

GROW WITH CONFIDENCE.

THE INPUTS, EXPERTISE AND ADVICE THAT YIELD RESULTS.



GET IT. **UFA** DONE.

CEREAL, PULSE & INOCULANT
GUIDE 2024

BEING A UFA MEMBER MEANS YOU COULD EARN PATRONAGE ON MANY PURCHASES YOU MAKE TO GROW HEALTHY CROPS:

THAT'S A PLUS.

PLUS⁺
patronage

HELPING YOU ACHIEVE A BETTER YIELD.

The right crop protection and your approach are important, whether you're growing cereals or pulses. This guide, and your Customer Account Manager's (CAM) experience and knowledge, makes sure you have the best information to make decisions. From seeding to storage, we're with you every step of the way.

With a full range of products to improve the health of your crop at any stage, your CAM will work with you to provide the right products, including our own lineup of micronutrients. This means you'll get the best solution for your growing conditions.

As a UFA member you can benefit from exclusive credit programs, to help you get the most of every dollar.

Grow with Confidence, Grow with UFA.



Scan the QR Code and discover that Better Crops begin here.

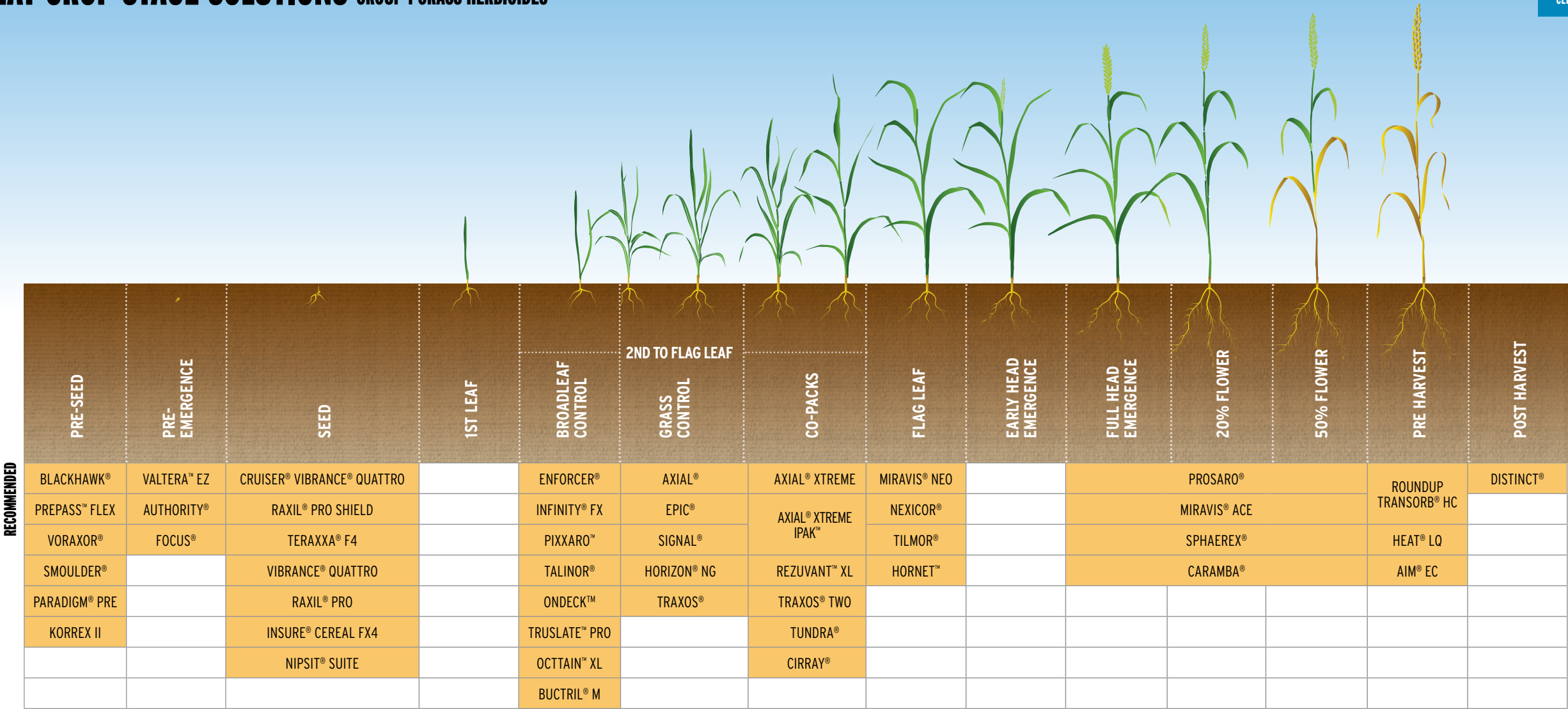
CEREALS

Get your cereal crop off to the best start with the top crop input choices. UFA offers a variety of options that help keep your cereal crops safe from weeds, insects and disease, meaning healthier plants and higher yields. Our complete acre solutions are simple steps that help you grow consistent, healthy crops.

