

2025/2026 SEED GUIDE





Snobelen Farms is a Canadian family owned business.

We operate 8 grain receiving facilities across southwestern Ontario, with Lucknow and Palmerston being the main seed facilities.



LUCKNOW 1-800-582-5669



PALMERSTON 1-877-343-3630

- Head office
- Receiving facility
- Cleaning, processing, treating, & packaging of pedigreed seed
- IP soybean export facility

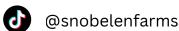
- IP and seed receiving facility
- Cleaning, processing, treating, & packaging of pedigreed seed



www.snobelenfarms.com



asnobelengrain



③ @snobelenfarms

Snobelen Farms Ltd.

Table of Contents

The Seed Team	1
Winter Wheat	2
Descriptions and Characteristics	3
Plant Breeders' Rights	5
Seeding Rates	6
Seeds per Foot Row	7
Seeding Depth	7
Optimum Planting Date	7
Seed Treatments	8
Winter Barley	9
Variety Descriptions and Characteristics	10
Conventional Soybeans	11
Variety Descriptions and Characteristics	12
Traited Soybeans	14
Variety Descriptions and Characteristics	15
Herbicide Solutions	15
Variety Highlight - Wheeler R2X	16
Variety Highlight - Crosby XF	17
Variety Highlight - Orr R2X	18
Soybean Seed Treatment	19
Inoculant	20
Soybean Seeding Rates	21
Optimum Planting Date	21
Seeds per Foot Row	22
Seeding Depth	22
Ontario Soybean Maturity Map	23
Yield Potential	23
Spring Cereals	24
Spring Wheat - Variety Descriptions and Characteristics	25
Oats - Variety Descriptions and Characteristics	26
Barley - Variety Descriptions and Characteristics	27
Common Blends	28
Plant Populations	28
Seeds per Foot Row	28
Pounds of Seed per Acre	29
Cover Crops	30
Descriptions	31
Suggested Seeding Rates	32
Benefits	32

The Seed Team

WE'RE HERE TO SUPPORT YOU AND YOUR BUSINESS!



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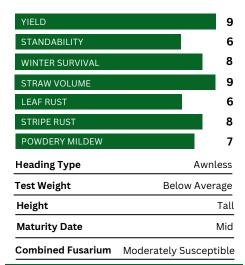
Troy TATE Brantford Location Manager c: 519-999-6982 ttate@snobelenfarms.com



WINTER WHEAT Descriptions & Characteristics

AVA Soft White

- Tall variety with great straw quantity
- Strong yield potential for a soft white wheat variety



B654SRW

Soft Red

- Responds well to intensive management
- Tallest SRW variety in our line-up
- · Exceptional straw quantity



YIELD	8	
STANDABILITY	7	
WINTER SURVIVAL	7	
STRAW VOLUME	9	
LEAF RUST	9	
STRIPE RUST	8	
POWDERY MILDEW	6	
Heading Type	Awnless	
Test Weight	Above Average	
Height	Tall	
Maturity Date Mic		
Combined Fusarium	Susceptible	

B700SRW Soft Red

- Strong Fusarium Head Blight tolerance
- Shorter variety that can be managed for yield
- Strong lodging tolerance

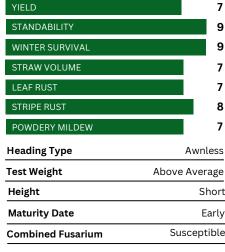


YIELD		8
STANDABILITY		9
WINTER SURVIVAL		9
STRAW VOLUME		7
LEAF RUST		6
STRIPE RUST		7
POWDERY MILDEW		7
Heading Type		Awned
Test Weight		Average
Height		Short
Maturity Date		Mid
Combined Fusarium	Moderately Sus	ceptible

BRANSON Soft Red

- Consistent top performer
- Excellent lodging scores and winter survival ratings





9 = Excellent, 1 = Poor

GRO-08SRW Soft Red

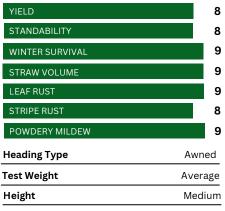
- Exceptional yield potential
- Strong winter survival and lodging scores
- Responds well to intensive management



	8
	8
	7
	7
	7
	8
	Awned
Above	Average
Short -	Medium
	Mid

OAC CONSTELLATIONSoft Red

- Excellent disease package
- Strong standability scores
- Solid falling number and test weight



OAC MOON Soft Red

- Strong yield potential
- Excellent lodging and winter survival scores
- Responds well to intensive management

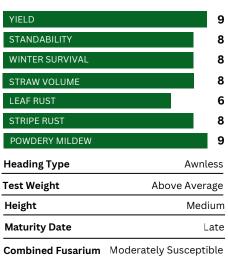




OAC VIRGO Soft Red

- Great option for organic growers due to its stay green and natural disease package
- Excellent yield potential





NEW

CALDWELL Soft Red

- Excellent standability
- Top grain yield for Ontario Areas 1 and 2
- Good test weight scores



YIELD	9	9
STANDABILITY	9	9
WINTER SURVIVAL		8
STRAW VOLUME	į	9
LEAF RUST	9	9
STRIPE RUST	9	9
POWDERY MILDEW		7
Heading Type	Awnles	S
Test Weight	Above Average	e
Height	Mediur	n
Maturity Date	Mi	d
Combined Fusarium	Moderately Susceptible	– е



