Our Biosolutions

Soybeans

Pulses

Corn

Cereals

Oilseeds

Tubers

Vegetables

Thriving Through Innovation

XiteBio®

Inoculants & Ag-Biologicals

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Message From Our CEO

As XiteBio® celebrates 15 years in business we look to our past and to our future. When we started XiteBio in 2010 our humble goal was to create a unique soybean inoculant. Today we still sell soybean inoculants but we have also embraced our role as an innovator and manufacturer of sustainable ag-biological technologies. However, there is still much work to do if we hope to reach a food system that is both equitable for the planet and profitable for producers.

No one can predict the future, but over the last decade we bet on the strength of North American soybean and pulse markets, and we have been rewarded. Soybean acres have largely stabilized over the past few years, but soybeans continue to be a high value product with uses as food, feed, fiber and fuel. The increase in crush capacity in North America bodes well for the strength of the market domestically in the face of uncertainty in international markets. Pulses are also delivering on their promise as a premium export product. Last year we sold out of XiteBio® PulseRhizo® due to high demand. This year the predictions are for planted lentil acres to increase significantly in North America. Worldwide, demand for pulses is expected to increase year over year to meet the needs of a growing population and the expanding plant protein market.

Our belief in our biosolutions is not limited to legumes. P-solubilization was a virtually unknown or very limited commodity outside of academic circles in 2015 when XiteBio® Yield+ first hit the market. In 2024 we saw the term come into common use on ag media and at tradeshows. The XiteBio® Yield+ line of products, namely: XiteBio® Yield+ for oilseeds, cereals and legumes, XiteBio® Tuber+ for tuber crops and XiteBio® Vegi+ for vegetable crops are tested and proven P-solubilizing ag-biologicals powered by our patented plant growth promoting rhizobacteria *Bacillus firmus*. These products increase fertilizer use efficiency while providing significant ROI for growers across many markets from row crops to greenhouse growers and high value specialty crops.

Thank you to our distributors, dealers and farm customers for your continued support. Our ongoing commitment to you is that you can continue to rely on our quality, performance and customer service for the next 15 years and beyond. We hope our products have made a difference in the adoption of sustainable practices in your region and helped you to produce healthier plants and better yields.

Respectfully,

Manas Banerjee, Ph.D., P. Ag.

President & CEO

Company Overview

XiteBio Technologies Inc. is an agriculture biotech company that over the last decade has become a leading edge ag-biological solutions provider in North America and elsewhere. XiteBio®'s IRD (Innovation, Research and Development) Centre researches and develops unique, efficacious ag-biological product lines and brings them to the Canadian, U.S. and some international markets to benefit farmers' bottom lines.

All of XiteBio®'s commercial products are in-house developed by our own proprietary formulation technology and worldwide patented technology. XiteBio®'s products in the North American market includes: SoyRhizo® for soybean, and PulseRhizo® for pea, lentil and faba bean, are premium inoculants powered by AGPT® (Advanced Growth Promoting Technology). XiteBio® Yield+ line of products (namely XiteBio® Yield+, XiteBio® Tuber+, XiteBio® Vegi+) are available for oilseeds, cereals, legumes, tuber and vegetable crops, and feature patented phosphate-solubilizing PGPR (Plant Growth Promoting Rhizobacteria) technology. The new unique dual inoculant XiteBio® OptiPlus® is also available as an in-furrow application for soybeans throughout North America.

Our Mission: To build relationships with farmers everywhere by consistently providing easy to use microbial innovations that increase production and reduce input costs.

Our Vision: To see every farmer using at least one ag-biological product as their essential tool for sustainable crop production.