UFA is here to partner with you to provide the right products and solutions to maximize your yields and grow your returns.

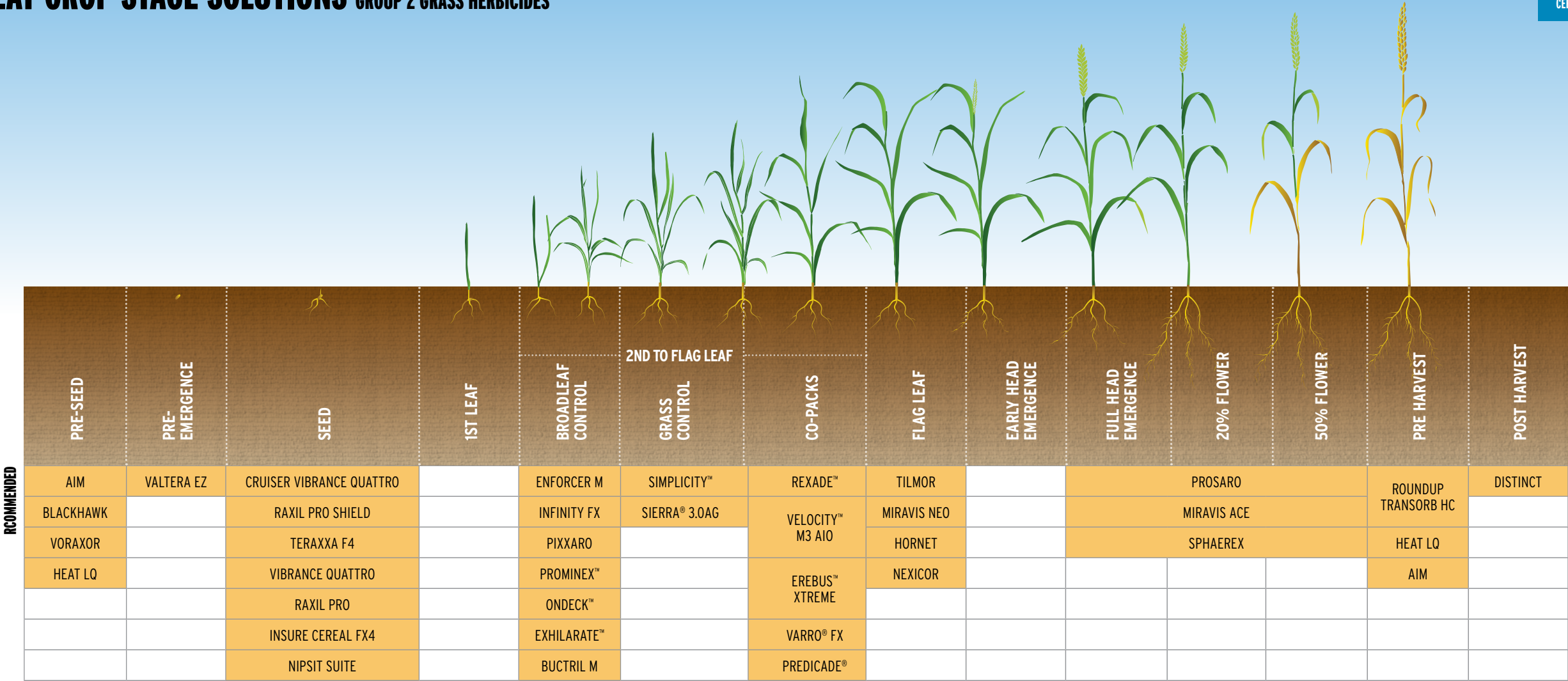
WHEAT CROP STAGE SOLUTIONS

GROUP 1 GRASS HERBICIDES



WHEAT CROP STAGE SOLUTIONS

GROUP 2 GRASS HERBICIDES



BARLEY CROP STAGE SOLUTIONS

RECOMMENDED

PRE-SEED BURN DOWN (MIX WITH GLYPHOSATE)	PRE- EMERGENCE	SEED	1ST LEAF	BROADLEAF CONTROL	GRASS CONTROL	CO-PACKS	FLAG LEAF	EARLY HEAD EMERGENCE	FULL HEAD EMERGENCE	PRE HARVEST	POST HARVEST
AIM		RAXIL PRO		ENFORCER M	AXIAL	REZUVANT XL	MIRAVIS NEO	PROSARO		ROUNDUP TRANSORB HC	DISTINCT
PREPASS FLEX		VIBRANCE QUATTRO		INFINITY FX	EPIC	AXIAL XTREME	NEXICOR	MIRAVIS ACE			
BLACKHAWK		INSURE CEREAL FX4		PIXXARO	LIQUID ACHIEVE™		TILMOR			AIM	
VORAXOR				PROMINEX	PUMA ADVANCE						
SMOULDER				BUCTRL M							
				TALINOR™							

