent standability</li> </ul>	<b>Mahony R2</b> <ul style="list-style-type: none"> <li>• Bushy plant type</li> <li>• Good podding height</li> <li>• An aggressive high yielding early variety</li> </ul>
<b>Orr R2X *NEW</b> <ul style="list-style-type: none"> <li>• Good white mold rating</li> <li>• SCN Resistant</li> <li>• Moderate field tolerance to Phytophthora root rot</li> </ul>	<b>Savage R2X *NEW</b> <ul style="list-style-type: none"> <li>• SCN Resistant</li> <li>• High yield potential</li> <li>• Strong performer in drought situations</li> </ul>	

# Food Grade Yellow Hilum Characteristics

	OAC Strive	OAC Lakeview	OAC Kamran
CHU Rating	2650	2700	2725
Maturity Group	0.4	0.5	0.6
Hilum Colour	Imperfect Yellow	Yellow	Imperfect Yellow
Plant Height	Medium-Tall	Medium	Short-Medium
Plant Canopy Type	Semi-bushy	Medium	Semi-bushy
Lodging*	1.8	1.7	1.1
Row Width Recommendation	7" - 15"	7" - 15"	7" - 15"
Soil Type Recommendation	All	All	All
Protein (%)	44.0	39.9	42.4
White Mold Ratings	Above Average	Average	N/A
SCN	No	No	Yes
Seed Size (Seeds / pound)	2000	2250	2200

\*Lodging: 1=excellent, 5=poor

# Food Grade Yellow Hilum Characteristics

	OAC Malory	OAC Bruton	OAC Wallace
CHU Rating	2800	2975	2750
Maturity Group	1.2	2	0.7
Hilum Colour	Yellow	Yellow	Brown
Plant Height	Medium-Tall	Medium	Medium-Tall
Plant Canopy Type	Medium	Medium	Semi-bushy
Lodging*	1.6	1.3	1.7
Row Width Recommendation	7" - 30"	7" - 30"	7" - 15"
Soil Type Recommendation	All	Clay	All
Protein (%)	42.6	42.5	38.2
White Mold Ratings	N/A	N/A	Above Average
SCN	Yes	Yes	No
Seed Size (Seeds / pound)	2400	1900	2200

\*Lodging: 1=excellent, 5=poor

# Technology Traited Characteristics

	Mahony R2	Savage R2X	Ramage XF
CHU Rating	2350	2675	2675
Maturity Group	0.3	0.5	0.5
Hilum Colour	Black	Black	Imperfect Yellow
Plant Height	Medium	Tall	Medium
Plant Canopy Type	Bushy	Bushy	Medium
Lodging*	1.5	N/A	1.5
Row Width Recommendation	7" - 30"	7" - 30"	7" - 30"
Soil Type Recommendation	All	All	All
White Mold Rating	Average	Good	Average
SCN	No	Yes	Yes

\*Lodging: 1=excellent, 5=poor

# Technology Traited Characteristics

	Altitude R2	Orr R2X
CHU Rating	2725	2750
Maturity Group	0.6	0.8
Hilum Colour	Brown	Brown
Plant Height	Short	Medium-Tall
Plant Canopy Type	Semi-Bushy	Bushy
Lodging*	1.3	N/A
Row Width Recommendation	7" - 30"	7" - 30"
Soil Type Recommendation	All	All
White Mold Rating	Above Average	Moderate
SCN	No	Yes

\*Lodging: 1=excellent, 5=poor



# 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

## Optimum Planting Date

Planting Date	Yield (bu/acre)	Percent of Full Yield (%)
April 15 - May 5	63.8	100
May 6 - May 20	63.3	80
May 21 - June 5	58.3	92

# Seeds Per Foot Row

Row Spacing (inches)	Linear Feet of Row Per Acre	Desired Plant Population per Acre						
		105,000	110,000	130,000	150,000	175,000	200,000	225,000
		Seeds per Foot Row						
30	17,424	6.0	6.3	7.5	8.6	10	11.5	12.9
22	23,760	4.4	4.6	5.5	6.3	7.4	8.4	9.5
15	34,848	3.0	3.2	3.7	4.3	5.0	5.7	6.5
10	52,272	2.0	2.1	2.5	2.9	3.3	3.8	4.3
7.5	69,696	1.5	1.6	1.9	2.2	2.5	2.9	3.2