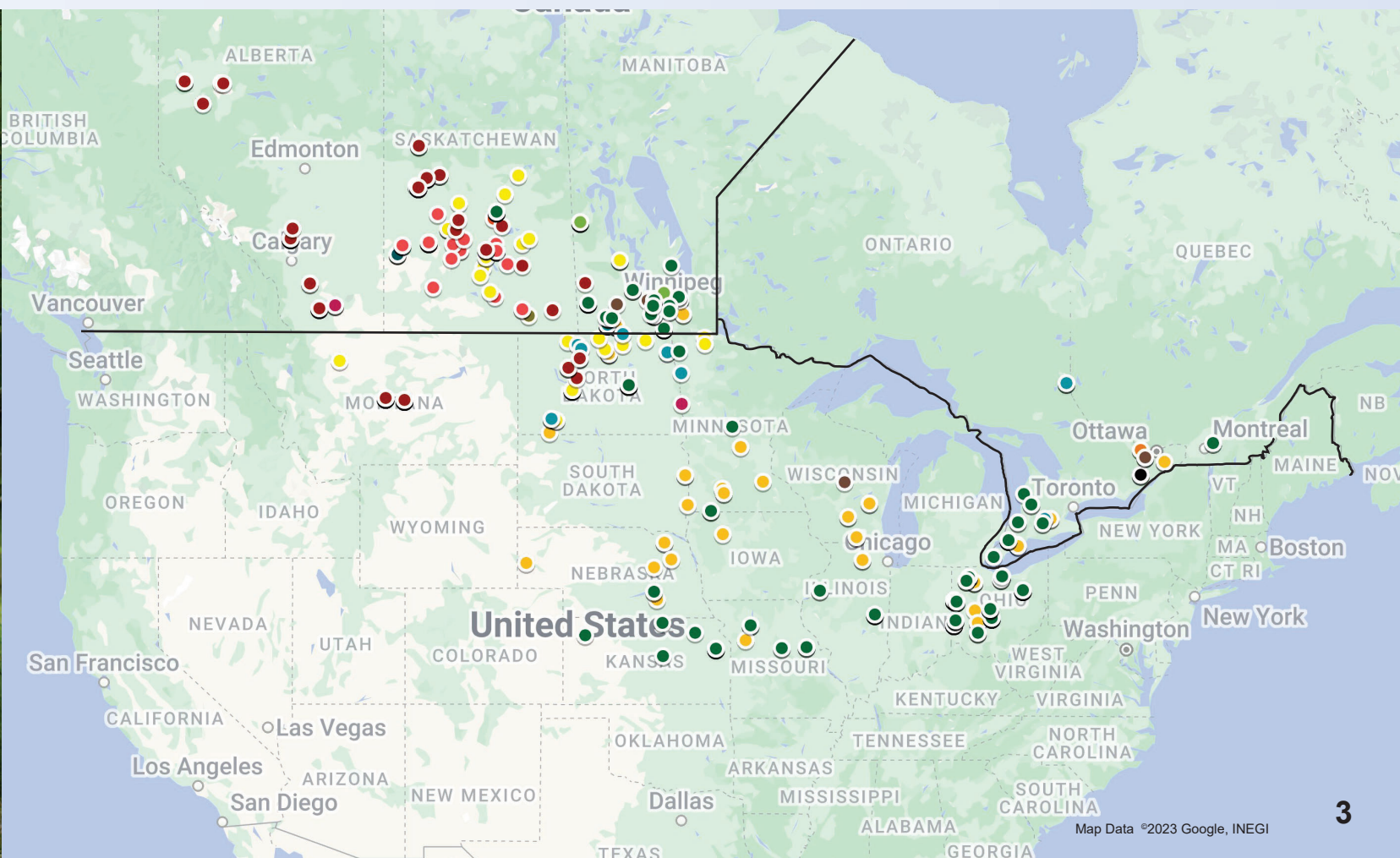
Field Science

The development of an inoculant or ag-biological requires several years of extensive research to ensure that farmers are using a product of the highest quality. This includes testing its performance over a wide range of agro-climatic conditions. From small-plot, to large-plot, to farm-sized trials, across multiple geographic locations, products are tested repeatedly. Our products are only commercially launched once they demonstrate consistent and measurable performance. This is the standard of care that goes into every XiteBio® product.

