



UFA

GET IT. **UFA** DONE.

CEREAL & PULSE
GUIDE 2023

**IMPROVING YOUR YIELD,
TOGETHER.**

BEING A UFA MEMBER MEANS YOU COULD EARN PATRONAGE ON MANY PURCHASES YOU MAKE TO GROW HEALTHY CROPS:
THAT'S A PLUS.

PLUS⁺
patronage

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SCAN TO USE OUR SEED TREATMENT CALCULATOR



Whether you're growing cereals or pulses, seed treatment and how you approach it is important. That's why, with this guide and your Customer Account Manager's (CAM) knowledge, we make sure you have the best information to make your seed treatment decisions. Starting with seed treatment, right through to grain storage we're here to help.

With a full range of products to improve the health of your crop at any stage, your CAM will work with you to provide industry-leading products, including our own

lineup of micro-nutrients. This means you'll get the best solution for your growing conditions.

As a UFA Member not only do you benefit from the best solutions for a higher yield, every purchase of crop inputs* can help you earn patronage. And, you'll benefit from exclusive finance and credit programs, like the Get It Interest Free program, that helps you optimize every dollar. Choosing UFA means healthier crops and healthier financial decisions so you can grow with confidence.

*Excludes: Micro Beef, Crop Nutrition, Leased Products, and Non-ag Fuel. Pending Board and Delegate approval.

UFA HAS A WIDE SELECTION OF PRODUCTS

FOR YOUR SPECIFIC WEED PROBLEMS. IF YOU ARE TARGETING WILD OATS AND CHALLENGING BROADLEAF WEEDS LIKE CLEAVERS, KOCHIA, CANADA THISTLE AND WILD BUCKWHEAT

WE CAN MAKE THE BEST RECOMMENDATION.



ALAN HRDLICKA, CAMROSE
UFA CUSTOMER ACCOUNT MANAGER



CEREALS

Give your cereal crop the best start with the top seed treatment choices. We offer a variety of options that help keep your cereal crops safe from insects and disease, resulting in healthier plants and higher yields. Our seed treatment solutions are a simple step that helps you grow consistent, healthy crops.