CEREAL SEED TREATMENT COMPARISON

FUNGICIDE ONLY

	BASF Insure® Cereal FX4	Syngenta Vibrance® Quattro	Bayer Raxil® PRO
Container size(s)	9.8 L, 120 L, 450 L	10 L, 115 L, 450 L	10 L, 58.5 L , 175.5 L
Application Rate mL/100 kg seed	300 mL	325 mL	325 mL
Wheat	120 bu/9.8 L jug	113 bu/10 L jug	113 bu/10 L jug
Barley	150 bu/9.8 L jug	141 bu/10 L jug	141 bu/10 L jug
Oats	212 bu/9.8 L jug	200 bu/10 L jug	200 bu/10 L jug
Active Ingredients	Pyraclostrobin, Triticonazole, Fluxapyroxad, Metalaxyl	Difenoconazole, Metalaxyl-M, Sedaxane, Fludioxonil	Prothioconazole, Tebuconazole, Metalaxyl
Fungicide Group	3, 4, 7, 11	3, 4, 7, 12	3, 4
Insect Control (Need to Tank Mix)	None registered	Cruiser 5FS	Stress Shield
WHEAT DISEASES			
Seed Rot & Damping off caused by:			
<i>Fusarium</i> spp.	C	C	C
<i>Cochliobolus sativus</i>	C	S	C
<i>Pythium</i> spp.	C	C	C
<i>Rhizoctonia</i>	C	C	S
<i>Penicillium</i>		C	S
<i>Aspergillus</i>		C	C

	BASF Insure® Cereal FX4	Syngenta Vibrance® Quattro	Bayer Raxil® PRO
WHEAT DISEASES (continued)			
Seedling Blight caused by:			
<i>Fusarium</i> spp.	C	C	C
<i>Pythium</i> spp.	C	C	C
<i>Cochliobolus sativus</i>	S	S	C
Common Root Rot caused by:			
<i>Fusarium</i> spp.	C	C	
<i>Pythium</i> spp.	C	C	
<i>Cochliobolus sativus</i>	S	S	S
Loose Smut	C	C	C
Common Bunt	C	C	C
Fusarium Crown and Foot Rot	S	S	S
Take All		S	
BARLEY DISEASES			
True Loose Smut	C	C	C
False/covered Smut	C	C	C
Common Root Rot	S	S	S
<i>Pythium</i> spp.	C	C	C
<i>Fusarium</i> spp.	C	C	C
Take All		S	
<i>Rhizoctonia</i>	C	C	S
Leaf Stripe			C

CEREAL SEED TREATMENT COMPARISON

FUNGICIDE PLUS INSECTICIDE

	BASF Teraxxa F4	Syngenta Cruiser® Vibrance® Quattro	Nufarm Nipsit™ Suite	Bayer Raxil® PRO Shield
Container size(s)	9.8L, 120L, 450L	10 L, 115 L, 450 L	10L, 115 L	10L, 125 L
Application Rate mL/100 kg seed	300 mL	325 mL	326 mL	325 ml
APPLICATION RATE				
Wheat	120 bu/9.8 L jug	113 bu/10 L jug	113 bu/10 L jug	113 bu/10 L jug
Barley	150 bu/9. 8L jug	141 bu/10 L jug		141 bu/10 L jug
Oats	212 bu/9.8 L Jug	200 bu/10 L jug		200 bu/10 L jug
Active Ingredients	Broflanilide, Pyraclostrobin, Triticonazole, Fluxapyroxad, Metalaxyl	Difenoconazole, Metalaxyl-M, Sedaxane, Fludioxonil, Thiamethoxam	Metalaxyl, Metconazole, Clothianidin	Prothioconazole, Tebuconazole, Metalaxyl, Imidacloprid
Insecticide Group	30	4	4	4
Fungicide Group	3, 4, 7, 11	3, 4, 7, 12	3, 4	3, 4
INSECTICIDAL ACTIVITY				
Wireworm	C	S	S	S
WHEAT DISEASES				
Seed Rot and Damping Off caused by:				
<i>Fusarium</i> spp.	C	C	C	C
<i>Cochliobolus sativus</i>	C	S	C	C
<i>Pythium</i> spp.	C	C	C	C
<i>Rhizoctonia</i>	C	C		S
<i>Penicillium</i>		C		S
<i>Aspergillus</i>		C		C