PLANT BREEDERS' RIGHTS

PLANT BREEDERS' RIGHTS	Engange Annage Annage	91
Are all varieties protected under the same Plant Breeder' Rights (PBR) Act?	As of February 27, 2015, all new varieties submitted for PBR are protected under the new legislation. These varieties carry the PBR 91 symbol.	All varieties granted protection under the PBR prior to February 27, 2015 continue under the original Act. These varieties carry the original PBR symbol.
What are plant breeders' rights?	Breeders' rights are expanded under the new PBR Act. Authorization form from the breeder is required to produce, sell, clean/condition, stock, import or export seed of PBR- protected varieties.	Authorization from the breeder is required to sell, or produce for sale, seed of PBR-protected varieties.
Can breeders be compensated on harvested grain?	Yes, if seed was obtained and used illegally or without the authorization of the breeder, the breeder can choose to seek compensation, including for lost royalty revenue; lost markets; and for court costs; on delivered grain produced from that seed.	No
Can farmers save seed?	Yes, the "Farmers' Privilege" is entrenched in the legislation. It allows farmers to produce PBR 91-protected varieties for use as seed on their farms.	It is not spelled out in legislation, but it is not prohibited.
Can farms clean grain from PBR- protected varieties for use as seed on their farm?	Yes	Yes
Can farmers sell or advertise for sale seed they have produced from grain of PBR-protected varieties?	No	No
Can farmers exchange seed they have produced from grain of PBR- protected varieties?	No	No
	SEED CONDITIONERS' AND GRAIN BUYERS RESPONSIB	ILITIES
Can seed conditioners clean seed of a PBR-protected variety for purpose of propagation?	Yes, if the seed was obtained legally (i.e. certified seed was purchased) and if farm-saved seed will only be used on the farmer's own land.	Yes
Do seed conditioners have certain responsibilities when cleaning farm-saved seed of a PBR- protected variety?	Yes, expanded breeders' rights mean that cleaners may be liable for breeches of the breeder's rights. They should take precautions to ensure the seed they are cleaning was obtained legally, and that farm-saved seed that they clean will only be used on the farm of the farmer who has brought it in for cleaning.	No
Do grain buyers have certain responsibilities when handling PBR-protected varieties?	Yes, the harvested material provisions mean that grain buyers may be liable for breeches of the breeder's right. They should be aware of the varieties that are protected under the new legislation and be satisfied that the seed used to produce that grain was legally obtained.	No

SEEDING RATES

Earlier than Optimum Planting Date by 10 Days	Optimum Planting Date
1.0 - 1.2	1.4 - 1.5

7 Days Past Optimum	14 Days Past Optimum	21 Days Past Optimum
Planting Date	Planting Date	Planting Date
1.6 - 1.8	1.8 - 2.0	2.0 - 2.2

The above seeding rate chart is a general recommendation based on years of Ontario based research. However, seeding rates need to be adjusted for soil type, fertility levels, soil structure, and planting dates. Heavy clay soils may require as much as 20% more seed than other soil types. Ideally, 60 heads per square foot is the target. Winter wheat planted early allows for prolific tillering and strong tillers to develop and therefore fewer seeds per acre are required. If the plant density is too high for early planting dates, lodging can be an issue. Wheat planted well after the optimum planting date typically does not tiller much and therefore requires a heavier seeding rate to achieve 60 heads per square foot.

Calculating Seeding Rates by Amount of Seed to Achieve Target Plant Density
Use the number of seeds per lb (often found on the seed bag and/or tote) to determine the required seeding rate (lb/acre)

Amount of Seed	Desired Plant Population (x 1000)							
Seed (per lb)	809/ac	1,012/ac	1,213/ac	1,416/ac	1,619/ac	1,861/ac	2,024/ac	2,226/ac
8,000	101	127	152	178	202	233	253	278
9,000	90	112	135	158	157	207	225	247
10,000	81	101	121	142	162	186	202	223
11,000	73	91	109	127	145	164	185	204
12,000	67	83	100	117	133	150	170	187
13,000	62	77	92	108	123	138	157	172
14,000	55	71	86	100	114	128	146	160
15,000	53	67	80	93	107	120	136	149
16,000	50	63	75	88	100	113	127	140

^{*}seeding rates are expressed in millions of seeds per acre

^{*}seeding rates derived from Crop Advances 2013, OMAFRA Publication 811 and University of Guelph

SEEDS PER FOOT ROW

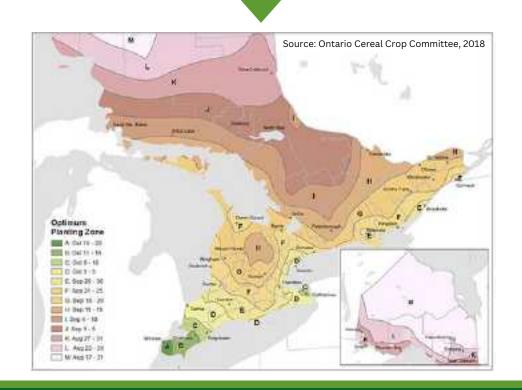
Seeds per foot row (7.5" rows) conversion to millions of seed per acre

Seeds per foot row	16	17	18	19	20	21	22
Seed per acre (million)	1.115	1.195	1.254	1.324	1.394	1.463	1.533
	23	24	25	26	27	28	29
	1.603	1.673	1.742	1.812	1.882	1.951	2.021

SEEDING DEPTH

Wheat should be planted no less than 1.0" deep (2.5cm). The preferred range of seeding depth is 1.0 - 1.25". Any shallower and the crop becomes more vulnerable during the winter months. It takes approximately 80 growing degree days for winter wheat to germinate and an additional 50 GDD for every inch of seeding depth to achieve emergence.

