Expect **more** opportunity with scientifically enhanced plant nutrition.

BOS™

DUAL-STRAIN INOCULANTS

Granular | Sterile Peat Powder | Liquid

NUTRIAG

BOS™ LINE

DUAL-STRAIN INOCULANTS

Build stronger peas, lentils, and other legumes from start to finish with premium dual-strain inoculants.

Granular: Low-dust formulation for superb flowability.

Self-Adhering Peat Powder: Extremely strong sticker limiting dusting off while loading.

Liquid: All-in-one formulation eliminates the need for you to spend time mixing components.

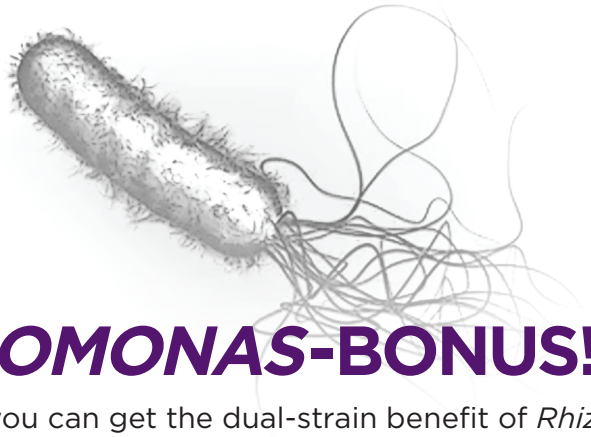
BOS ACTIVATED

Our Inoculant Line is activated by our exclusive Bioactive Organic Soil-Microbes™ technology. BOS™ inoculants enhance nitrogen fixation, phosphate solubilization, micronutrient availability and crop-stress tolerance, maximizing yield potential.

The BOS™ Line of dual-strain inoculants contain unique bioactives that go well beyond your typical product to maximize yield potential from start to finish. It begins with the dual strains of a crop-specific ***Rhizobium*** and an exclusive ***Pseudomonas*** soil microbe for multiple yield-boosting benefits. All of the microbial strains used in BOS inoculants are native to North American soils.

Benefits:

- MORE Rhizobia to increase nitrogen fixation
- Improved micronutrient availability and uptake
- Greater phosphate and silicon solubilization
- Reduced yield loss from crop stress
- Production of crop-growth promoting compounds



GET THE *PSEUDOMONAS*-BONUS!

Why stop at nitrogen fixation when you can get the dual-strain benefit of *Rhizobium* and *Pseudomonas? Pseudomonas* is our proprietary beneficial biological included in all BOS inoculants. This is a unique plant growth promoting bacteria that provides several additional benefits to your legumes.

BENEFITS	*PSEUDOMONAS*	*RHIZOBIUM*
Increases nitrogen fixation		✓
Promotes seeding growth	✓	✓
Reduces ethylene production / Promotes tolerance to environmental stress	✓	
Production of crop-growth promoting compounds	✓	
Facilitates mycorrhizal fungi symbiosis	✓	
Solubilization of cations	✓	
Greater phosphate and silicon solubilization	✓	

BOS Inoculant Formulations

CROP	GRANULAR	STERILE SELF-ADHERING (SA) PEAT POWDER[1]	LIQUID
Pea, Lentil, and Faba Bean	✓	✓	✓
Soybean	✓	✓	✓
Dry Bean		✓	

Approved by ECOCERT INPUTS — Input approved for organic agriculture

All BOS products in Canada are Ecocert approved.

*BOS Inoculants have up to 150% more CFU/g than competitor brands.

[1]Our sterile SA peat and liquid inoculants are compatible with the majority of seed treatments available on the market. Please speak to your NutriAg representative for more information.

BOS™ | PEA, LENTIL, & FABA BEAN INOCULANT

GRANULAR

BIOACTIVES

Rhizobium leguminosarum
Pseudomonas fluorescens

Available in Organic.