Below you can see a map of various field trial locations and the different crops that were tested at each site. If you would like to see a dataset for a specific region or crop, please contact us toll free at: 1-855-XITEBIO (1-855-948-3246). Or you can contact the XiteBio® sales representative for your region.

Map Legend

- Soybeans
- Peas
- Lentils
- Faba Beans
- Navy Beans
- Canola
- Corn
- Wheat
- Barley
- Oats
- Potatoes
- Sugar Beets
- Carrots
- Onions
- Mustard
- Tomatoes
- Cucumbers
- Peppers
- Cauliflower



XiteBio®'s Exclusive Technologies

Proprietary AGPT®
(Advanced Growth Promoting Technology)

Worldwide Patented PGPR
(Plant Growth Promoting Rhizobacteria)

What is AGPT®?

Advanced Growth Promoting Technology

AGPT® is a revolution in liquid inoculant technology. It is a proprietary liquid formulation combined with the beneficial bacteria *Rhizobium*.

What makes AGPT® powered inoculants different from conventional inoculants is the liquid solution in which the bacteria are suspended. Not only does our formulation nourish our premium rhizobia, it also nourishes the native soil microflora.

Our biotechnological research, and rigorous QA/QC process, guarantees the optimal number of live bacteria are delivered through our inoculants. Too many or too few rhizobia can be detrimental to the natural balance of the soil. AGPT® ensures that once the product is applied, either on-seed or in-furrow, the existing soil ecosystem thrives and works in synergy with the newly introduced rhizobia.

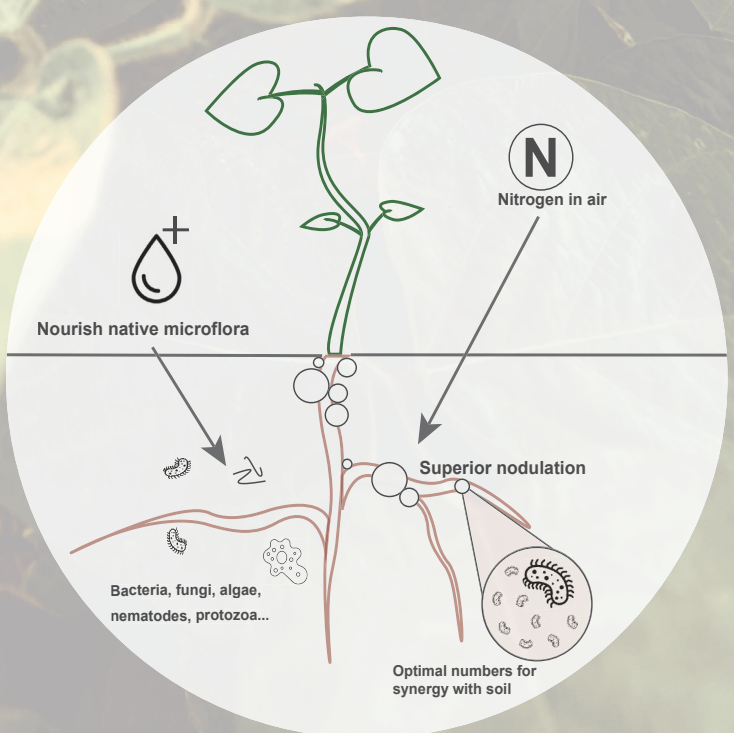
Generic inoculants rarely invigorate native soil microflora. They simply introduce new rhizobia without taking into account the needs of the soil. This can cause competition for resources in the soil.

AGPT® products are sustainable and compatible with regenerative farming practices. Whether you use them in organic applications (in Canada) or in tandem with your regular fertilizer program, they produce healthier plants and better yields.