We're 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

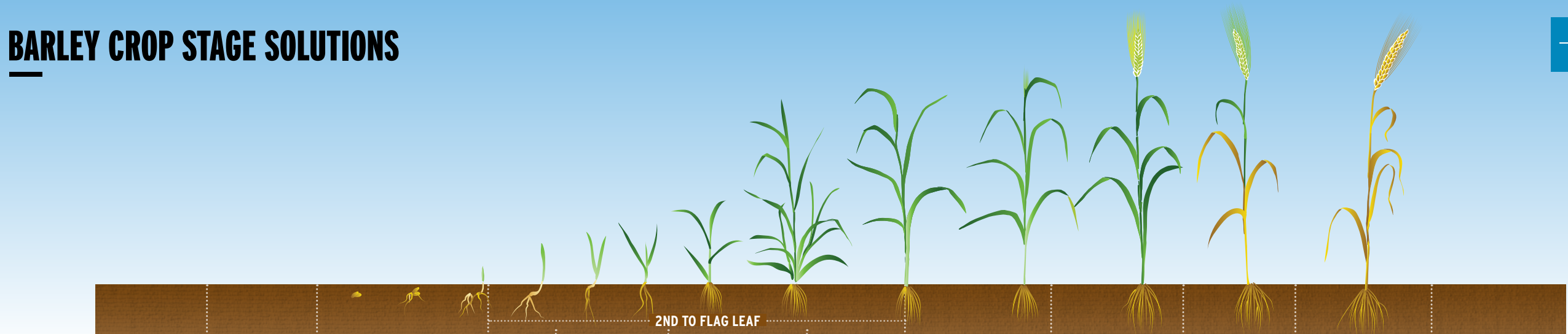








	PRE-SEED	PRE-EMERGENCE	SEED	1ST LEAF	BROADLEAF CONTROL	2ND TO FLAG LEAF GRASS CONTROL	CO-PACKS	FLAG LEAF	EARLY HEAD EMERGENCE	FULL HEAD EMERGENCE	20% FLOWER	50% FLOWER	PRE HARVEST	POST HARVEST
RECOMMENDED	BLACKHAWK	VALTERA EZ	CRUISER VIBRANCE QUATTRO		ENFORCER	AXIAL	AXIAL XTREME	NEXICOR		MIRAVIS ACE		TRANSORB	DISTINCT	
	PREPASS	AVADEX	RAXIL PRO SHIELD ALL IN 1		INFINITY FX	TRAXOS	AXIAL XTREME IPAK	MIRAVIS NEO		PROSARO XTR		R/T 540		
	VORAXOR	FORTRESS	TERRAXXA F4		PIXXARO	EPIC	REZUVANT XL	TILMORE		SPHAEREX		HEAT LQ		
	AUTHORITY		VIBRANCE QUATTRO		STELLER XL	TRONDUS	AVENZA	HORNET		CARAMBA		AIM		
	FOCUS		RAXIL PRO		TRUSLATE PRO	SIGNAL	TRAXOS TWO							
	SMOULDER		INSURE CEREAL FX4		OCTTAIN XL	HORIZON NG	TUNDRA							
	PARADIGM PRE		NIPSIT SUITE		ONDECK (BSZ)	PUMA ADVANCE								
					BUCTRIL M									
ESSENTIAL NUTRITION			*		*				*					

*Exclusive to UFA

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BARLEY CROP STAGE SOLUTIONS



	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
RECOMMENDED	AIM	AVADEx	CRUISER VIBRANCE QUATTRO		ENFORCER	AXIAL	REZUVANT	NEXICOR	PROSARO XTR (PRO)		HEAT LQ	DISTINCT
	PREPASS FLEX	FORTRESS	RAXIL PRO SHIELD ALL IN 1		INFINITY FX	EPIC	AXIAL XTREME	MIRAVIS NEO	MIRAVIS ACE		ROUNDUP TRANSORB	
	BLACKHAWK		VIBRANCE QUATTRO		PIXXARO	LIQUID ACHIEVE	AVENZA	TRIVAPRO			AIM	
	VORAXOR		RAXIL PRO		STELLER XL	PUMA ADVANCE		TILMORE				
	SMOULDER		INSURE CEREAL FX4		OCTTAIN XL							
			NIPSIT SUITE		PRESTIGE XL							
					REFINE M							
					INFINITY							
				BUCTRIL M								
ESSENTIAL NUTRITION			 * 		 * 					 * 		

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ALWAYS READ AND FOLLOW LABEL DIRECTIONS.
All trademarks are the property of their respective owners.

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	120/9.8 L jug	113/10 L jug	113/10 L jug
Barley	150/9.8 L jug	141/10 L jug	141/10 L jug
Oats	212/9.8 L jug	200/10 L jug	200/10 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

WHEAT CROP STAGE SOLUTIONS GROUP 2 GRASS HERBICIDES



	PRE-SEED	PRE-EMERGENCE	SEED	1ST LEAF	BROADLEAF CONTROL	2ND TO FLAG LEAF GRASS CONTROL	CO-PACKS	FLAG LEAF	EARLY HEAD EMERGENCE	FULL HEAD EMERGENCE	20% FLOWER	50% FLOWER	PRE HARVEST	POST HARVEST
RECOMMENDED	AIM/FOCUS	VALTERA EZ	CRUISER VIBRANCE QUATTRO		ENFORCER	SIMPLICITY	REXADE	NEXICOR		MIRAVIS ACE		TRANSORB	DISTINCT	
	PREPASS FLEX	AVADEX	RAXIL PRO SHIELD ALL IN 1		INFINITY FX	VARRO	VELOCITY	MIRAVIS NEO		PROSARO XTR		R/T 540		
	BLACKHAWK	FORTRESS	TERRAXXA F4		PIXXARO	SIERRA 3.0	TANDEM	HORNET		SPHAEREX		HEAT LQ		
	VORAXOR		VIBRANCE QUATTRO		STELLER XL	EVEREST 3.0	PREDICADE	TILMORE		CARAMBA		AIM		
	SMOULDER		RAXIL PRO		TRUSLATE PRO									
	PARADIGM PRE		INSURE CEREAL FX4		OCTAIN XL									
		NIPSIT SUITE		ONDECK										
				REFINE M										
				BUCTRIL M										

ESSENTIAL NUTRITION		*		*		*	

*Exclusive to UFA

*Exclusive to UFA

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	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, Triconazole, 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

MICRONUTRIENTS Plant Nutrient Effects

All crops have different nutrient requirements at different stages. UFA has the right product to use throughout the crop cycle.