Analysis

2 x 10^8 CFU/g of *Rhizobium leguminosarum* biovar *viciae* and 1 x 10^4 CFU/g of *Pseudomonas fluorescens*

Package size

12.25 kg bag and 196 kg mini bulk

Directions for Use

Apply with the seed in the seed row using a granular tank. Calibrate equipment to deliver the correct amount of granular inoculant as per the table below. Apply in-furrow, not banded. Do not mix granular inoculant with pesticides or fertilizers. In humid conditions, carefully monitor flow and reduce the weight of granular inoculant per tank. Do not apply at a depth that is less than the planting depth of the seed. Do not leave granular inoculant in a hopper overnight.

APPLICATION RATES

ROW SPACING		APPLICATION RATE		AREA TREATED BAG (12.25 KG)		AREA TREATED MINI BULK (196 KG)	
CM	INCHES	KG/HA	LBS/AC	HA	AC	HA	AC
15.2	6	6.2	5.5	2.0	4.9	31.6	78.6
19.1	7.5	4.9	4.4	2.5	6.1	40.0	98.2
22.9	9	4.0	3.6	3.1	7.5	49.0	120.0
25.4	10	3.7	3.3	3.3	8.2	53.0	130.9
30.5	12	3.0	2.7	4.1	10.0	65.3	160.0
38.1	15	2.5	2.2	4.9	12.3	78.4	196.4
50.8	20	1.8	1.6	6.7	16.9	107.8	270.1
53.3	21	1.7	1.5	7.1	18.0	113.3	288.1
55.9	22	1.6	1.4	7.7	19.3	122.5	308.6
61.0	24	1.4	1.3	8.8	20.8	140.0	332.4
76.2	30	1.2	1.1	10.2	24.6	163.3	392.8
91.4	36	1.0	0.9	12.3	30.0	196.0	480.1

Additional information

- Ensure equipment is free of chemical residue, fertilizer, and debris.
- If using an auger, use at a slow speed to avoid damaging granular inoculant.
- Calibrate equipment before adding full amount of inoculant.
- Bulk Density Average 42.9lbs/Cubic Foot.

BOS™ | PEA, LENTIL, & FABA BEAN INOCULANT

STERILE SELF-ADHERING PEAT POWDER

BIOACTIVES

Rhizobium leguminosarum
Pseudomonas fluorescens

Available in Organic.

Analysis
9 x 10^8 CFU/g of *Rhizobium leguminosarum* biovar *viciae* and 1 x 10^4 CFU/g of *Pseudomonas fluorescens*

Package size
5 x 1.5 kg bags/box

Directions for Use
BOS peat is self-adhering so there is no need for the addition of a sticker. Please read the label before application for complete instructions.

APPLICATION RATES

CROP	ONE 1.5 KG (3.3 LBS) BAG TREATS		
	KG	LBS	BU
Pea	900	1980	33
Lentil	562	1240	21
Faba Bean	900	1980	33

APPLICATION METHOD

Dry Inoculation: Pour inoculant onto thin layers of seed and mix thoroughly to evenly coat all seeds.

Damp Inoculation: Wet seeds with sufficient water (approximately 300 mL/150 kg of seed). Thoroughly mix the inoculant with the damp seeds and ensure that all seeds are coated evenly.

Slurry: Pre-mix inoculant with sufficient amounts of non-chlorinated water, approximately 1 L/1.5 kg bag, then apply to seeds.

Additional Information

- Bare seed requires re-inoculation if not used within 24 hours.
- Compatible with the majority of seed treatments available on the market.
- Consult with your NutriAg representative for more information.

BOS™ | PEA, LENTIL, & FABA BEAN INOCULANT

LIQUID

BIOACTIVES

Rhizobium leguminosarum
Pseudomonas fluorescens

Available in Organic.

Analysis

1 x 10^9 CFU/mL of *Rhizobium leguminosarum* biovar *viciae* and 1 x 10^6 CFU/mL of *Pseudomonas fluorescens*

Directions for use on seed

Shake well before use to achieve uniform suspension. Protect inoculated seed from sunlight and drying winds. For best results, plant inoculated seed as soon as possible. Inoculated bare seeds should go into the ground within 48 hours. Increased volumes of inoculant per bushel of seed may be advantageous. Before using the product, read instructions and follow the label carefully.