Derived from: Mississippi State University Extension Service

## 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 shallower when:**

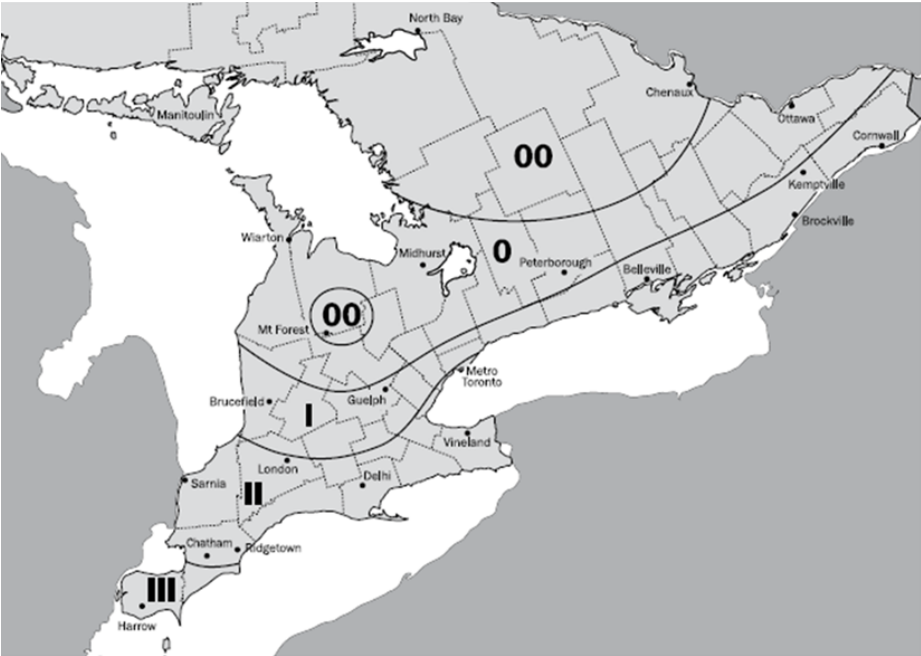
- Early planting
- High residue conditions
- Fine textured soils
- Moist soils

**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".

# Ontario Soybean Maturity Map



Source: Ontario Soybean and Canola Committee, 2019

## Population Reduction/Yield Potential Relationship

Plants Per Acre	Optimum Stand	Optimum Yield
157,000	100%	100%
118,000	75%	98%
78,000	50%	90%
39,000	25%	75%



# MULTI-ACTION LIQUID INOCULANT FOR SOYBEANS

LALFIX® PROYIELD Liquid Soybean is a new leading formulation liquid inoculant in an easy to use single package, no mixing required.



The two unique strains of *Bradyrhizobium elkanii* bring soybean growers an innovative inoculant with higher rhizobia survival and competitiveness.

In addition, *Delftia acidovorans* increases root growth, nutrient and water uptake –

ultimately

leading to enhanced nodulation and nitrogen fixation, early vigor and higher soybean yields. *Delftia acidovorans* is also known to produce a significant amount of chaperone molecules that help solubilize iron and sulfur for soybean availability.

Microbial By Nature

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



LALLEMAND PLANT CARE

# Fortenza Vayantis IV Seed Treatment

Fortenza Vayantis IV is a new non-neonicotinoid soybean seed treatment that can be applied as a commercial seed treatment. Four active ingredients deliver control of European chafer, June beetle, wireworm and seed corn maggot, while protecting growing soybean seedlings from the following diseases:

- Seed rot, damping off and seedling blight cause by *Fusarium spp.*, *Pythium spp.* and *Rhizoctonia spp.*
- Seeding root rot caused by *Fusarium spp.*
- Seed rot and seedling blight caused by *Phomopsis spp.*
- Early season root rot caused by *Phytophthora megasperma var. sojae* (1)

Even under heavy insect and disease pressure, Fortenza Vayantis IV helps producers build a strong soybean stand with faster, more uniform growth.