Available only in XiteBio® SoyRhizo® and XiteBio® PulseRhizo®

Check XiteBio® PulseRhizo®

Lentils, Vulcan, AB; 2023



XiteBio® SoyRhizo® with AGPT®

Active Ingredient:
Minimum of 2 x 10^9
Bradyrhizobium japonicum CFU per mL

Formulation:
Ready-to-Use (RTU) Liquid

Application Options:
On-seed or in-furrow

Application Rate:
On-seed:
49 mL/27 kg (1.68 fl oz/bu)
In-furrow:
175 mL/ac (at 30″ row spacing)
350 mL/ac (at 15″ row spacing)

Package Size:
1 x 300 Unit/Case (12.6 L or 426.1 fl oz)
4 x 50 Unit/Case (4 x 2.1 L or 71.0 fl oz)

Case Treats:
12.6 L bag: 252 bu/6810 kg/15,000 lb seed
2.1 L bag: 42 bu/1135 kg/2,500 lb seed

On-seed Life:
Up to 120 days
Please consult compatibility charts

Shelf Life:
2 years

Approved for organic use in Canada

What is XiteBio® SoyRhizo®?

XiteBio® SoyRhizo® for soybean is an innovative premium liquid inoculant with Advanced Growth Promoting Technology AGPT® that delivers better plant vigor and higher yields.

XiteBio® SoyRhizo® helps farmers maximize the potential of their soybean crops.

XiteBio® SoyRhizo® undergoes rigorous QA/QC before coming to market. Our proprietary liquid formulation has been proven for over a decade to provide consistent results for soybean growers.

Our customers choose XiteBio® SoyRhizo® because they know that nodulation is necessary for high yielding soybean crops and that buying a premium liquid inoculant is a high-quality option.

Find out why so many farmers trust XiteBio® SoyRhizo® with their soybean crop. Visit our website for more information on test locations and yield results.

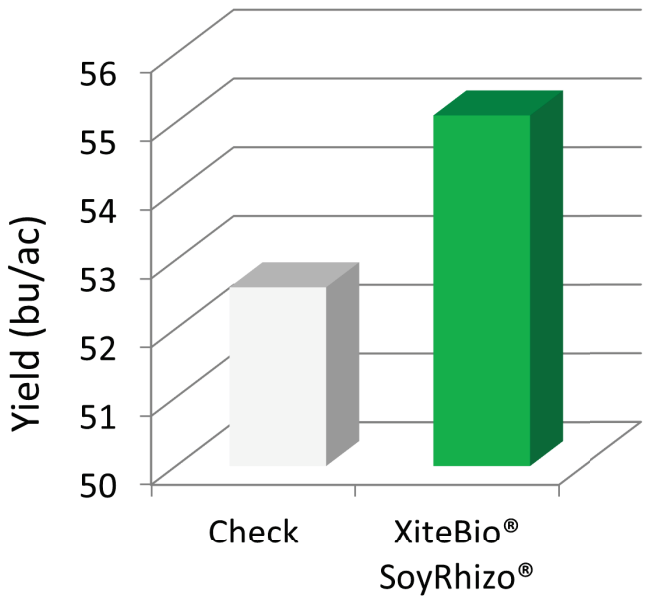
Why use XiteBio® SoyRhizo®?

- Ready-to-Use liquid formulation
- No sticking or bridging of seeds
- Invigorates native bacteria
- Works under different soil and environmental conditions
- Up to 120 days on seed
- Compatible with most seed treatments and fertilizers*
  *Please consult compatibility charts

Handling directions

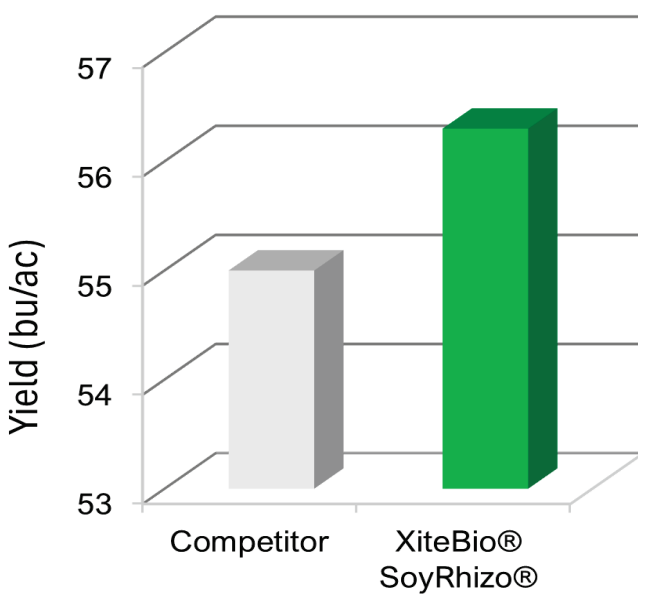
- Shake well before use
- Store in a cool dry place between 4°C and 25°C, away from high wind
- Do not allow product to freeze
- Open only when ready to use