Directions for use in-furrow

Shake well before using to ensure an even suspension. Ensure a clean liquid delivery system is used to apply BOS™ Pea, Lentil, & Faba Bean liquid inoculant. Remove spray tips and replace with appropriate flow regulator orifice disc and direct the solid stream behind the seed planting assembly in the furrow. Do not apply banded to the side, below, or above the seed.

ON-SEED APPLICATION RATES

CROP	APPLICATION RATE	BUSHELS TREATED PER CASE	BUSHELS TREATED PER 3L BLADDER
Pea/Lentil/Faba Bean	75 mL per 27.2 kg of seed (75 mL per bu of seed)	160	40

IN-FURROW APPLICATION RATES

ROW SPACING		BOS RATE		3.0 L UNIT TREATS
CM	INCHES	ML/AC	ML/HA	(IN-FURROW)
25	10	300	741	10 acres/4.0 ha
30	12	250	618	12 acres/4.9 ha

For improved distribution, dilute with dechlorinated water (e.g., use 3 - 20 gal/ac dechlorinated water as a carrier).
Calibrate equipment to apply the total volume of liquid BOS and carrier per acre.

Additional Information

- Bare seed requires re-inoculation if not used within 48 hours.
- Compatible with the majority of seed treatments available on the market.
- Consult with your NutriAg representative for more information.

BOS™ | SOYBEAN INOCULANT

GRANULAR

BIOACTIVES

Bradyrhizobium japonicum
Pseudomonas fluorescens

Available in Organic.

Analysis

2 x 10^8 CFU/g of *Bradyrhizobium japonicum* and 1 x 10^4 CFU/g of *Pseudomonas fluorescens*

Package size

12.25 kg bag and 196 kg mini bulk

Directions for Use

Apply with the seed in the seed row using a granular tank. Calibrate equipment to deliver the correct amount of granular inoculant as per the table below. Apply in-furrow, not banded. Do not mix granular inoculant with pesticides or fertilizers. In humid conditions, carefully monitor flow and reduce the weight of granular inoculant per tank. Do not apply at a depth that is less than the planting depth of the seed. Do not leave granular inoculant in a hopper overnight.

APPLICATION RATES

ROW SPACING		APPLICATION RATE		AREA TREATED BAG (12.25 KG)		AREA TREATED MINI BULK (196 KG)	
CM	INCHES	KG/HA	LBS/AC	HA	AC	HA	AC
15.2	6	6.2	5.5	2.0	4.9	31.6	78.6
19.1	7.5	4.9	4.4	2.5	6.1	40.0	98.2
22.9	9	4.0	3.6	3.1	7.5	49.0	120.0
25.4	10	3.7	3.3	3.3	8.2	53.0	130.9
30.5	12	3.0	2.7	4.1	10.0	65.3	160.0
38.1	15	2.5	2.2	4.9	12.3	78.4	196.4
50.8	20	1.8	1.6	6.7	16.9	107.8	270.1
53.3	21	1.7	1.5	7.1	18.0	113.3	288.1
55.9	22	1.6	1.4	7.7	19.3	122.5	308.6
61.0	24	1.4	1.3	8.8	20.8	140.0	332.4
76.2	30	1.2	1.1	10.2	24.6	163.3	392.8
91.4	36	1.0	0.9	12.3	30.0	196.0	480.1

Additional information

- Ensure equipment is free of chemical residue, fertilizer, and debris.
- If using an auger, use at a slow speed to avoid damaging granular inoculant.
- Calibrate equipment before adding full amount of inoculant.
- Bulk Density Average 42.9lbs/Cubic Foot.

BOS™ | SOYBEAN INOCULANT

STERILE SELF-ADHERING PEAT POWDER

BIOACTIVES

Bradyrhizobium japonicum
Pseudomonas fluorescens

Available in Organic.

Analysis
2 x 10^9 CFU/g of *Bradyrhizobium japonicum*
and 5 x 10^8 CFU/g of *Pseudomonas fluorescens*

Package size
5 x 1.5 kg bags/box

Directions for Use
BOS peat is self-adhering so there is no need for the addition of a sticker. Please read the label before application for complete instructions.