UFA Essential Nutrients:

- Are highly soluble
- Require less energy for the plant to absorb and uptake nutrients due to smaller molecules
- Contain proprietary, naturally derived metabolic activators which enhance the plant's ability to maximize growth and production
- Contain Transit-S, a patented technology that works in the plant to drive respiration and enhance expression of genetic potential (Not all products contain Transit-S)
- Are tank-mixable with most crop protection products*

Importance of Nutrient Stewardship

The right source, right rate, right time and right place.

- Some nutrients are immobile. For example, zinc needs to be close to the seed in order for it to be absorbed by the seedling. Seed applied products like UFA's Amplify® ensure

those nutrients are placed where needed and are in a soluble form, allowing easy uptake, even in harsh growing conditions.

- Different forms of essential nutrients should be applied in different ways. A universal product in one form for both soil and foliar applications is not ideal because modes of uptake are different.
- Essential nutrients are needed in different amounts at different growth phases or times. Seed applied essential nutrients support root development and plant health. Application of essential nutrition at flowering is critical for maximum head and/or pod fill.
- As much as 200 - 400 per cent more non-mobile nutrients are needed in the reproductive parts of the plant than within the leaf. The plant at flowering time does not use water at the same rate it does during early growth, reducing availability from the soil. A foliar supplement plan with Magnify Spectrum® and Multiply Advantage® can deliver those essential nutrients required in the reproductive parts at the top of the plant when water movement from the roots decreases.

*Always read and follow label instructions.

USING THE RIGHT SEED TREATMENT FOR YOUR CROP PROVIDES **VALUABLE PROTECTION** FOR SEED AND SEEDLINGS FROM PEST PRESSURES AND HELPS MAKE SURE YOUR VALUABLE CROP REACHES **FULL POTENTIAL.**