OPTIMUM PLANTING DATE



SEED TREATMENTS



Cruiser $^{\circ}$ Vibrance $^{\circ}$ Quattro is the trusted wireworm solution in cereals, and provides excellent performance on a broad spectrum of seed- and soil-borne diseases. It also features the added benefits of Rooting Power $^{\circ}$ and Vigor Trigger $^{\text{TM}}$ to help get your crop off to a vigorous, strong-standing start.

Key Benefits:

- Convenient, ready-to-apply pre-mix
- Four fungicides to control a broad range of seed- and soil-borne diseases, plus an insecticide for protection against wireworms
- Excellent control of Fusarium and Rhizoctonia
- Liquid formulation allows for on-farm application with no build-up in treater





LALRISE® START SC is a liquid inoculant based on a plant growth-promoting microbe (PGPM) that increases crop establishment through improved root vigour and nutrient availability. This PGPM solubilizes phosphorus from organic and inorganic reservoirs, which promotes growth in young plants and increases crop homogeneity, root mass growth and yields.

Key Benefits:

- Stimulates the start-up of young plants
- Improves soil exploration with roots, allowing better nutrient uptake
- Enhances the productivity of plants, allowing better growth, yield and quality





WINTER BARLEY Descriptions & Characteristics

LCS CALYPSO

2-Row

Malting barley

9 = Excellent, 1 = Poor

- High yielding
- Excellent straw quality

WINTER SURVIVAL	8
STRAW VOLUME	9
Maturity	Mid
Maturity Plant Height (cm)	Mid 85

SU RUZENA

2-Row

- Food grade barley
- Excellent winter survival
- High test weight
- Matures one week earlier than LCS Calypso

than LCS Calypso	91
YIELD	9
STANDABILITY	7
WINTER SURVIVAL	9
STRAW VOLUME	8
Maturity	Early - Mid
Plant Height (cm)	80
Test Weight (kg/hL)	Average
Thousand Kernel Weight (g)	51.2





CONVENTIONAL SOYBEANS Descriptions & Characteristics

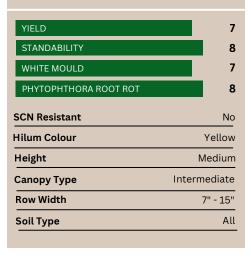
OAC STRIVE CHU 2650 | RM 0.4

- Consistent and well rounded variety
- Strong white mould rating
- Impressive emergence

YIELD	8
STANDABILITY	8
WHITE MOULD	9
SCN Resistant	No
Hilum Colour	mperfect Yellow
Height	Medium - Tal
Canopy Type	Narrow
Row Width	7" - 15'
Soil Type	Al

OAC LAKEVIEW CHU 2700 | RM 0.5

- Excellent Phytophthora Root Rot rating
- Best suited for 7" 15" rows



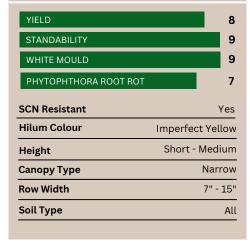
SFL 06-44IP CHU 2725 | RM 0.6

- Strong yield performance
- Impressive emergence
- Excellent disease package
- Phytophthora root rot gene: Rps1c

YIELD	9
STANDABILITY	8
WHITE MOULD	7
SCN Resistant	Yes
Hilum Colour	Yellow
Height	Medium
Canopy Type	Intermediate
Row Width	7" - 15"
Soil Type	All

OAC KAMRAN CHU 2725 | RM 0.6

- Excellent lodging scores
- Excellent yield potential when managed



B101COCHU 2775 | 1.0 RM

- Good emergence
- Strong Brown Stem Rot tolerance

YIELD 8 **STANDABILITY** 8 WHITE MOULD 7 PHYTOPHTHORA ROOT ROT 7 **SCN Resistant** Yes **Hilum Colour** Yellow Short Height **Canopy Type** Intermediate **Row Width** 7" - 15" Soil Type All

OAC UNION CHU 2875 | RM 1.4

- Strong emergence and standability
- Tall and slender plant type



NEW

OAC EQUILIBRIUM CHU 2900 | RM 1.6

- Impressive yields Easy thrashing variety
- Strong emergence

STANDABILITY **SCN Resistant** Yes **Hilum Colour** Yellow Hilum Height Tall Intermediate **Canopy Type Row Width** 7" - 15" Soil Type All

9 = Excellent, 1 = Poor

OAC Bruton CHU 2975 | RM 2.0

- Performs well on tough soil conditions
- Excellent yield for the maturity





OAC ACHIEVE CHU 3050 | RM 2.1

- Strong disease package Excellent standability scores Performs well on fertile soils

YIELD	8
STANDABILITY	8
CON Desistant	V
SCN Resistant	Yes
Hilum Colour	Yellow
Height	Short - Medium
Canopy Type	Intermediate
Row Width	7" - 30"
Soil Type	All



TECHNOLOGY TRAITED SOYBEANS

Descriptions & Characteristics

NEW

WHEELER R2XCHU 2350 | RM 00.2

- Very good white mould and Phytophthora Root Rot field tolerance
- PRR gene: RPS 1c