APPLICATION RATES

Apply 500 g per 150 kg of seed. 1 bag (1.5 kg) of inoculant treats 450 kg (992 lbs) of seed.

RATE	ONE 1.5 KG (3.3 LBS) BAG TREATS			
	KG	LBS	BU	UNITS
Full Rate	450	990	16.5	20
Reduced Rate	900	1980	33	40

APPLICATION METHOD

Dry Inoculation: Pour inoculant onto thin layers of seed and mix thoroughly to evenly coat all seeds.

Damp Inoculation: Wet seeds with sufficient water (approximately 300 mL/150 kg of seed). Thoroughly mix the inoculant with the damp seeds and ensure that all seeds are coated evenly.

Slurry: Pre-mix inoculant with sufficient amounts of non-chlorinated water, approximately 1 L/1.5 kg bag, then apply to seeds.

Additional Information

- Bare seed requires re-inoculation if not used within 7 days.
- Compatible with the majority of seed treatments available on the market.
- Consult with your NutriAg representative for more information.

BOS™ | SOYBEAN INOCULANT

LIQUID

BIOACTIVES

Bradyrhizobium japonicum
Pseudomonas fluorescens

Available in Organic.

Analysis
1 x 10^{10} CFU/mL of *Bradyrhizobium japonicum*
and 1 x 10^{6} CFU/mL of *Pseudomonas fluorescens*

Package size
4 x 3.125 L bladders

Directions for use on seed
Shake well before use to achieve uniform suspension. Protect inoculated seed from sunlight and drying winds. For best results, plant inoculated seed as soon as possible. Inoculated bare seeds should go into the ground within 21 days. Please consult the compatibility table for more information. Before using the product, read instructions and follow the label carefully.

Directions for use in-furrow
Shake well before using to ensure an even suspension. Ensure a clean liquid delivery system is used to apply BOS™ Soybean liquid inoculant. Remove spray tips and replace with appropriate flow regulator orifice disc and direct the solid stream behind the seed planting assembly in the furrow. Do not apply banded to the side, below, or above the seed.

ON-SEED APPLICATION RATES

CROP	APPLICATION RATE	UNITS TREATED PER CASE	UNITS TREATED PER 3.125 L BLADDER
Soybean	62.5 mL per 22.7 kg seed (62.5 mL per unit)	200	50

Each 3.125 L bladder of BOS Soybean Liquid treats 50 units of seed. A full case (12.5 L total) treats 200 units of seed.

IN-FURROW APPLICATION RATES

ROW SPACING FOR IN-FURROW APPLICATION		APPLICATION RATE		3.125 L UNIT TREATS (IN-FURROW)
CM	INCHES	ML/AC	ML/HA	
30.5	12	250	618	12.5 acres/5.1 ha
38.1	15	200	494	15.6 acres/6.3 ha
76.2	30	100	247	31.3 acres/12.7 ha

For improved distribution, dilute with dechlorinated water (e.g.. use 3-20 gal/ac dechlorinated water as a carrier).
Calibrate equipment to apply the total volume of liquid BOS and carrier per acre.

Additional Information
- Bare seed requires re-inoculation if not used within 21 days.
- Compatible with the majority of seed treatments available on the market.
- Consult with your NutriAg representative for more information.

BOS™ | DRY BEAN INOCULANT

STERILE SELF-ADHERING PEAT POWDER

BIOACTIVES

Rhizobium leguminosarum
Pseudomonas fluorescens

Available in Organic.

Analysis
8 x 10^8 CFU/g of *Rhizobium leguminosarum* biovar *phaseoli* and 1 x 10^5 CFU/g of *Pseudomonas fluorescens*

Package size
5 x 1.5 kg bags/box

Crops
For inoculation of *Phaseolus vulgaris* (black beans, navy beans, great northern beans, snap beans, scarlet runner beans, wax beans, pinto beans, pink beans, kidney beans, garden or string beans, field or canning beans, and cranberry beans).