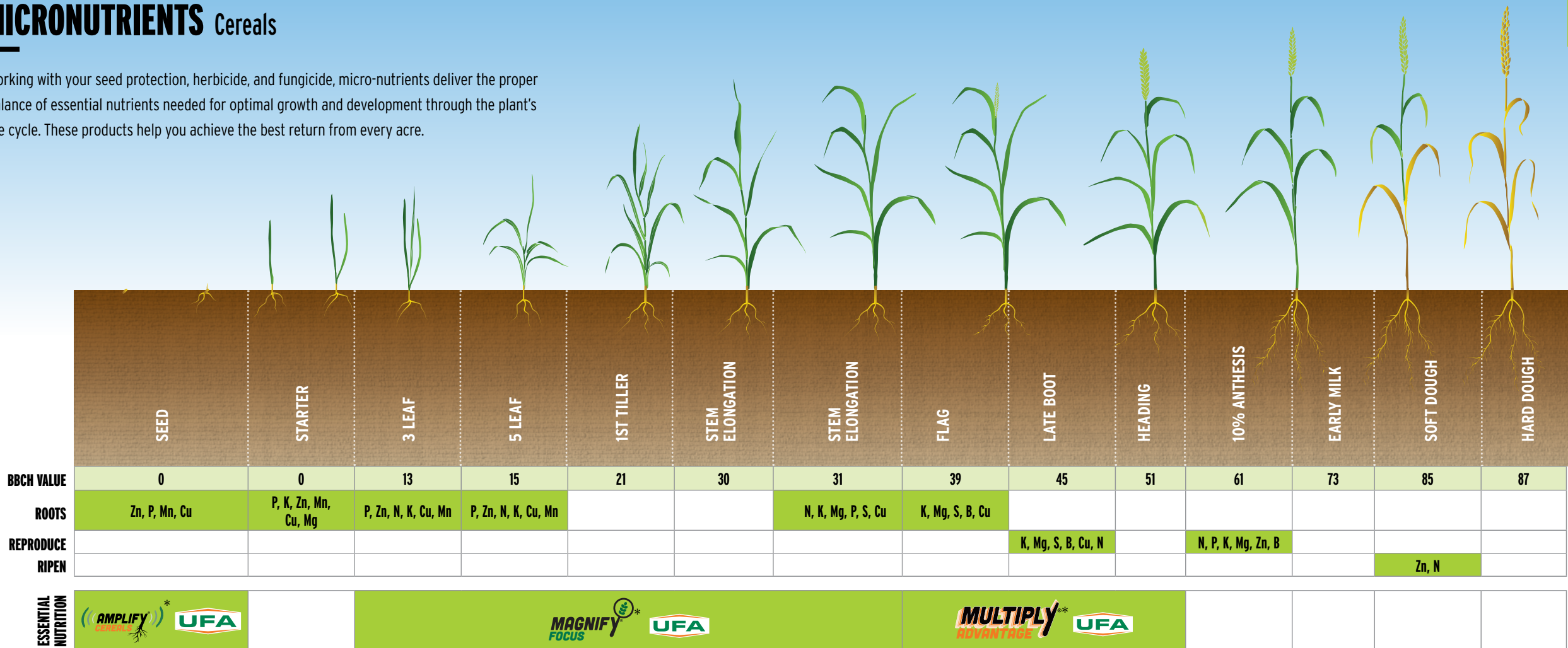


KAREN CAREY, STETTLER
UFA CUSTOMER ACCOUNT MANAGER



MICRONUTRIENTS Cereals

Working with your seed protection, herbicide, and fungicide, micro-nutrients deliver the proper balance of essential nutrients needed for optimal growth and development through the plant's life cycle. These products help you achieve the best return from every acre.



*Exclusive to UFA

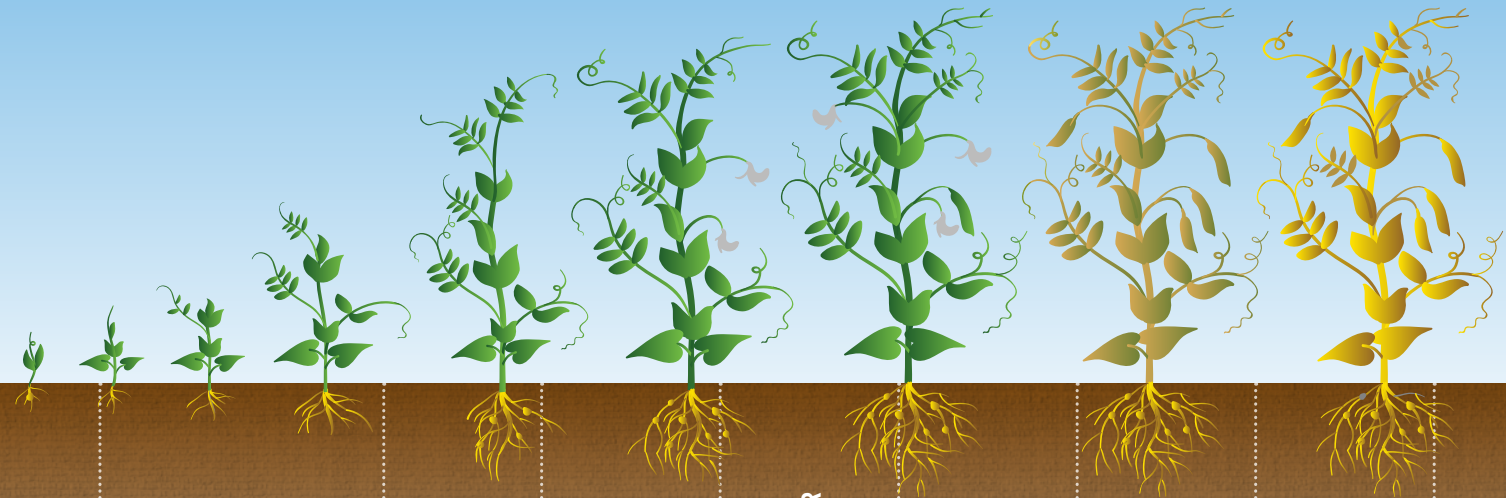
*Exclusive to UFA



PULSES

You want to get the most out of your crops while minimizing risk. That's why we're here to help.

Great crops start with great 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 emergence pressures like disease and insects helping you get the highest yield possible from your field.