TRIQUET R2X CHU 2475 | RM 00.9

- Strong yield for maturity
- Above average white mould rating
- Phytophthora root rot gene: 1k

× ×	TEND SOYBEANS	
YIELD	_	8
STANDABILITY		8
WHITE MOULD		9
PHYTOPHTHORA ROO	T ROT	6
SCN Resistant Hilum Colour	Moderately	y Resistant Black
Height	Мє	edium - Tall
Canopy Type	Int	termediate
Row Width		7" - 15"
Soil Type		All

CROSBY XF CHU 2675 | RM 0.5

- Solid yield potential
- Versatile across various field conditions
- Phytophthora Root Rot gene: Rps1c

Sorma	IDFLEX
YIELD	8
STANDABILITY	9
WHITE MOULD	8
PHYTOPHTHORA ROOT RO	от 9
SCN Resistant Hilum Colour	Yes Imperfect Black
Hilum Colour	Imperfect Black
Hilum Colour Height	Imperfect Black

RAMAGE XF CHU 2675 | RM 0.5

- Performs well on all soil types, but especially on tougher soils
- Strong emergence
- Phytophthora Root Rot gene: Rps1c



HARVEY E3 CHU 2700 | RM 0.6

- Excellent standability
- Good in white mould pressure areas
- Phytophthora Root Rot gene: no gene

8 9 9
9
7
,
No wn
um
ate
30"
All
1 1 3

ORR R2X CHU 2750 | RM 0.8

- Exceptional yield potential
- Strong disease tolerance
- Phytophthora Root Rot gene: 3a

YIELD	9
STANDABILITY	8
WHITE MOULD	9
PHYTOPHTHORA ROOT ROT	9
	Yes Brown
Hilum Colour	
SCN Resistant Hilum Colour Height Canopy Type	Brown
Hilum Colour Height	Brown Medium - Tal

RIDLEY XF CHU 2750 | RM 0.8

- Performs on all soil types and conditions
- Strong lodging scores
 Phytophthora Root Rot gene: Rps1c

TENDFE SOMEARS	.EX
YIELD	8
STANDABILITY	9
WHITE MOULD	7
PHYTOPHTHORA ROOT ROT	8
SCN Resistant	Yes
Hilum Colour	Black
Height	Medium
Сапору Туре	Bushy
Row Width	7" - 30"
Soil Type	All

9 = Excellent, 1 = Poor

NEW

HALEY XF CHU 3150 | RM 2.3

- Well rounded agronomics with strong disease package
- Phytophthora Root Rot gene: Rps1k

TENDI	FLEX
YIELD	8
STANDABILITY	9
WHITE MOULD	9
PHYTOPHTHORA ROOT ROT	9
SCN Resistant	Yes
Hilum Colour	N/A
Height	Medium - Tall
Canopy Type	Medium Bushy
Row Width	7" - 15"
Soil Type	All

This year we are trialing 9 conventional and 10 traited soybean varieties, ranging from 2650 -3200 CHU.

Not only will this ensure we are carrying a strong performing line-up, but allows us to expand our reach geographically. As these varieties are trialed and chosen, they will be added to our soubean line-up for the 2026 growing season.

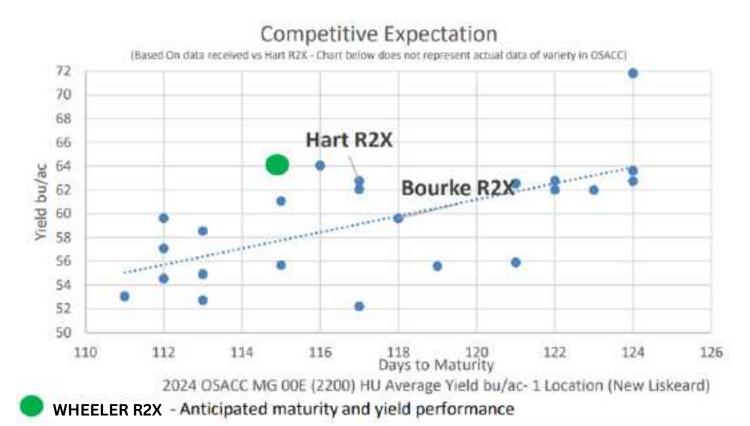
HERBICIDE SOLUTIONS	ROUNDUP READY 2 TEND SOYBEANS	TENDFLEX	Enlist E3
Glyphosate (Roundup)			
Dicamba (XtendiMax)			28/17
Glufosinate (Liberty)	AMARIA		•
2, 4-D Choline (Enlist One)	(V V		

WHEELER R2X Variety Highlight



2350 CHU/00.2 RM

Wheeler R2X adds to the portfolio with SCN protection as cyst pressures continue to expand in this maturity. This variety is a great choice in short season areas. It has excellent emergence and large canopy to close in the rows on variable acres and maximize yield. Wheeler R2X has a strong disease package with very good white mould and phytophthora root rot field tolerance. It has solid year over year yield performance and is a great option for soils with history of cyst. This variety is a strong replacement for growers who have grown Mahoney R2 in the past.



^{*}Chart derived from SeCan.

CROSBY XF Variety Highlight



2675 CHU/0.5 RM

A very well rounded defensive soybean variety. Short plant height allows for strong lodging scores and bushy canopy allows rows to fill in well, making it adaptable to row configurations. Crosby XF offers SCN protection where Altitude R2 did not. Crosby XF also offers the convenience of the Xtend Flex trait allowing the application of Dicamba up front, Glyphosate (Roundup) and Glufosinate (Liberty) resistance. Crosby XF maturity allows for good harvest timing and wider window for winter wheat establishment.