Directions for Use
BOS peat is self-adhering so there is no need for the addition of a sticker. Please read the label before application for complete instructions.

APPLICATION RATES

RATE	ONE 1.5 KG (3.3 LBS) BAG TREATS			
	KG	LB	BU	UNITS
Full Rate	450	990	16.5	20
Reduced Rate	900	1980	33	40

APPLICATION METHOD

Dry Inoculation: Pour inoculant onto thin layers of seed and mix thoroughly to evenly coat all seeds.

Damp Inoculation: Wet seeds with sufficient water (approximately 300 mL/150 kg of seed). Thoroughly mix the inoculant with the damp seeds and ensure that all seeds are coated evenly.

Slurry: Pre-mix inoculant with sufficient amounts of non-chlorinated water, approximately 1 L/1.5 kg bag, then apply to seeds.

Additional Information
- Bare seed requires re-inoculation if not used within 24 hours.
- Compatible with the majority of seed treatments available on the market.
- Consult with your NutriAg representative for more information.

BOS PEA, LENTIL, & FABA BEAN | Powder and Liquid Compatibility:

Product	Seed Treatment	Tank Mix	Wet Sequential	Dry Sequential
BOS™ Pea, Lentil & Faba Bean Powder	**Trilex® EverGol®**	4 hours	24 hours	24 hours
	Belmont (Low Rate)	4 hours	24 hours	24 hours
	Belmont (High Rate)	4 hours	4 hours	24 hours
	Belmont + Rancona® Trio	Not Recommended	Not Recommended	4 hours
	Stress Shield	4 hours	24 hours	24 hours
	Vibrance® Maxx RFC	5 hours	24 hours	24 hours
	Insure® Pulse	Not recommended	5 hours	5 hours
	Rancona® Trio	Not recommended*	24 hours*	24 hours*
	Zeltera Pulse	Not recommended	24 hours	48 hours
	VigorMax	5 hours	24 hours	24 hours
	VigorMax Plus	5 hours	5 hours	5 hours
BOS™ Pea, Lentil & Faba Bean Liquid	**Trilex® EverGol®**	4 hours	24 hours	24 hours
	Belmont (Low Rate)	24 hours	48 hours	48 hours
	Belmont (High Rate)	4 hours	24 hours	24 hours
	Belmont + Rancona® Trio	Not Recommended	Not Recommended	4 hours
	Stress Shield	4 hours	24 hours	24 hours
	Vibrance® Maxx RFC	Not recommended	5 hours	5 hours
	Insure® Pulse	Not recommended	Not recommended	Not recommended
	Rancona® Trio	Not recommended	2 hours	5 hours
	Zeltera Pulse	Not recommended	5 hours*	5 hours*
	VigorMax	5 hours	5 hours	5 hours
	VigorMax Plus	5 hours	5 hours	5 hours

Seeds were treated with fungicides at rates according to manufacturer's recommendation and were stored at 5°C, unless stated otherwise.
*Tested at room temperature.

BOS PEA, LENTIL, & FABA BEAN | Powder and Liquid Compatibility:

Product	Recommended Seed Application Rate
BOS™ Pea Lentil Powder	1.5 Kg /900 Kg
BOS™ Pea Lentil Liquid	62.50 mL/22.7 Kg
Trilex® EverGol®	41 mL/100 Kg
Belmont (Low rate)	16 mL/ 100 Kg
Belmont (High rate)	110 mL/100 Kg
Rancona® Trio	500 mL/100 Kg
Stress Shield	208 mL/100 Kg
Vibrance® Maxx RFC	100 mL/100 Kg
Insure® Pulse	300 mL/100 Kg
Rancona® Trio	500 mL/100 Kg
Zeltera Pulse®	313 mL/ 100 Kg
VigorMax	375 mL/100 Kg
VigorMax Plus	500 mL/100 Kg

BOS SOYBEAN | Powder and Liquid Compatibility:

Product	Seed Treatment	Tank Mix	Wet Sequential	Dry Sequential
BOS™ Soybean Powder	**EverGol® Energy**	24 hours	3 days	4 days
	Belmont	24 hours	2 days	2 days
BOS™ Soybean Liquid	**EverGol® Energy**	2 days	4 days	4 days
	Belmont	24 hours	3 days	3 days

Seeds were treated with fungicides at rates according to manufacturer's recommendation and were stored at 5°C, unless stated otherwise.