	PRE-SEED	PRE-EMERGENCE	SEED	EMERGENCE	1ST TO 6TH NODE	10% EARLY FLOWER	50% MID-FLOWER	LATE FLOWER	POD FILL	70% POD MATURITY	HARVEST	POST HARVEST
RCOMMENDED	GOLDWING	VALTERA EZ	VIBRANCE MAXX RFC (CRUISER 5FS)		ODYSSEY ULTRA Q	MIRAVIS NEO					REGLONE ION	DISTINCT
	VORAXOR	EDGE	INSURE PULSE		VIPER ADV	DYAX					HEAT LO & GLYPHOSATE	
	AUTHORITY	FORTRESS	ZELTERA PULSE			DELARO					DESICA/DRIFAST	
	VORAXOR COMPLETE		TRILEX EVERGOL (STRESS SHIELD)								GLYPHOSATE	
	EXPRESS											
HEAT COMPLETE												
ESSENTIAL NUTRITION			PRECEDE RHIZO		MAGNIFY SPECTRUM* UFA	MULTIPLY ADVANTAGE* UFA						

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PULSE SEED TREATMENT COMPARISON

FUNGICIDE ONLY

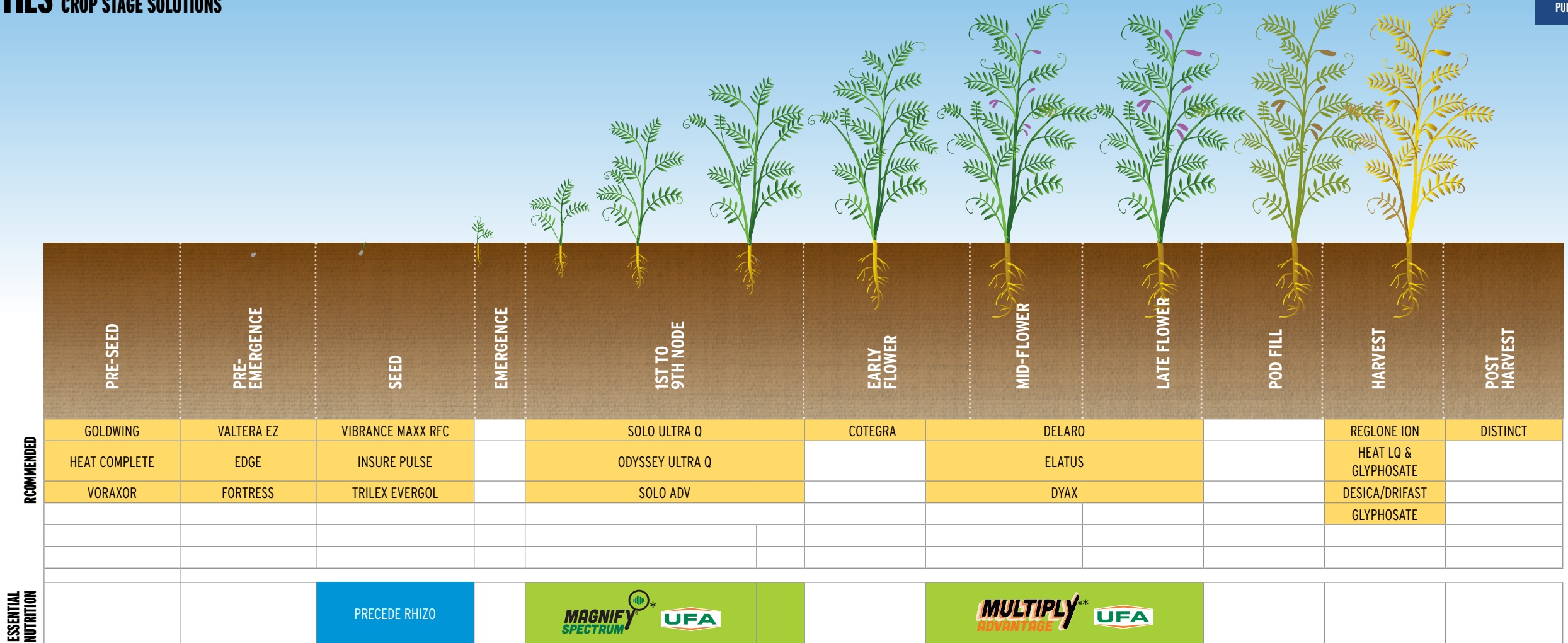
	BASF Insure® Pulse	Syngenta Vibrance® Maxx RFC	Bayer Trilex® EverGol	Nufarm Zeltera Pulse	UPL Rancona Trio
Container size(s)	9.8 L, 120 L	2 x 3.075 L, 56.78 L	Cases: 1.5 L + 0.96 L or 6.49 L + 4.15 L	1 case = (2x9.8 L + 2x0.4 L)	2 x 10 L
Application Rate mL/100 kg seed	300 mL	100 mL, 325 mL with water slurry	Trilex® Jug A 25 mL, Trilex® Jug B 16 mL - Mix with Water	313 ml per 100kg seed	500 mL