**In seed corn maggot trials conducted at the Honeywood Research Farm in Plattsville, Ontario, soybean stands treated with Fortenza fared better than infested checks treated with a fungicide base.**



Fungicide base (infested check)



Fortenza @ 50g + Fungicide base

Photos taken at the Honeywood Research Farm in Plattsville, Ontario, in July 2016. N=12 Performance evaluations are based on field observations and public information. Data from multiple locations and years should be consulted whenever possible. Individual results may vary depending on local growing, soil and weather conditions. 1 Vayantis IV RFC provides early season protection against *Phytophthora* root rot for tolerant varieties of soybeans.

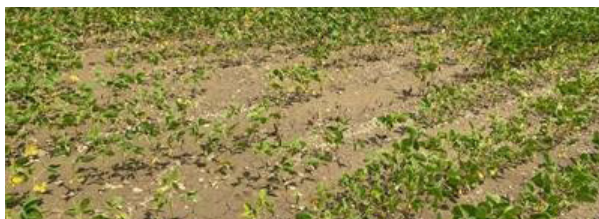
Courtesy of Syngenta Canada



# Vayantis IV Seed Treatment

The broadest *Phytophthora* and *Pythium* protection available

- Contains 4 active ingredients - with one completely new mode of action
- Provides an average yield bump of 1.6 bu/acre when compared to Vibrance® Maxx RFC in trials
- Faster emergence and improved stand with better root growth in high *phytophthora* pressure



Source: Syngenta trial near Jarvis, ON, 2021

## Broad-spectrum disease activity

Vayantis IV protects soybeans against:

- *Phytophthora megasperma* var. *sojae* (early season root rot)
- *Rhizoctonia* spp. (seed rot/pre-emergence damping-off, post-emergence damping-off, seedling blight)
- *Pythium* spp. (seed rot/pre-emergence damping-off, post-emergence damping off, seedling blight)
- *Fusarium* spp. (seed rot/pre-emergence damping-off, post-emergence seedling blight and seedling root rot)
- Seed-borne *Phomopsis* spp. (seed rot and seedling blight)



syngenta.





# SOYBEANS

SYNGENTA SOYBEAN SEEDCARE™

## Protect your investment

With NK seed, we tap into the latest Seedcare™ innovations from Syngenta, so you can protect your investment against early- season insect and disease threats.

We're offering a choice of two soybean Seedcare packages with the option to add Saltro® on select varieties.

	DISEASES CONTROLLED CAUSED BY						INSECTS						
	Fusarium	Rhizoctonia	Pythium	Phomopsis	Phytophthora megasperma var. sojae	Sudden death syndrome	Bean leaf beetle	Black cutworm	European chafar	June beetle	Seed corn maggot	Soybean cyst nematode	Wireworm
PACKAGE 1													
 <b>Vayantis® IV</b>	●	●	●	●	●								
PACKAGE 2													
 <b>Fortenza®</b>	●	●	●	●	●		●	● <sup>1</sup>	●	●	●		●
 <b>Vayantis® IV</b>	●	●	●	●	●								
ADD-ON OPTION													
 <b>Saltro®</b>						●						●	

ROOTING  
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ROOTING  
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### Legend

● Control

<sup>1</sup>Use for early season feeding damage from bean leaf beetle.

For more information, contact your Syngenta Representative, our Customer Interaction Centre at 1-877-SYNGENTA (1-877-964-3682) or visit [Syngenta.ca/NK](http://Syngenta.ca/NK)

# Diseases



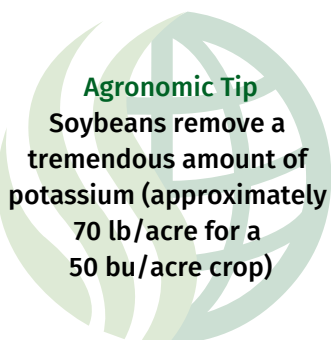
**Rhizoctonia Seedling Blight**

Rhizoctonia seedling blight is caused by the fungus *Rhizoctonia solani*. The characteristic symptom of this seedling blight is reddish brown lesions on the seedling's lower stem or hypocotyl, usually at the soil level. Lesions on the diseased stem appear sunken and dry.