Head to Head Trial Data

Company	Variety	Maturity	Data Points	Crosby XF Yield Advantage
Pioneer	P06A38E	2675 CHU	2	+2.3 bu
Maizex	Grizzly R2X	2600 CHU	2	+4.6 bu
Maizex	Cobra R2X	2575 CHU	2	Same
Dekalb	DKB07-23 R2X	2700 CHU	2	-2.6 bu
Dekalb	DKB03-25 R2X	2625 CHU	2	+1.8 bu
NK	S04-J6X R2X	2625 CHU	2	+4.0 bu
NK	S06-A3XF	2675 CHU	2	+0.3 bu
SeCan	Savage R2X	2675 CHU	3	+4.2 bu
SeCan	Mason XF	2825 CHU	2	+2.2 bu

^{*}The data presented above was compiled internally based on information provided by growers, dealers, or other seed companies.

ORR R2X Variety Highlight



2750 CHU/0.8 RM

An offensively performing soybean variety that is SCN resistant. Taller plant height does not take away from its lodging scores, nearly identical to Altitude R2, with great standability! A bushy canopy type allows it to fill in and adapt to wider rows. Orr R2X offers a high level of consistent yield performance across soil types and management practices allowing it to regularly meet or exceed Altitude R2's yield performance.

Head to Head Trial Data

Company	Variety	Maturity	Data Points	Orr R2X Yield Advantage	Provincial - Walton Data Difference 2 yr Avg.
Dekalb	DKB07-23 R2X	2700 CHU	2	-3.4 bu	+5.9 bu
Dekalb	DKB11-84 R2X	2825 CHU	3	-0.1 bu	+2.6 bu
Pride	PS0944 XRN	2775 CHU	4	-2.8 bu	-0.7 bu
Pride	0779 XRN	2750 CHU	4	+3.2 bu	+6.6 bu
Syngenta	NK SO6-A3XF	2675 CHU	4	+2.5 bu	+7.9 bu
Syngenta	NK S12-M5XF	2825 CHU	2	-1.9 bu	Same
Syngenta	S09-B5XF	2775 CHU	4	+3.0 bu	+7.3 bu

^{*}The data presented above was compiled internally based on information provided by growers, dealers, or other seed companies.

SEED TREATMENTS



Protect your seed investment against insect and disease threats.

	Fusarium	Rhizoctonia	Pythium	Phomopsis 1 P	Phytophthora Megasperma var. sojae	Sudden Death Syndrome	Bean Leaf Beetle	Black Cutworm	European Chafer	June Beetle	Seed Corn Maggot	Soybean Cyst Nematode	Wireworm
(a) Vayantis⁺ ™	•	•	0	0	•								
				2 P	ACKAGES	5							
(i) Fortenza							S	S	S	S	•		(
ADD-ON OPTION													
🖒 Saltro						8						*	



= suppression



Vayantis® IV RFC seed treatment is the next generation of soybean seed treatments from Syngenta. It delivers comprehensive, next-level performance against a wide range of early-season seed and seedling diseases - including the broadest Pythium and Phytophthora protection available – for a stronger standing, higher-performing crop.





Fortenza® is a non-neonicotinoid soybean seed treatment. It delivers control of the following pests: European chafer, June beetle, bean leaf beetle, black cutworm, wireworm and seed corn maggot. Helps build a strong soybean stand, even under heavy insect pressure, producing faster, more uniform growth. Fortenza can be used with most Rhizobium-based inoculants.





Saltro® is a soybean fungicide seed treatment for sudden death syndrome (SDS) management and suppression of soybean cyst nematode. It provides a proven mode of action that sets the standard for sudden death syndrome (SDS) protection. Saltro has consistent performance regardless of SDS pressure without any stress on the plant. Low use rate provides improved handling and application characteristics





LALFIX PROYIELD LIQUID SOYBEAN is a leading formulation containing Bradyrhizobium elkanii and Delftia acidovorans in one package that requires no mixing. Lallemand Plant Care is utilizing two unique strains of Bradyrhizobium elkanii to bring soybean growers an innovative inoculant with higher rhizobia survival and competitiveness. In addition, Delftia increases root growth, nutrient and water uptake - ultimately leading to enhanced nodulation and nitrogen fixation, early vigor and higher soybean yields. In partnerships with university researchers, who have concluded that Delftia produces a significant amount of chelating molecules that help solubilize iron for soybean availability. This has shown out in fields with history of Iron Deficiency Chlorosis (IDC) to decrease symptoms caused by lack of iron as part of an overall offensive strategy against IDC.

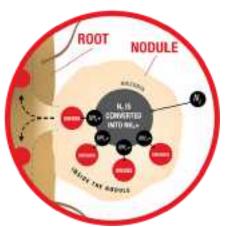
The greater amount of nitrogen that LALFIX® PROYIELD LIQUID SOYBEAN can fix compared to other inoculants on the market can be explained by:

- 1. Its capacity to produce an early and dense nodulation at roots level; and
- Its ability to stimulate the production of ureides in the soybean plant. The
 concentration of ureides is directly linked to the activity of nitrogen fixation in the
 nodules.

What are Ureides?

Ureides act as important transporters helping fixed nitrogen exit the nodules and circulate through the soybean plant, from its roots to its above-ground tissues.