APPLICATION RATE

Peas, Lentils, Chickpeas	120 bu/9.8 L jug	113/10 L jug	221 bu/case	240 bu/case	65 bu/10 L jug
Active Ingredients	Fluxapyroxad, Pyraclostrobin, Metalaxyl	Fludioxonil, Sedaxane, Metalaxyl-M, S-isomer	Penflufen, Trifloxystrobin, Metalaxyl	Metalaxyl, Inpyrfluxam, Mandestrobin, Ethanboxam	Metalaxyl Ipconazole, Carbathin
Fungicide Group	4, 7, 11	4, 7, 12	4, 7, 11	4, 7, 12, 22	3, 4, 7
Insect Control (Tank Mix)	None registered	Cruiser 5FS	Stress Shield	N/A	N/A

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

LENTILS CROP STAGE SOLUTIONS



*Exclusive to UFA

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 115 L + 3.33 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	Apron Maxx 325 mL Vibrance 10 mL Cruiser 5S 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/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		

C CONTROL **S** SUPPRESSION** NOT REGISTERED

**Suppression means consistent control at a level that is not optimal, but is still of commercial benefit.

Always read and follow label directions.

Syngenta Cruiser® 5FS a registered trade-marks of Syngenta® Canada. Evergol®, Stress Shield® and Trilex® are registered trade-marks of the Bayer Group. Insure® Pulse is a registered trade-mark of BASF Canada Inc.

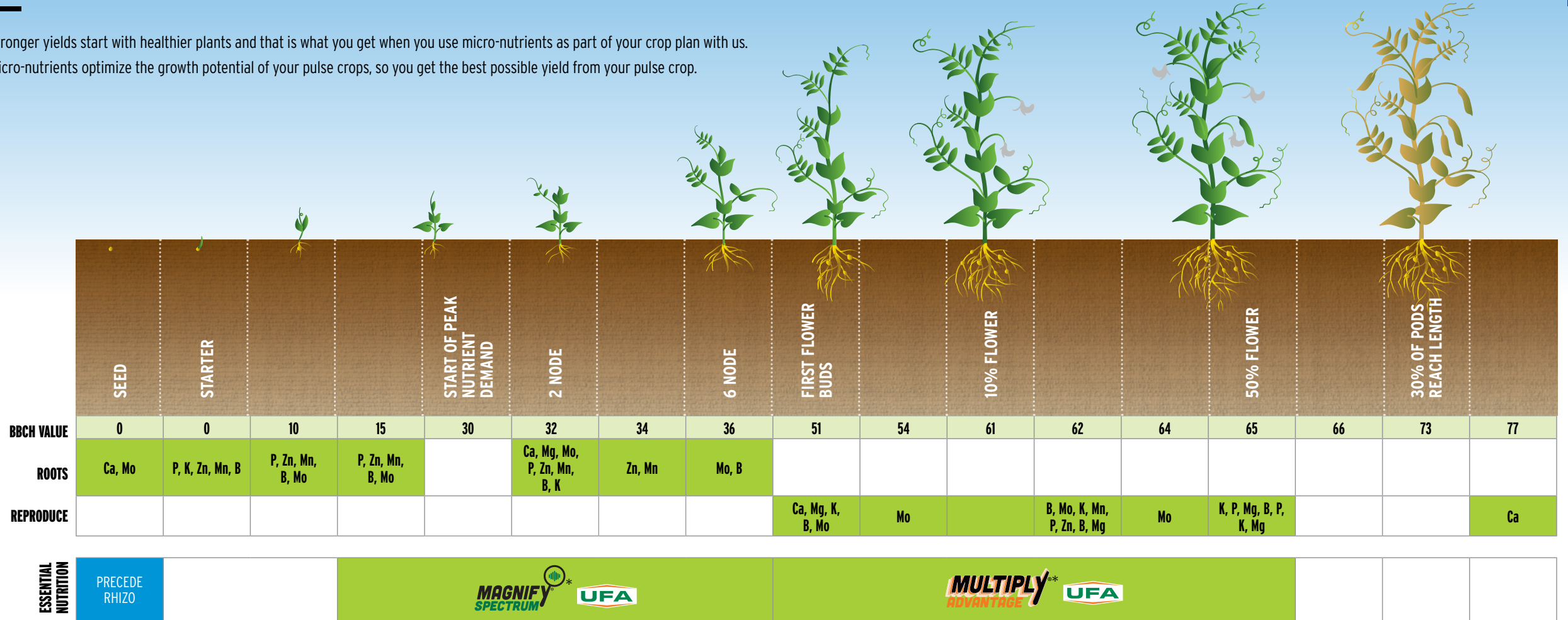
STARTING YOUR PULSE CROP WITH A CLEAN FIELD IS **VERY BENEFICIAL.** REDUCING THE COMPETITION CAN INCREASE THE PLANTS CHANCES TO GRAB MORE AVAILABLE NUTRIENTS AND **INCREASE YIELDS.** PULSES ARE VERY SUSCEPTIBLE TO DISEASES, HAVING A FUNGICIDE PACKAGE OF A SINGLE OR TWO PASS APPLICATION CAN MAKE A **HEALTHIER PLANT** TO FIGHT AGAINST YIELD ROBBING DISEASE.