**Soybean Cyst Nematode**

Symptoms initially begin with slow canopy closure often mistaken as a herbicide failure early in the season. Plant height is affected, resulting in short plants next to tall plants. Poor fertility can enhance above-ground symptoms and are similar to potassium deficiency and sometimes nitrogen deficiency. Poor stands and death are possible. Young female SCN can be found on plant roots in the field most readily when plants begin to flower. There is a common interaction with Sudden Death Syndrome.



# Diseases



**Pythium Seedling Blight**



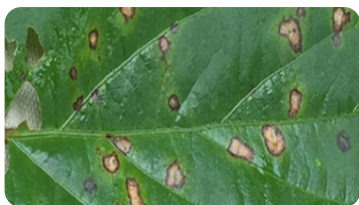
**Phytophthora Root Rot**



Many *Pythium* species can cause soybean seedling blight and appears similar to *Phytophthora* root rot. *Pythium* seedling blight symptoms include rotten, mushy seeds or seedlings with poorly developed roots. Water-soaked lesions may be present on the hypocotyl or cotyledons. *Pythium* seedling blight can occur across a range of temperatures, but high soil moisture increases disease severity. Consequently, symptoms are most severe in poorly drained soils and areas prone to flooding.

*Phytophthora* root rot is caused by the oomycete *Phytophthora sojae*. Infected plants appear alone or in patches. The disease causes a stem rot characterized by chocolate brown stem lesions, but the symptoms of the seedling phase resemble the symptoms of many other seedling diseases. *Phytophthora* infected seedling stems are soft and water-soaked. Overall, infected seedlings will wilt and be stunted. *Phytophthora* root rot occurs across many environments, but is most common in warm (15 degrees Celsius) and in wet conditions.

# Diseases



**Frog Eye Leaf Spot**



**Sudden Death Syndrome (SDS)**

Typical symptoms are leaf lesions that are circular with a purple margin around an ashy-white/gray center. Lesions begin as dark, water-soaked spots on the younger leaves. As the lesions age, the centers become ash-gray or light brown. Lesions often coalesce to form larger, irregular spots. Timely fungicide applications, when thresholds have been observed, will control frog eye leaf spot.

This is a disease that is starting to show up in Huron & Bruce. Symptoms usually begin during the flowering stage and get progressively worse by the R6 growth stage. Small yellow spots first appear on the upper leaves and progress into yellow streaks and eventually become necrotic with only the veins remaining green. Roots of infected plants are usually rotted, and plants can be easily pulled out of the soil. The pith tissue will remain white, while the water-conducting tissue (xylem) will have a gray to brown colour. Many times SDS symptoms will be more severe in the presence of soybean cyst nematodes and may be worse after a rotation with corn that had severe stalk rot the previous year.

Diseases derived from: Crop Protection Network, University of Tennessee Extension, Cornell University, North Dakota State University, Mississippi State University Extension, University of Nebraska-Lincoln, OMAFRA Pub. 811



# Diseases



## White Mold

White mold is caused by the fungus *Sclerotinia sclerotiorum*. The fungus is easily recognized by the presence of fluffy white mycelium (the vegetative body of the fungus) that is the source of the name white mold. Each year, the occurrence of white mold is heavily dependent on weather conditions during soybean flowering and early pod development. Rain, moderate temperatures (less than 28° C), high relative humidity and moist soil favour the growth of the fungus if it is present.

Sclerotia germinates to form mushroom-like structures called apothecia. Apothecia are tan coloured, have a sponge-like texture and are 1/4 to 1/2 inch wide at maturity. They are found on the soil surface and form from sclerotia when the soil is moist and dim light is filtered through the crop canopy. Under the cap of the apothecia, microscopic spores (ascospores) are produced and forcibly ejected. The disease cycle of white mold begins when ascospores germinate and colonize on senescing flower petals that adhere to emerging pods. Infection eventually progresses from pods to other nodes and stems, resulting in a premature death of stems. If adjacent plants come into contact with an infected plant, they may also become infected, but plant to plant spread of the pathogen is minimal and not as important as infection of blossoms.