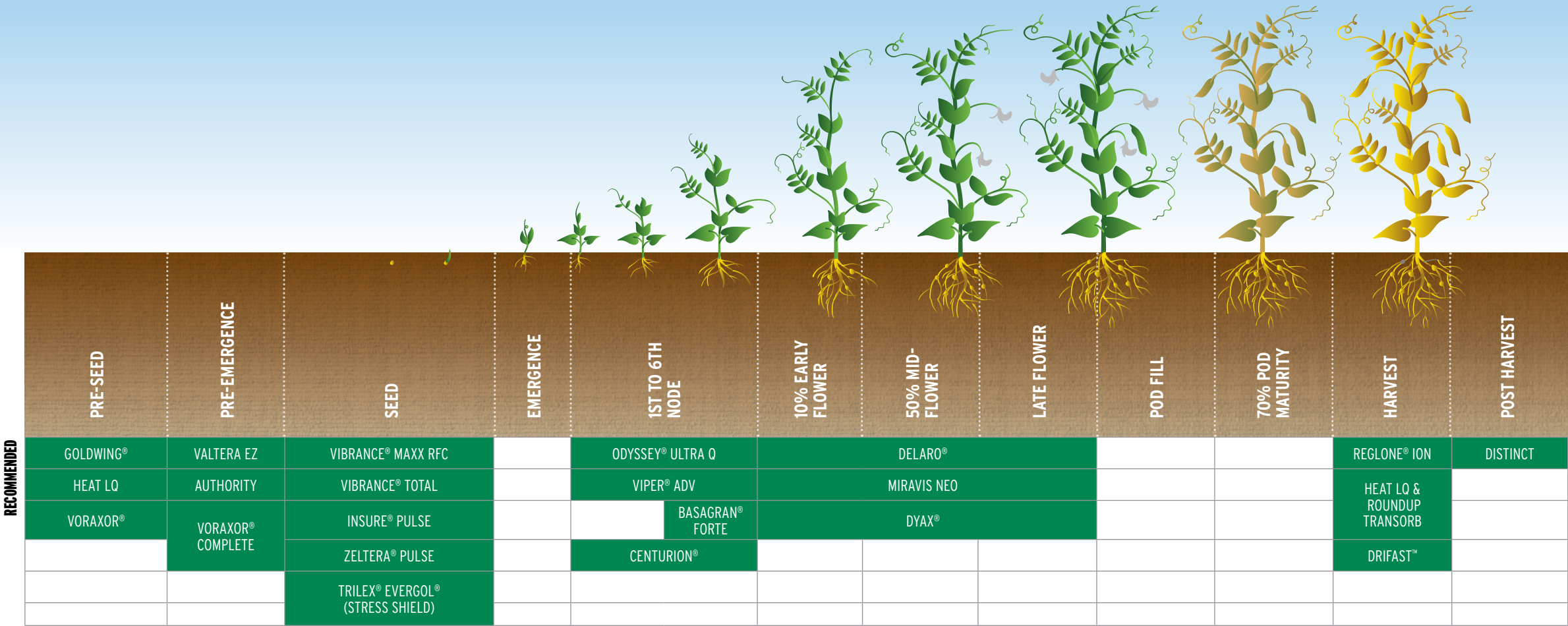
	BASF Teraxxa F4	Syngenta Cruiser® Vibrance® Quattro	Nufarm Nipsit™ Suite	Bayer Raxil® PRO Shield
WHEAT DISEASES (continued)				
Seedling Blight caused by:				
<i>Fusarium</i> spp.	C	C	C	C
<i>Pythium</i> spp.	C	C	C	C
<i>Cochliobolus sativus</i>	S	S	S	C
Common Root Rot caused by:				
<i>Fusarium</i> spp.	C	C	C	
<i>Pythium</i> spp.	C	C	C	
<i>Cochliobolus sativus</i>	S	S	S	S
Loose Smut	C	C	C	C
Common Bunt	C	C	C	C
Fusarium Crown and Foot Rot	S	S		S
Take All		S		
BARLEY DISEASES				
True Loose Smut	C	C	C	C
False/covered Smut	C	C	C	C
Common Root Rot	S	S	S	S
<i>Pythium</i> spp.	C	C	C	C
<i>Fusarium</i> spp.	C	C	C	C
Take All		S		
<i>Rhizoctonia</i>	C	C		S
Leaf Stripe				C