By nature, atmospheric nitrogen (N2) is unusable by the plant until it is converted into ammonium (NH4+) by the rhizobium housed in the nodules. Since plants are not adapted to transport ammonium (NH4+), plant root cells convert NH4+ to ureides and transport it to top tissues.



FARMER APPLIED INOCULANT



LALFIX Peat

1.2 kg package 4.45ml/100 lbs of seed

Full Rate: 30 units/1.2kg Half rate: 60 units/1.2kg



Once applied to seed, plant within 48 hours. Keep out of direct sunlight.



1.1 L bladder 80g/100 lbs of seed

Full Rate: 50 units/1.1L Half rate: 100 units/1.1L

Once applied to seed, plant within 30 days. Keep out of sunlight in cool dark area.





SOYBEAN 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)
		Pounds/Acre Seed		
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)

Seed 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	99
May 21 - June 5	58.3	92

SEEDS PER FOOT ROW

		Desired Plant Population per Acre						
	Linear Feet of Row per Acre	105,000	110,000	130,000	150,000	175,000	200,000	225,000
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

Seeding depth is a critical factor in successful soybean establishment, directly affecting germination and early growth. Optimal seeding depth for soybeans typically ranges from 1 to 1.5 inches, though slightly deeper planting—up to 2 inches—may be necessary in dry or sandy soils to ensure access to adequate moisture. Planting too shallow can lead to poor root anchoring and vulnerability to environmental stress, while excessive depth may delay emergence or reduce seedling vigor, particularly in cool or compacted soils. Consistent seeding depth across the field helps promote uniform emergence, which is key for effective canopy development and weed suppression. Adjustments should always consider soil conditions, weather forecasts, and equipment calibration.

As a general rule you can plant shallower when:

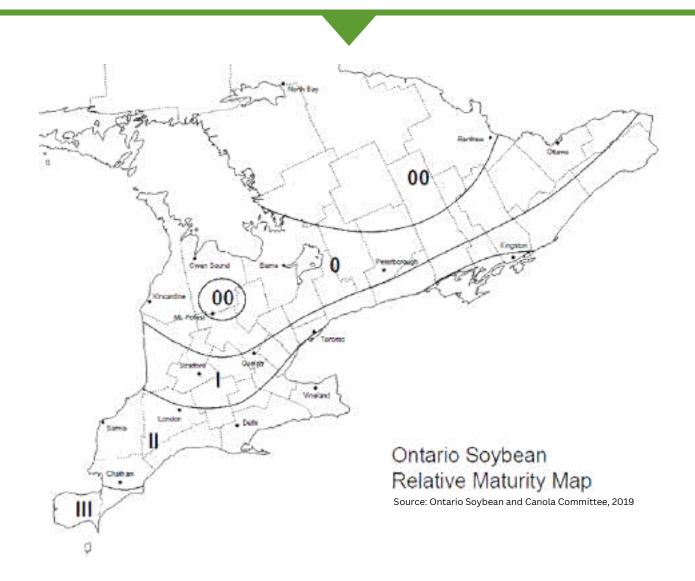
- planting early
- fine textured soils
- moist soils

You may have to plant deeper when:

- planting late
- high residue conditions
- coarse textured soils
- dry soils

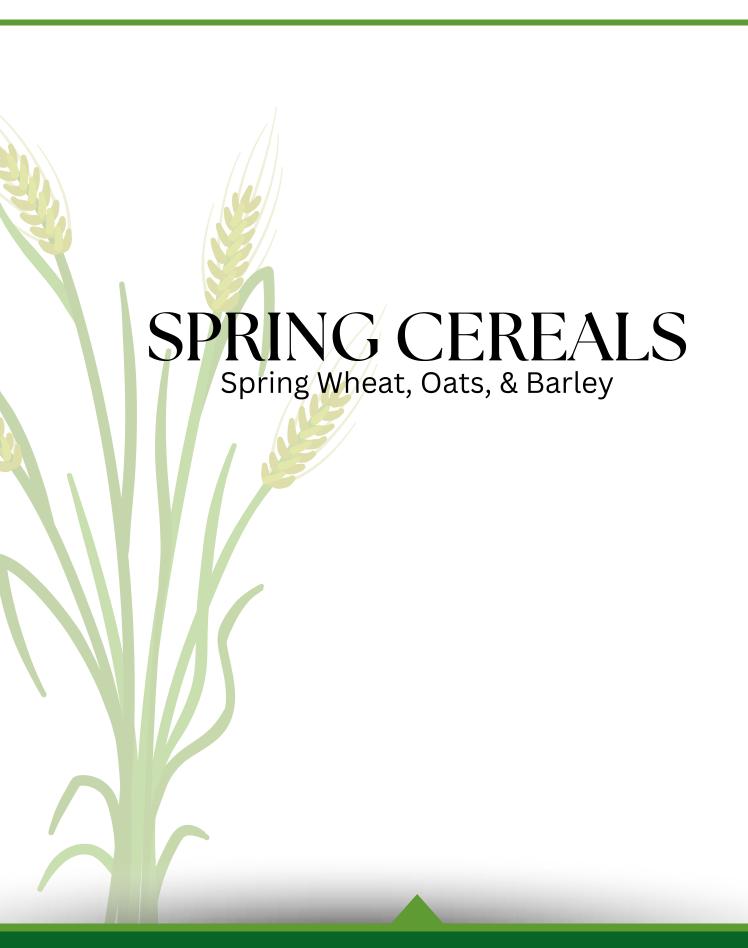
The range of planting depth, depending on the conditions, is 1" - 2.5".