+ 2.5 bu/ac



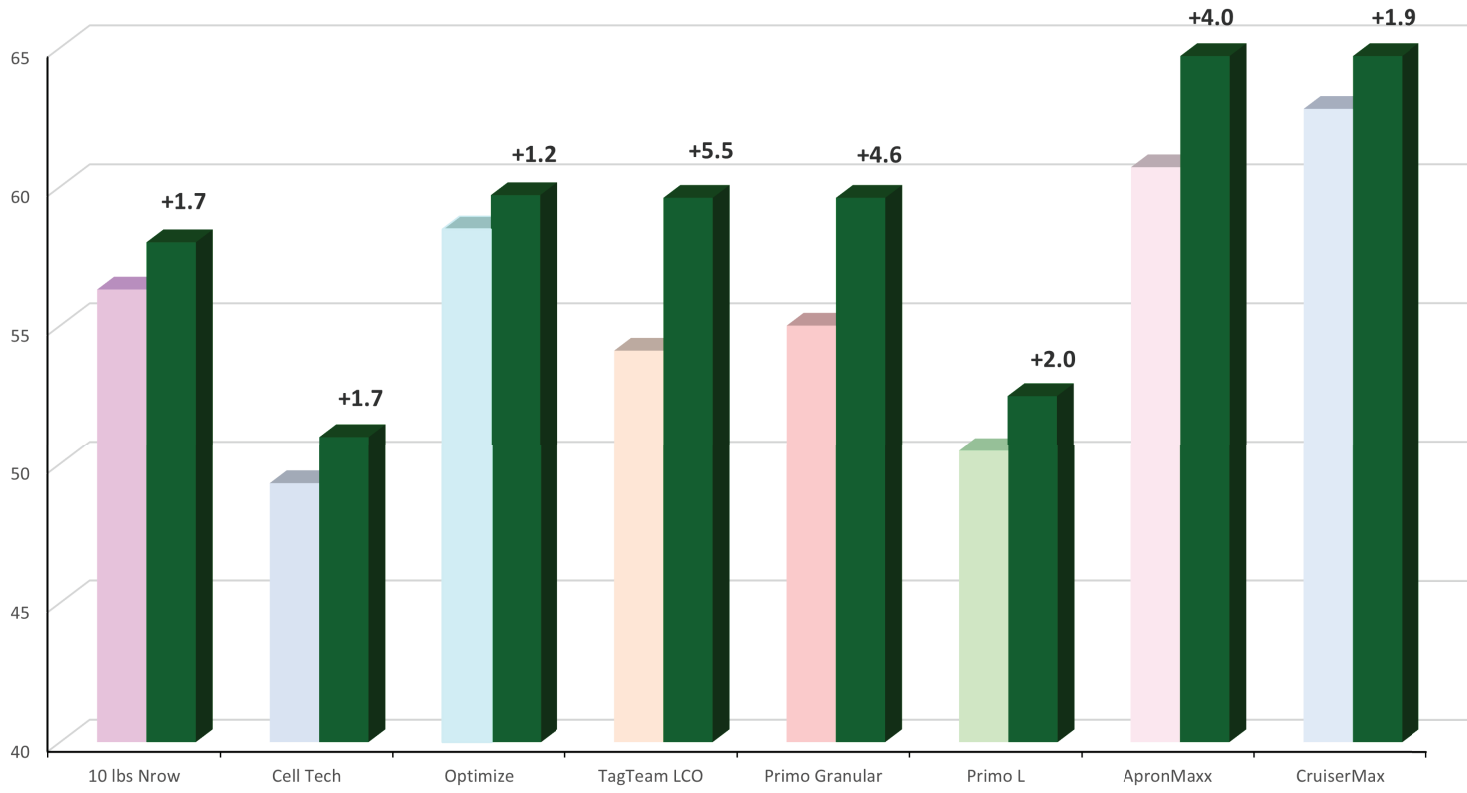
Source: 3rd Party Research; Ohio State University; North Dakota State University; Kent Ag Research; 3rd Party Trials; Quarry Seeds; Wesmar Seeds (>50 Trials: 2011-2021)