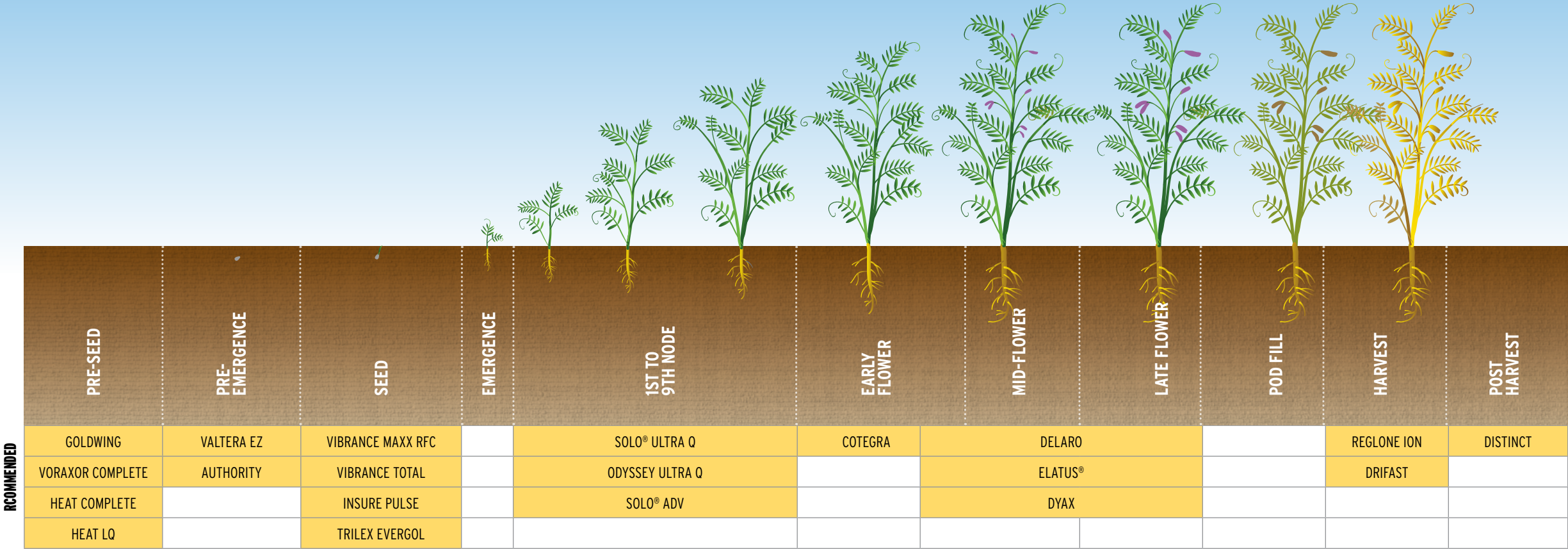


PULSES

Get the most out of your crops while reducing risk.
Your CAM is here to help.

Great crops start with the right seed treatment, inoculants, and nutrients. Working with your CAM makes it easier to select the right combination to give your crop the strong start it needs to overcome pressures like disease and insects. UFA is here to help you get the highest yield possible from your field.





PULSE SEED TREATMENT COMPARISON

FUNGICIDE ONLY

	BASF Insure® Pulse	Syngenta Vibrance® Maxx RFC	Syngenta Vibrance® Total	Nufarm Zeltera® Pulse	Bayer Trilex® EverGol®	Bayer EverGol Energy
Container size(s)	9.8 L, 120 L	3.075 L, 56.78 L	10 L, 115 L, 450 L	10 L	Cases: 1.5 L + 0.96 L or 6.49 L + 4.15 L	33.75 L
Application Rate mL/100 kg seed	300 mL	100 mL, 325 mL with water slurry	325 ml	313 ml	Trilex® Jug A 25 mL, Trilex® Jug B 16 mL - Mix with Water	65 ml Mix with Water
APPLICATION RATE						
Peas, Lentils, Chickpeas	120 bu/9.8 L jug	113 bu/10 L jug	113 bu/ 10 L jug	120 bu/10 L jug	221 bu/case	1908 bu/drum
Active Ingredients	Fluxapyroxad, Pyraclostrobin, Metalaxyl	Fludioxonil, Sedaxane, Metalaxyl-M, S-isomer	Thiabendazole, Sedaxane, Metalaxyl-M, S-isomer, Fludioxonil, Picarbutrazox	Metalaxyl, Inpyrfluxam, Mandestrobin, Ethanboxam	Penflufen, Trifloxystrobin, Metalaxyl	Metalaxyl, Penflufen, Prothioconazole
Fungicide Group	4, 7, 11	4, 7, 12	1, 4, 7, 12, U17	4, 7, 11, 22	4, 7, 11	3, 4, 7
Insect Control (Tank Mix)	None registered	Cruiser 5FS	Cruiser 5FS	N/A	Stress Shield	Stress Shield