ONTARIO SOYBEAN MATURITY MAP



POPULATION REDUCTION/ YIELD POTENTIAL

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



SPRING WHEAT Descriptions & Characteristics

VENTRY

- Hard red spring wheat
- Milling quality
- Excellent standability

QUANTUM

- Feed quality hard red springSolid yield potential
- Excellent straw quantity



9 = Excellent, 1 = Poor

YIELD	8
STANDABILITY	9
WINTER SURVIVAL	6
STRAW VOLUME	9
Heading	Mid
Maturity	Early
Plant Height	Short
Test Weight (kg/hL)	Above Average



OATS Descriptions & Characteristics

AAC BULLET

- Cereal oat
- White hulled milling oat
- Good straw quality
- Strong test weight

YIELD		8
STANDABILITY		8
CROWN RUST		6
STRAW VOLUME		7
Heading (days)		55
Plant Height	Short - N	/ledium
Test Weight (kg/hL)		31.4
Thousand Kernel Weight (g)		25.2

AAC BASIL

- Cereal oat
- White hulled oat
- Excellent yield potential
- Medium plant height

	91
YIELD	9
STANDABILITY	8
CROWN RUST	8
STRAW VOLUME	7
Heading (days)	58
Plant Height	Tall
Test Weight (kg/hL)	28.9
Thousand Kernel Weight (g)	24.1

NEW

AAC CAPTAIN

- Cereal oat
- Excellent lodging scores
- Strong yield potential
- Heavy test weight

	91
YIELD	9
STANDABILITY	9
CROWN RUST	8
STRAW VOLUME	9
Heading (days)	64
Plant Height	Tall
Test Weight (kg/hL)	32.7
Thousand Kernel Weight (g)	21.8
9 = Excellent, 1 = Poor	

CDC HAYMAKER

- Forage oat
- Top performing forage oat
- Tall stature and late maturing



BARLEY Descriptions & Characteristics

BORNHOLM

2-Row

- Early maturity
- Very heavy test weight
- Excellent yield potential

YIELD	7
STANDABILITY	9
MILDEW	9
STRAW VOLUME	7
Heading (days)	58
Plant Height	Medium
Test Weight (kg/hL)	63.3
Thousand Kernel Weight (g)	45.1

AAC CRANBROOK

6-Row

- Excellent lodging scores
- Great straw
- Good lodging and disease scores

	-
YIELD	9
STANDABILITY	8
MILDEW	9
STRAW VOLUME	9
Heading (days)	57
Plant Height	Medium - Tall
Test Weight (kg/hL)	55.5
Thousand Kernel Weight (g)	40.9

DS8126RB

6-Row

- **Excellent standability**
- Medium plant height
- Exceptional yield potential

YIELD	9
STANDABILITY	7
MILDEW	6
STRAW VOLUME	9
Heading (days)	58
Plant Height	Medium
Test Weight (kg/hL)	55.3
Thousand Kernel Weight (g)	41.0
9 - Evcellent 1 - Poor	

MASSY

6-Row

- Tallest barley and most straw our of our barley offerings
- **Excellent standability**



COMMON BLENDS

- Forage supreme (35% Barley, 35% Cereal Oat, 30% Forage Pea)
- Forage Oat Forage Pea: 50/50, 70/30
- Triticale Forage Pea: 50/50
- 3- Way Mix: Spring Barley, Cereal Oat, Spring Wheat

PLANT POPULATIONS

	Millions of Seeds/Acre	Plants/Foot of Row on 7.5" row spacing
Oats	0.8 - 1.2	11.5 - 17.2
Barley	1.0 - 1.4	14.3 - 20.1
Mixed Grain	0.8 - 1.4	11.5 - 20.1
Spring Wheat	1.2 - 1.6	17.2 - 23.0
Winter Wheat	1.4 - 1.8	20.1 - 25.8

Derived from: OMAFRA - Agronomy Guide for Field Crops Publication 811

SEEDS PER FOOT ROW

Desired Plant Population (Seeds/foot of row) in 7.5 inch row spacing							
Seeds per Acre	809k	1.012M	1.213M	1.416M	1.619M	1.861M	
Seeds/Foot Row	12	14	17	20	23	26	

POUNDS OF SEED PER ACRES

Pounds of seed to be planted per acres assuming 15% stand loss and 95% germination										
Seeds/lb.	800k	900k	1M	1.1M	1.2M	1.3M	1.4M	1.5M	1.6M	1.7M
lbs/ac										
8,000	123.8	139.3	154.8	170.3	185.8	201.2	216.7	232.2	247.7	263.2
8,500	116.6	131.1	145.7	160.3	174.8	189.4	204.0	218.5	233.1	247.7
9,000	110.1	123.8	137.6	151.4	165.1	178.9	192.6	206.4	220.2	233.9
9,500	99.1	111.5	123.8	136.2	148.6	161.0	173.4	185.8	198.1	210.5
10,000	99.1	111.5	123.8	136.2	148.6	161.0	173.4	185.8	198.1	210.5
10,500	94.4	106.1	117.9	129.7	141.5	153.3	165.1	176.9	188.7	200.5
11,000	90.1	101.3	112.6	123.8	135.1	146.4	157.6	168.9	180.1	191.4
11,500	86.1	96.9	107.7	118.5	129.2	140.0	150.8	161.5	172.3	183.1
12,000	82.6	92.9	103.2	113.5	123.8	134.2	144.5	154.8	165.1	175.4
12,500	79.3	89.2	99.1	109.0	118.9	128.8	138.7	148.6	158.5	168.4
13,000	76.2	85.7	95.3	104.8	114.3	123.8	133.4	142.9	152.4	161.9
13,500	73.4	82.6	91.7	100.9	110.1	119.3	128.4	137.6	146.8	155.9
14,000	70.8	79.6	88.5	97.3	106.1	115.0	123.8	132.7	141.5	150.4
14,500	68.3	76.9	85.4	93.9	102.5	111.0	119.6	128.1	136.6	145.2