+ 1.3 bu/ac



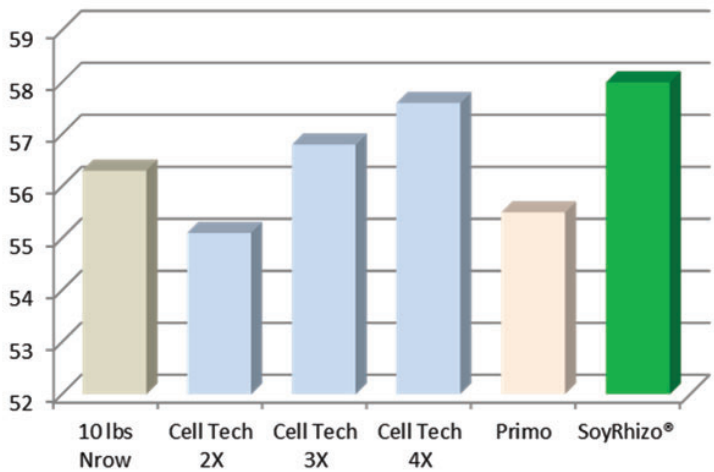
Source: 3rd Party Research; Ohio State University; North Dakota State University; University of Illinois; 3rd Party Trials; Nielsen Seeds; Wesmar Seeds
Competitors: Nodulator®; Optimize®; Primo; ProYield, Lalfix (>40 trials: 2011-2024)

XiteBio® SoyRhizo® vs. Competitors



Source: 3rd Party Trials; Ohio State University; North Dakota State University; (>40 trials: 2011-2021)

XiteBio® SoyRhizo® vs. Competitors In-Furrow



Source: 3rd Party Research Trials, Virden, MB; 2017

XiteBio® SoyRhizo® XV with AGPT®

Active Ingredient:
Minimum of 1 x 10^{10}
Bradyrhizobium japonicum CFU per mL

Formulation:
Ready-to-Use (RTU) Liquid

Application Option:
On-seed

Application Rate:
On-seed:
27 mL/27 kg (0.9 fl oz/bu)

Package Size:
1 x 400 Unit/Case (1 x 304.5 fl oz)
4 x 80 Unit/Case (4 x 60.9 fl oz)

Case Treats:
On-seed (1 x 400 Unit): 20,000 lb or 400 units (333 bu)
On-seed (4 x 80 Unit): 16,000 lb or 320 units (268 bu)

On-seed Life:
Up to 120 days
Please consult compatibility charts

Shelf Life:
2 year

What is XiteBio® SoyRhizo®?

XiteBio® SoyRhizo® XV for soybean is an innovative premium liquid inoculant with Advanced Growth Promoting Technology AGPT® that delivers better plant vigor and higher yields.

XiteBio® SoyRhizo® XV has a lower seed applied rate (0.75 fl oz 140k) that allows seed treaters to maximize on-seed treatment potential, where a reduced application rate is beneficial, without sacrificing inoculant quality.

Our customers choose XiteBio® SoyRhizo® XV because they know that nodulation is necessary for high yielding soybean crops and that buying a premium liquid inoculant is a high-quality option.

Why use XiteBio® SoyRhizo® XV?