	BASF Insure® Pulse	Syngenta Vibrance® Maxx RFC	Syngenta Vibrance® Total	Nufarm Zeltera® Pulse	Bayer Trilex® EverGol®	Bayer EverGol Energy
PEA DISEASES						
Seed and seedling rot/blight	C	C	C	C	C	C
Pythium seed rot/damping off	C	C	C	C	C	C
Seed-borne ascochyta	C	C	C	S	S	C
Aphanomyces (Peas)				S		
LENTIL AND CHICKPEA DISEASES						
Seed and seedling rot/blight	C	C	C	C	C	C
Pythium seed rot/damping off	C	C	C	C	C	C
Botrytis seed rot and seedling blight	S	C	C		C	C
Seed-borne ascochyta	C	C	C	S	C	C

PULSE SEED TREATMENT COMPARISON

FUNGICIDE PLUS INSECTICIDE

	Syngenta Cruiser® Maxx® Vibrance Pulses	Bayer Trilex® EverGol® SHIELD	Syngenta Cruiser® 5FS	Bayer Stress Shield®
Container size(s)	23.4L or 56.78 L 2 x 3.075 or 56.78 L	1.5 L + 0.96 L + 6.25 L tri-pack	23.4 L, 56.78 L	27 L
Application Rate mL/100 kg seed	Vibrance Maxx 325 ml Cruiser 5FS 50 ml	Trilex Jug A 25 mL, Trilex Jug B 16 mL, Stress Shield 104 mL Mix with Water	50 mL*	104 - 208 mL
APPLICATION RATE				
Peas, Lentils, Chickpeas	113 bu/jug plus target rate of Cruiser 5FS	221/case	To be mixed with fungicide seed treatments	To be mixed with fungicide seed treatments
Active ingredients	Thiamethoxam, Fludioxonil, Metalaxyl M, Sedaxane	Imidacloprid, Penflufen, Trifloxystrobin, Metalaxyl	Thiamethoxam	Imidacloprid
Insecticide Group	4	4	4	4
Fungicide Group	4, 7, 12	4, 7, 11	N/A	N/A

* 50 mL is the rate to obtain the 30g/100 kg rate of Cruiser 5FS which is the rate for pea leaf weevil.

	Syngenta Cruiser Maxx® Vibrance Pulses	Bayer Trilex® EverGol® SHIELD	INSECTICIDE ONLY	
			Syngenta Cruiser® 5FS	Bayer Stress Shield®
INSECTS				
Pea Leaf Weevil	S	S	S	S
Wireworms	S	S	S	S
PEA DISEASES				
Seed and seedling rot/ blight	C	C		
Pythium seed rot/damping off	C	C		
Seed-borne ascochyta	C	S		
Aphanomyces (Peas)				
LENTIL AND CHICKPEA DISEASES				
Seed and seedling rot/blight	C	C		
Pythium seed rot/damping off	C	C		
Botrytis seed rot and seedling blight	C			
Seed-borne ascochyta	C	C		



INOCULANTS

We're here to help you get the most out of your seed and ensure that your crops get the nutrients they need. With inoculants, your crop will have better root nodule formation, nitrogen fixation, and reduced pest pressure improving your yields.

Talk to your local CAM today. We'll help you find the right inoculant for your growing conditions based on your seed treatment, soil condition and application method.

SEED TREATMENT & INOCULANT COMPATIBILITY

	BASF Nodulator® DUO Solid Core Granular	BASF Nodulator® XL Liquid			BASF Nodulator® XL Peat		TagTeam® BioniQ® Granular	TagTeam® LCO Granular		TagTeam® Liquid			TagTeam® Peat			LalFix® Spherical Pea & Lentil*	LalFix® Peat Pea & Lentil*	LalFix® Liquid Pea & Lentil*
		Tank Mix¹ time on Seed	Simultaneous	Sequential	Simultaneous	Sequential				Tank Mix time on Seed	Simultaneous	Sequential	Tank Mix time on Seed	Simultaneous	Sequential			
Syngenta Vibrance® Maxx	Nodulator® DUO Solid Core Granular is compatible with all pesticide treated seed in furrow.	4 hours	2 hours	2 hours	24 hours	24 hours	TagTeam® BioniQ® Granular is compatible with all pesticide- treated seed in furrow.	TagTeam® LCO Granular is compatible with all pesticide treated seed in furrow.		Not recommended	48 hours for pea, 24 hours for lentil	48 hours for pea, 24 hours for lentil	48 hours for pea, not recommended for lentil	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Bayer Trilex® EverGol®		Not recommended	2 hours	1 hour for pea, 2 hours for lentil	2 hours for pea, 4 hours for lentil	4 hours				Not recommended	Not recommended	Not recommended	48 hours	48 hours	48 hours	Compatible	48 Hours	48 Hours
Bayer Trilex® EverGol® SHIELD		Not recommended	Not recommended	Not recommended	2 hours	4 hours				Not recommended	Not recommended	Not recommended	Not recommended	24 hours for pea, 48 hours for lentil	24 hours for pea, 48 hours for lentil	Compatible	48 Hours	48 Hours
BASF Insure® Pulse		Not recommended	Not recommended	Not recommended	Not recommended	2 hours				Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Compatible	48 Hours	Not recommended
Syngenta Vibrance® Maxx with Intego®		4 hours	2 hours	2 hours	24 hours	24 hours				Not recommended	Not recommended	Not recommended	48 hours for pea, not recommended for lentil	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Syngenta Vibrance® Maxx RFC		Not available	6 hours	4 hours	24 hours	24 hours				Not recommended	48 hours	48 hours	48 hours	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Syngenta Cruiser Maxx® Vibrance® Pulses		Not recommended	Marginal	Not recommended	6 hours	6 hours				Not recommended	48 hours	48 hours				Compatible	48 Hours	24 Hours