CLAYTON SMITH, VERMILION
UFA CUSTOMER ACCOUNT MANAGER

MICRONUTRIENTS Pulses

Stronger yields start with healthier plants and that is what you get when you use micro-nutrients as part of your crop plan with us. Micro-nutrients optimize the growth potential of your pulse crops, so you get the best possible yield from your pulse crop.



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*Exclusive to UFA

INOCULANTS

Get the most out of your seeds 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 and 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.

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

WHEN CHOOSING THE RIGHT PRODUCT
CONSIDER WHAT COULD HELP IN A DRY
 OR STRESSFUL SPRING. CONSIDER LOOKING AT A
DUAL STRAIN INOCULANT TO HELP WITH NODULATION.



**AMANDA SHIRLIFFE, PROVOST
 UFA CUSTOMER ACCOUNT MANAGER**



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.



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 1x10(8) 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 - 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)

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.

Peas & Faba Beans

- 1 unit treats 40 bushels (50 g per 45.4 kg of seed)
- 1 case treats 240 bushels

Lentils

- 1 until treats 25 bushels (80 g per 45.4 kg of seed)
- 1 case treats 150 bushels

LALFIX® SPHERICAL PEA - FAB - 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.

On seed

- 94 ml per bushel (74 ml inoculant + 20 ml BioProtector Add-It) per bushel
- Combine LalFix Liquid Pea & Lentil with BioProtector Add-It and mix thoroughly prior to on-seed application
- 1 case treats 4,536 kg of seed or 166 bushels

In Furrow

- 443 ml of inoculant per acre
- 1 case treats 28 acres
- Addition of BioProtector Add-It not required for in-furrow application



NexusBioAg offers leading crop nutrition solutions for your unique operation. Through best-in-class capability, a strong team-oriented approach, a commitment to agricultural integrity, NexusBioAg is helping customers innovate and grow an increasingly dynamic agricultural environment.

TAGTEAM® LCO Granular Application Rates

Pea/Lentil	18 kg (39.68 lb) bag		454 kg (1,001 lb)	
	ac/bag	lb/ac	ac/bag	lb/ac
7	8.4	4.7	213.0	4.7
8	9.7	4.1	244.1	4.1
9	11.0	3.6	278.1	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

TAGTEAM® BIONIQ® Granular Application Rates

Pea/Lentil	18 kg (39.68 lb) bag		454 kg (1,001 lb)	
	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

Data provided by NexuBioAg

TAGTEAM® LIQUID Application Rates

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

TAGTEAM® PEAT Application Rates

Crop	Bag Size	Amount of treated/bag			Water rate*
		bu	lb	Units	
Chickpea	2.20 kg	50	3,000	-	4.0
Lentil	2.20 kg	30	1,800	-	2.5
Pea	2.20 kg	50	3,000	-	4.0
Soybean	2.45 kg	33	2,000	40	3.0

*Approximate water volume for peat slurry application.