DESCRIPTIONS

Oats

Oats are a versatile and widely used cover crop, valued for their quick growth, ease of establishment, and multiple agronomic benefits. When planted in the fall, oats produce a dense canopy that helps suppress weeds, reduce soil erosion, and improve soil structure. Their fibrous root system enhances soil organic matter and promotes better water infiltration. Oats also scavenge excess nitrogen, helping to reduce nutrient leaching. Unlike some overwintering cover crops, oats typically winterkill in colder climates, which simplifies spring management by eliminating the need for chemical termination. This natural die-off makes them an excellent choice for farmers seeking a low-maintenance cover crop that provides soil protection and organic matter without complicating spring planting.

Oats & Peas

Planting oats and peas together as a cover crop creates a complementary mix that offers both soil protection and fertility benefits. Oats establish quickly and provide a dense canopy that suppresses weeds and reduces erosion, while their strong root system improves soil structure. Peas, being legumes, fix atmospheric nitrogen through symbiotic relationships with soil bacteria, enriching the soil for future crops. The oats also act as a natural trellis, supporting the vining growth habit of the peas, which enhances biomass production. This combination results in a balanced carbon-tonitrogen ratio that breaks down efficiently after termination, making it easier to manage in spring. Ideal for fall planting, especially in cooler climates, the oats typically winterkill, while the peas may survive mild winters, providing continued soil benefits into early spring.

Winter Barley

Winter barley is an effective cover crop that offers several agronomic benefits, particularly in regions with milder winters. It establishes quickly in the fall, providing early ground cover that helps prevent soil erosion and suppress weeds. Its dense root system improves soil structure and enhances water infiltration, while the above-ground biomass contributes organic matter when incorporated. Though not as winter-hardy as cereal rye or winter wheat, winter barley can survive moderate cold and resume growth in early spring, offering a valuable window for spring forage or green manure. Additionally, it can scavenge residual nitrogen from the soil, reducing nutrient loss over the winter. Its relatively fast spring growth also allows for timely termination ahead of main crop planting, making it a practical option for cover cropping in diverse rotations.

Cereal Rye

Cereal rye is one of the most widely used and reliable cover crops, known for its exceptional cold tolerance and versatility across various soil types and climates. It establishes quickly in the fall, forming a dense canopy that effectively suppresses weeds, protects against erosion, and builds soil organic matter. Its extensive root system improves soil structure and scavenges residual nitrogen, preventing nutrient leaching during the winter months. Cereal rye continues growing in early spring, providing ample biomass that can be used as green manure or for mulch in no-till systems. While its vigorous spring growth can pose challenges for timely termination, it offers flexibility through mechanical or chemical means. Its resilience and numerous soil health benefits make cereal rye a staple in sustainable farming and conservation practices.

SUGGESTED SEEDING RATES

Cover Crop Species	Seeds/lb.	Drilled	Broadcast	Aerial Seeding	
Oats	11,000-12,000	50 - 90*	60 - 95*	80 - 110*	
Winter Barley	10,000 - 12,000	50 - 80*	60 - 100*	80 - 120*	
Cereal Rye	15,000 - 18,000	55 - 70*	80 - 100*	90 - 120*	
Oats & Peas	Depends on mix	60 - 100*	70 - 105*	90 - 120*	

^{*}Lbs./acre

BENEFITS OF COVER CROPS

Cover crops offer numerous benefits to farming operations, enhancing both soil health and overall farm productivity. Here are some key advantages:

- 1. Erosion Control Cover crops protect the soil surface from wind and water erosion, especially during fall and winter months.
- 2. Weed Suppression Fast-growing cover crops outcompete weeds for sunlight and nutrients, reducing the need for herbicides.
- 3. Soil Health Improvement They enhance soil structure, increase organic matter, and promote beneficial microbial activity.
- 4. Nutrient Management Legume cover crops fix atmospheric nitrogen, while others like rye scavenge residual nutrients, reducing nutrient leaching.
- 5. Moisture Retention Mulch from terminated cover crops can reduce evaporation and help retain soil moisture.
- 6. Pest and Disease Reduction Some cover crops can disrupt pest and disease cycles, reducing pressure on the following cash crops.
- 7. Increased Biodiversity They promote biodiversity both above and below ground, supporting pollinators and beneficial insects.
- 8. Improved Soil Structure Deep-rooted cover crops like radishes break up compaction and improve water infiltration and aeration.
- 9. Enhanced Yield Potential Healthier soil and better nutrient availability can lead to improved yields over time.
- 10. Carbon Sequestration Cover crops help capture and store carbon in the soil, contributing to climate resilience.

Incorporating cover crops is a long-term investment in soil fertility, farm sustainability, and overall productivity.



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