Sclerotia are formed from the white mold fungus growing on and inside stems and pods. Sclerotia that are formed on stems and pods eventually fall to the soil surface. Those formed inside stems and pods are released when plants pass through the combine at harvest and are deposited on the soil surface.

# Insects



**Seed Corn Maggot**



**Wireworm**



The seed corn maggot is a pale, yellowish-white larva found burrowing into soybean seeds. Full grown maggots are legless, about 6 mm long, cylindrical, narrow, and tapered. The maggot lacks a defined head and legs, but has small black mouth hooks at the front of its body. Fields in which animal or green manure crops have been used have a greater potential for seed corn maggot attack than fields not using these manures. However, non-manured fields are also at risk from seed corn maggot damage. Plant injury is especially prevalent during cool and wet springs.

Wireworms are slender, hard-bodied, wire-like beetle larvae that can damage young soybean plants. They are shiny yellow to brown in color and range in size from 1/2 to 1-1/2 inches long. Wireworms can feed on and damage one or more portions of a soybean seed or can completely hollow it out, leaving only the seed coat. Wireworms may also cut off small roots or tunnel into the underground portions of young soybean plants. These plants will appear stunted or wilted. Damage to either the seed or seedling can result in gaps in the rows. Soybean fields likely to be attacked by wireworms are those in which sod or small grains were grown the previous year(s), or which have a history of wireworm damage.

# Insects



**Bean Leaf Beetle**



**Soybean Aphid**



Bean leaf beetles (BLB) vary in colour, but are usually reddish to yellowish-tan. They are about 5-8 mm long and commonly have two to four black spots and a black border on the outside of each wing cover. These spots may be missing, but in all cases there is a small black triangle at the base of the wings near the thorax. The BLB overwinters in the adult stage, and resumes activity in the spring. It will be found feeding on soybean foliage soon after soybean emergence.

Soybean aphids are small, yellowish-green, soft-bodied insects with 2 distinctive appendages (cornicles) on the tip of their abdomen. They may be winged or wingless. If present, aphids can easily be found on newly unfolding leaves and the under surface of the uppermost leaves. In high populations soybean aphids can also be found on stems, petioles, pods and the under surface of lower leaves. Indications of a soybean aphid infestation can include stunting of plants, yellowing and miss-shaped or contorted leaves, an obvious presence of natural enemies such as lady bird beetles or ants in the uppermost canopy, and a charcoal gray discolouration of leaves indicating presence of sooty mould. Yield loss is greatest when soybeans are in the early R stages.

# Insects



## Two-Spotted Spider Mite

The adults are very small, about 1/60 of an inch, and can be white, green, orange or red. They have four pairs of legs, which is a characteristic that distinguishes them from insects that have three sets. A set of reddish to brownish spots on their back give the species its common name. The larva and nymph look similar to the adult but are smaller. The larvae have only three sets of legs. Early symptoms of spider mite injury appear as leaves with a yellow stippled look along the field margins. As the populations continue to build and injury increases, the yellowing spreads across the field and the area of yellow leaves expands and may turn red. The underside of leaves will have significant silk webbing and small, white spots that are the cast skins of the mite. If the population is not controlled, the yellow leaves will turn brown as the leaf loses moisture and dries up. Continued dry conditions and increasing mite populations can result in the significant loss of leaf area and death of plants.