BIOLOGICALS

Envita

Envita® liquid nitrogen-fixing biological features the bacteria *Gluconacetobacter diazotrophicus* (Gd) - a naturally occurring food-grade bacteria that enables a unique mode of nitrogen fixation in a wide variety of crops. After an Envita application, the bacteria form a symbiotic relationship with the host plant, ultimately replicating and spreading through plant cells. The bacteria begin fixing nitrogen from the air soon after application and continue to do so throughout the season, offering the host plant an alternate source of nitrogen from application through harvest. This provides plants with an additional source of nitrogen where and when it's needed, supplementing the supply of nitrogen available from fertilizer treatments.

CROPS: CANOLA, PULSES, CEREALS, CORN

Application type	Crop	Crop Stage	Tank-mix partners	Mixing Order	Rates	Water
Foliar	Corn Soybeans Canola	V2-V6 (2-leaf to 6-leaf)	<ul style="list-style-type: none"> Fertilizer Registered Foliar Pesticides 	Water → Pesticide → Envita → Spray Adjuvants (if applicable) → OR Water → Envita → Pesticide or Fertilizer → Spray Adjuvants (if applicable)	95 mL/ac 40 ac/Jug)	95 L/ac
	Wheat	BBCH 20-BBCH 39				
	Other Crops	Herbicide Timing				
In-furrow	Corn Soybeans Potatos	In seed row	<ul style="list-style-type: none"> Starter Fertilizer Registered in-furrow fungicides and/or insecticides 	Fertilizer → Water → Envita OR Water → Envita → Fertilizer		

Utrisha N

Utrisha N is a nutrient efficiency biostimulant. The natural bacteria, methylobacterium symbioticum, fixes nitrogen from the air and converts it for the plant.

1. Utrisha N enters the plant through the stomata and colonizes in the leaf cells.
2. It then converts N₂ from the air into ammonium, resulting in a constant supply of nitrogen to the plant.

No plant energy is required for this process.

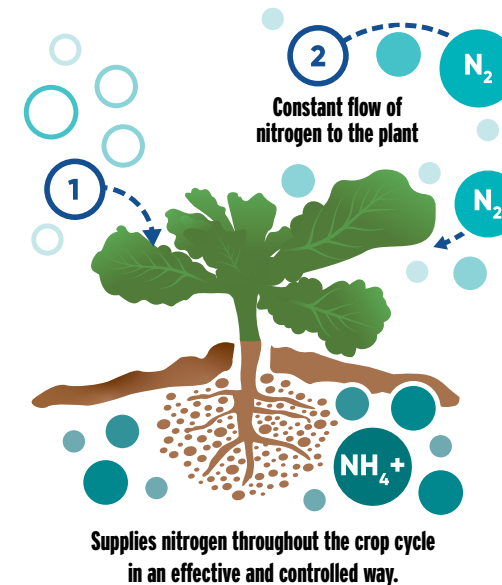
Utrisha N provides a sustainable, alternative source of nitrogen that reduces dependency of nitrogen uptake from the soil and ensures the plant has access to nitrogen all season long.

Rates

- Rate: 135 g/ac (40 ac/bag)
- Water volume: 10-25 GPA

Application Information

CANOLA	4 leaf-bolting (before stem elongation)
CEREALS	4 leaf-jointing (avoid winter dormancy in winter wheat)
CORN	V4-V8
SOYBEANS	V4-V8



0% INTEREST.

INTERESTED?

Interest free until October 31, 2023.* Don't pay until March 15, 2024.

Purchase your fuel, seed, crop protection and nutrition products, animal nutrition supplements, bins, fans, and augers, Interest Free until October 31, 2023, and don't pay until March 15, 2024 with FCC.



GET IT. **UFA** DONE.

coop.UFA.com/Interest-Free

* The Interest Free Credit Program is valid for purchases from February 15 - May 31, 2023 and is Interest Free until October 31, 2023. Full payment is due to FCC March 15, 2024. Program is valid with a minimum purchase of 2,000L of approved farm fuel and/or \$2,000 of approved seed, crop inputs including crop protection products, fertilizer, animal nutrition supplements and/or bins, fans and augers that must be invoiced and picked-up/delivered by May 31, 2023 to qualify. No special orders. Customer must have or apply for FCC EasyGROW or EasyFUEL credit to participate and must have adequate credit limit and be in good standing and have a valid SFTX, BC FIN 458 or AFFB permit at time of purchase for farm fuel deliveries. Offer excludes heating oil and Cardlock purchases.

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* Pending Delegate and Board Approval. Some exclusions and minimum purchase may apply. Visit UFA.com/Patronage for full details.



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