TANK MIX

The inoculant is mixed with the seed treatment in a single tank and applied as one solution or suspension using the same applicator. The inoculant and seed treatment can be tank mixed for a period of time before application to the seed.

SIMULTANEOUS (WET SEQUENTIAL)

The inoculant and seed treatment are applied at the same time, from separate tanks. They must be applied by separate applicators to be defined as a simultaneous or wet sequential application.

DRY SEQUENTIAL

One product is applied first and allowed to dry, before the second product is applied. This can be a seed treatment followed by an inoculant or inoculant followed by a seed treatment. Drying time will vary based on formulation, relative air humidity and other factors. A minimum 30 minutes is typical, but it may take up to a day.

1 These on-seed shelf life recommendations are based on a maximum of four - hour tank-mix period. Always read and follow label directions. All trademarks are the property of their respective owners.

*Seeds were treated with chemical products at rates according to the manufacturer's recommendation as a dry sequential application and were stored at 4°C. Always read and follow label directions. All trademarks are the property of their respective owners.



Lallemand brings a new kind of inoculant to the table for peas and lentils. LALFIX® Start for Peas, Lentils & Faba is a high quality dual-action, in-furrow spherical inoculant with viable *Rhizobium leguminosarum* biovar *viciae* cells per gram.

- LALFIX® Start for Peas, Lentils & Faba brings a number of enhancements over traditional granular inoculants:
- Technologically advanced spherical granule
 - Provides accurate inoculant placement while increasing granule durability and Rhizobia survival
 - Low dust partition allows for even application
 - Selected Rhizobium leguminosarum strains enables the plants to start fixing nitrogen earlier and more efficiently
 - Better crop establishment and enhanced yields

LALFIX® START SPHERICAL PEA & LENTIL

LALFIX® SPHERICAL PEA - FAB A - LENTIL

Row Width		Recommended Rate (granular)			Area treated - acres (ha)	
in	cm	lbs/ac	kg/ac	kg/ha	Bag	Tote
6	15	4.4	2	5	6.1 (2.5)	196 (79.3)
7	18	3.8	1.7	4.3	7.1 (2.9)	227 (91.8)
8	20	3.3	1.5	3.7	8.2 (3.3)	262 (106)
9	23	3	1.4	3.3	9.0 (3.6)	288 (116.5)
10	25	2.7	1.2	3	10.0 (4.0)	320 (129.5)
12	30	2.2	1	2.5	12.3 (5.0)	393 (159)

Data provided by Lallemand

LALFIX® START SPHERICAL PEA & LENTIL

is a high quality, dual-strain sterile peat powder inoculant that contains a select peat carrier that aids in the adhesion of the inoculant to the seed. This product can be applied on the seed through a variety of application methods that suit the grower’s requirements.

27 lbs (12.2 kg)	432 lbs (196 kg)
Application Rate: In Furrow	Application Rate: In Furrow
0.81 oz per 1,000 feet of row	0.81 oz per 1,000 feet of row
10" row spacing = 2.7 lbs/ac (1 bag treats 10 acres)	10" row spacing = 2.7 lbs/ac (1 tote treats 160 acres)

LALFIX® SPHERICAL PEA - FAB A - LENTIL

contains two strains of Rhizobium leguminosarum biovar viciae selected for enhanced performance and competitiveness in pea, lentil, and faba bean production. These two strains are known to nodulate pea, lentil, and faba bean roots and fix atmospheric nitrogen in a symbiotic relationship with the plant.



We create chemistry Inoculant

BASF continues to provide inoculants and biologicals backed by research, development and innovative technologies that benefit growers by improving nodulation, nitrogen-fixation, root vigor, nutrient uptake and yield potential.

NODULATOR XL LIQUID

Application Rates – Light formulation:

- One case contains 3 x 7.5L bladders
- One case will treat 300 bushels of seed.