Product	Recommended Seed Application Rate
BOS™ Soybean Powder	1.5 Kg /900 Kg
BOS™ Soybean Liquid	62.50 mL/22.7 Kg
EverGol® Energy	65 mL/100 Kg
Belmont	46 mL/100 Kg

BOS LIQUID | Compatibility with Starter Fertilizers:

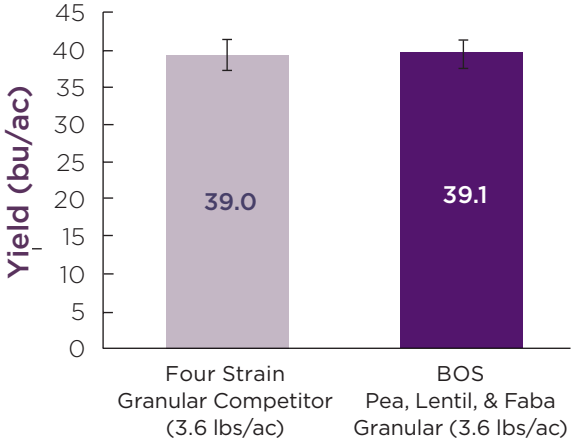
Product	Fertilizer	Physical Compatibility	Biological Compatibility*
BOS™ Pea, Lentil & Faba Bean Liquid	**10-34-0**	✓	✓
BOS™ Soybean Liquid	**Alpine G 22**	✓	✓
	10-34-0	✓	✓

Product	Recommended Seed Application Rate
BOS™ Pea, Lentil & Faba Bean Liquid	250 mL/ac
BOS™ Soybean Liquid	250 mL/ac
G 22	4 US gal/ac
10-34-0	5 US gal/ac

*Contact your NutriAg Representative for further details.

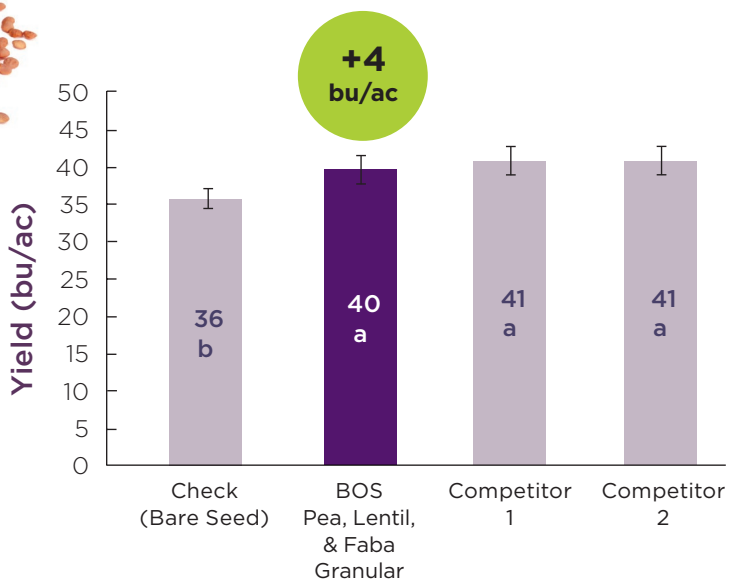
Data from the field:

Crop: Pea (CDC Canary)
Year: 2023
Location: St. Brieux, SK
Cooperator: SMAg Research
Design: RCBD, 6 reps
Method: A pea trial was performed to compare the dual strain BOS Pea, Lentil, & Faba Bean Granular inoculant with a competitor granular inoculant containing four different microbes.
Result: The *Rhizobium* and *Pseudomonas* sp. in BOS Pea, Lentil, & Faba Bean Granular delivered a statistically even response to the four strain competitor product.