# Metric & Imperial Conversion Charts

Length	
1 millimeter (mm)	0.04 in
1 centimeter (cm)	0.39 in
1 meter (m)	3.28 ft : 1.09 yd
1 kilometer (km)	0.62 mi
1 inch (in)	0.30 m : 0.33 yd
1 foot (ft)	0.30 m : 0.33 yd
1 yard (yd)	3 ft : 0.91 m
1 mile (mi)	1.6 km

Area	
1 sq cm (cm2)	0.16 in2
1 sq m (m2)	10.76 in2 : 1.2 yd2
1 hectare (ha)	2.47 ac: 10,000 m2
1 sq km (km2)	0.39 mi2 : 247.11ac
1 sq inch (in2)	6.45 cm2
1 sq ft (ft2)	0.09 m2 : 929 cm2
1 sq yd (yd2)	0.84 m2: 8361cm2
1 acre (ac)	0.40 ha
1 sq mile (mi2)	2.59 km2: 258.9 ha

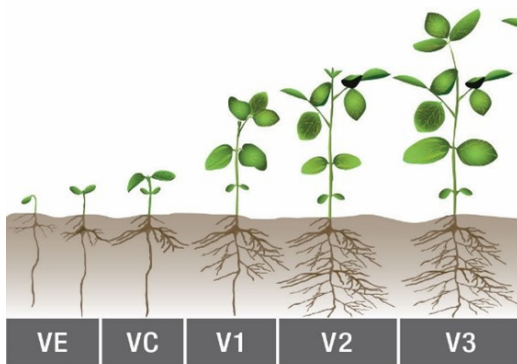
Weight	
1 gram (g)	0.035 oz
1 kilogram (kg)	2.205 lbs
1 metric ton (MT)	1,000 kg : 2,205 lbs
1 US ounce (oz)	28.35 g
1 pound (lb)	0.454 kg
1 ton (2,000 lbs)	907 kg

Volume	
1 cubic cm (cu cm)	0.06 cu in
1 cubic decimeter	61.02 cu in: 0.04 cu ft
1 cubic meter (cu m)	35.32 cu ft: 1.31 cu
1 liter ( L )	0.26 U.S. gal : 1.06
	0.22 imp gal: 0.88
	61.02 cu in : 1,000
1 cu in (cu in)	16.29 cu cm
1 cu ft (cu ft)	28.32 L
1 cubic yard (cu yd)	0.76 cu m: 764 L
1 quart (U.S.)	0.95 L
1 quart (British)	1.14 L
1 gallon (U.S.)	3.79 L
1 gallon (British)	4.55 L

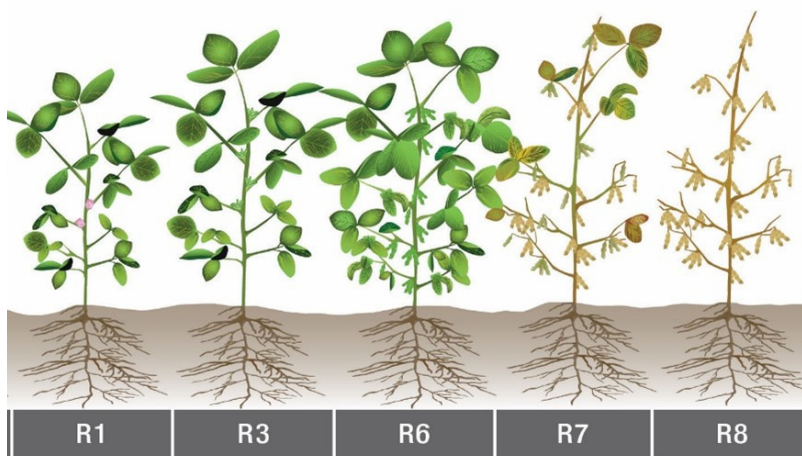
Product Conversion Factors		
	BU/MT	Lbs/Bu
Wheat	36.74	60
Oats	64.84	34
Barley	45.93	48
Rye	39.37	56
Canola	44.09	50
Soybeans	36.74	60
Buckwheat	45.93	48
Corn	39.37	56



# Soybean Growth Stages



Source: University of Illinois, 1999



## Notes

[illegible]



**snobelenfarms.com**

**Lucknow**

323 Havelock Street, Box 29

Lucknow Ontario

N0G 2H0

Phone: 1-800-582-5669

Fax: 519-528-3542

**Palmerston**

5220 King's Hwy 23

Palmerston Ontario

N0G 2P0

Phone: 1-877-343-3630

Fax: 519-343-2037