On-Seed Liquid Application

Flow Valve Setting	Inoculant Flow Rate (liquid)		Seed/Auger Flow Rate	
	mL/min	fl. oz./min	kg/min	lbs (bu)/min
1	360	12	131	289 (5)
2	860	29	313	690 (11)
3	1340	45	487	1074 (18)
4	1660	56	604	1332 (22)
5	1780	60	647	1426 (24)
6	2030	68	738	1627 (30)

Data provided by BASF Canada Inc.

In-Furrow Liquid Application

Row Spacing		Application Rate		Area Treated per Case	
cm	in	L/ha	L/ac	ha	ac
15.2	6	6.5	2.6	1.2	2.9
17.8	7	5.5	2.2	1.4	3.3
20.3	8	4.9	2	1.5	3.8
22.9	9	4.3	1.7	1.7	4.3
25.4	10	3.9	1.6	1.9	4.8
27.9	11	3.5	1.4	2.1	5.2
30.5	12	3.2	1.3	2.3	5.7

NODULATOR XL PEAT

Application Rates - Sterile peat formulation:

- One case contains 3 x 1.2 kg packages
- One case will treat 110 bushels of seed
- The standard rate of application is 1.2 kg per 600 kg of seed

On-Seed Peat Application

Application Method	Recommendations
Slurry	Add complete pack contents to approximately 2 litres of clean, dechlorinated water and stir well in a clean container to form a lump-free slurry. Not allowing slurry to settle out, pour onto the seed and mix thoroughly to ensure the seeds are evenly coated. Allow seed to dry before further handling.
Damp	Apply just enough water to slightly dampen seed (2 mL/kg). Mix the damp seed thoroughly with the inoculant so that they are evenly coated.
Dry	Pour the correct amount of inoculant onto thin layers of seed in the drill hopper and mix thoroughly to evenly coat seed. For bulk seed handling systems, the inoculant can be metered directly onto augured seed.

Data provided by BASF Canada Inc.

NODULATOR DUO SCG

Application Rates - Solid Core Granule Formulation:

- One bag will treat 10.6 acres (7" rows) to 18.5 acres (12" rows)
- One Q-Pak will treat 170 acres (7" rows) to 18.5 acres (12" rows)
- Apply granular inoculant at a rate of 28.5 g/1,000 linear row feet

In-Furrow Granular Application

Row Spacing		Application Rate		Area Treated per Bag	
cm	in	kg/ha	lb/ac	ha	ac
15.2	6	6.2	5.6	3.7	8.9
17.8	7	5.3	4.7	4.3	10.6
20.3	8	4.6	4.1	4.9	12.2
22.9	9	4	3.6	5.7	13.9
25.4	10	3.7	3.3	6.1	15.2
27.9	11	3.4	3	6.7	16.7
30.5	12	3	2.7	7.6	18.5

Data provided by BASF Canada Inc.

Pea/Lentil	18 kg (39.68 lb) bag		454 kg (1,001 lb)	
Row Spacing (in)	ac/bag	lb/ac	ac/bag	lb/ac
7	8.4	4.7	213	4.7
8	9.7	4.1	244.1	4.1
9	11	3.6	278.1	3.6
10	12	3.3	303.3	3.3
12	14.7	2.7	370.7	2.7
15	18	2.2	455	2.2

Pea/Lentil	18 kg (39.68 lb) bag		454 kg (1,001 lb)	
Row Spacing (in)	lb/ac	ac/bag	ac/bag	lb/ac
6	7.2	5.5	182.0	5.5
7	8.4	4.7	213.0	4.7
8	9.7	4.1	244.1	4.1
9	11.0	3.6	278.0	3.6
10	12.0	3.3	303.3	3.3
12	14.7	2.7	370.7	2.7
15	18.0	2.2	455.0	2.2

Crop	Size	Amount of seed treated/bag		
		bu	lb	Units
Pea/Lentil	3.0 L + 57 g WP	40	2,400	–

Crop	Bag Size	Amount of treated/bag			Water rate*
		bu	lb	Units	
Chickpea	2.20 kg	50	3,000	–	4
Lentil	2.20 kg	30	1,800	–	2.5
Pea	2.20 kg	50	3,000	–	4
Soybean	2.45 kg	33	2,000	40	3

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal grey lines across the entire width of the page, providing a guide for handwriting or typing. The background is a clean, off-white color.



BETTER POWER.
BETTER FUEL ECONOMY.
BETTER GET
DIESELEX GOLD.

Dieselelex® Gold
Power ♦ Efficiency ♦ Protection

SEE THE DIFFERENCE. AND FEEL IT TOO.

Run Dieselelex Gold for two or three tanks and feel the difference in your diesels. With Dieselelex Gold in your tank, the more hours your engine works, the more our unique additives work to clean fuel injectors and restore horsepower.



WATCH THE FULL VIDEO

“ We know that we were burning
0.55 litres less fuel
per acre using Dieselelex Gold. ”

MATT SAWYER Sawyer Farms