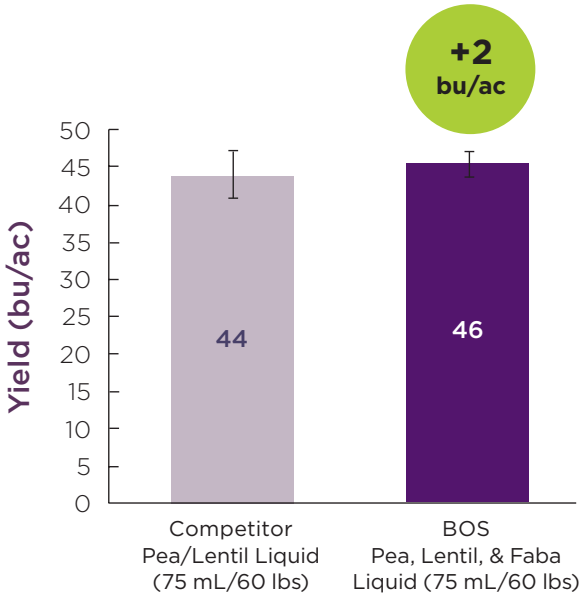


See more trials on next page!

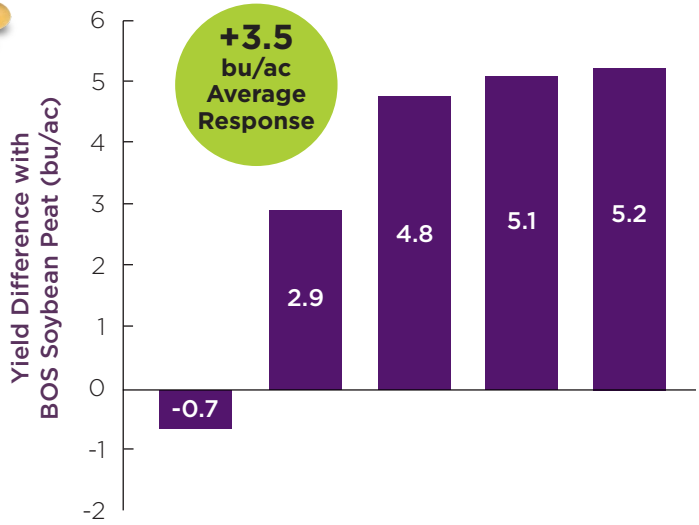
Crop: Red Lentil (Impulse)
Year: 2020
Location: Vulcan, AB
Cooperator: Small Plot
Design: RCBD, 4 reps
Method: Bare seed and no inoculant (check) was compared to plots treated with different dual strain granular inoculants, including BOS.
Result: The *Rhizobium* and *Pseudomonas* sp. in BOS Pea, Lentil, & Faba Bean Granular improved yield over the uninoculated check by 4 bu/ac, and resulted in statistically identical responses to the other dual strain competitor products.



Crop: Pea (CDC Canary)
Year: 2023
Location: St. Brieux, SK
Cooperator: SMAg Research
Design: RCBD, 6 reps
Method: Pea seed was treated with a dual strain competitor liquid inoculant or with BOS Pea, Lentil, & Faba Bean Liquid inoculant.
Result: The strains in BOS Pea, Lentil, & Faba Bean Liquid delivered a statistically even and numerically higher response compared to the competitor product.



Crop: Soybean
Years: 2017-2021
Location: 5 Trials across Canada
Design: Split & RCBD
Method: Grower standard practice was compared to treatment with BOS Soybean Peat applied at the standard rate of 1.5 kg BOS/450 kg seed.
Result: 80% Positive responses, with an average increase of 3.5 bu/ac



Notes:

INOCULANTS ARE LIVING ORGANISMS AND NEED TO BE STORED CAREFULLY AND PROPERLY.

KEEP OUT OF DIRECT SUNLIGHT.

STORE IN A COOL, DRY, AND WELL -VENTILATED AREA.

AVOID FREEZING.

NUTRIAG Innovators in the field

To learn more about NutriAg products and technologies
contact us at (**416) 636-1555**, or visit **nutriag.com**