- Ready-to-Use liquid formulation
- No sticking or bridging of seeds
- Invigorates native bacteria
- Works under different soil and environmental conditions
- Up to 120 days on seed
- Compatible with most seed treatments and fertilizers*

  *Please consult compatibility charts

Handling directions

- Shake well before use
- Store in a cool dry place between 39°F and 77°F, away from high wind
- Do not allow product to freeze
- Open only when ready to use

Seed Treatment Compatibility

Compatible Seed Treatment Product Choices	Soybean On-Seed Planting Window	Compatible Seed Treatment Product Choices	Soybean On-Seed Planting Window
Allegiance® FL	64 days	Insure® Pulse	64 days
Apron Maxx® RFC	120 days	PreCede® Soybean	64 days
Apron Maxx® RTA®	120 days	Rancona® Apex	120 days
Cruiser®	120 days	Rancona® RS	120 days
Cruiser Maxx® Vibrance® Beans	120 days	Rancona® Trio	120 days
Clariva® pn	64 days	RhiZone® V	120 days
EverGol® Energy	64 days	Senator® PSP	120 days
EverGol Energy® + Stress Shield® 600	30 days	Vibrance® Maxx	120 days
Fortenza®	64 days	Vibrance® Maxx RFC	120 days
Hibrix™	28 days	Vitaflo® 280	64 days
ILEVO®	64 days	Warden® CX	64 days

Application Rates: 49 mL/27 kg or 1.68 fl oz/bu of seed

NOTE: SoyRhizo® may be applied with approved seed treatment products either simultaneously, sequentially, or in a tank mix (slurry). If a tank mix is used, the mixture must be applied to the seed immediately and only the amount that can be applied to the seed in an hour should be premixed.

In-Furrow Tank-Mix Fertilizer Compatibility

Compatible In-Furrow Fertilizer Product Choices	Soybean Tank-Mix Planting Window	Compatible In-Furrow Fertilizer Product Choices	Soybean Tank-Mix Planting Window
3-18-18	8 hours	Lignijoule™	8 hours
10-34-0	8 hours	LS 624	8 hours
Alpine Bio20™	8 hours	Nachurs® 3-18-18	8 hours
Alpine G22®	8 hours	Nachurs® Triple Option®	8 hours
Arise™	8 hours	Nexus Zinc 9% EDTA	8 hours
Alpine K24®	8 hours	NutriPak™	8 hours
Alpine MicroBolt Mn®	8 hours	Pro-Germinator®	8 hours
Alpine MicroBolt Zn®	8 hours	Sunalta Boron	8 hours
CHS Aventine™ Complete	8 hours	Soygreen® - Low Rate	6 hours
KS 1022	8 hours	Soygreen® - High Rate	—
KS 1410	8 hours	XiteBio® Yield+	8 hours

List last Updated: 01 February, 2024

Please read product label carefully and follow application directions.
For more info and any updates: Visit www.xitebio.ca or call toll-free 1-855-XITEBIO (1-855-948-3246)

Check for Nodulation in Legume Plants

How?

Root nodules are formed thanks to the symbiotic relationships between legume plants and rhizobia. This symbiosis is kept in check by the plants, which possess a gene called “autoregulation of nodulation” (AON) (1). AON ensures the plant can control nodule formation, and therefore control the energy consumed by the rhizobia within the nodules (2). This prevents the symbiosis from becoming parasitic. Symbiosis begins when a plant releases organic compounds called flavonoids. The flavonoids attract a species of rhizobia specific to that crop, which will then infect the root hairs of the plant (3). The rhizobia release their own chemicals, called lipo-chitooligosaccharides (LCO), which cause the root to wrap around the bacteria, forming a nodule.

Why?

Once nodules form, the rhizobia will begin to fix Nitrogen (N) for the plant in return for carbon (4).

Healthy pink nodules under a microscope

When?

To check for nodules, wait four to six weeks after planting then carefully remove a plant with all its roots and surrounding soil.

Where?

Gently remove or wash away the soil from the roots to expose the nodules. On-seed inoculation will cause nodules to appear near the crown of the root system, while in-furrow inoculation will cause nodules to appear on the lateral roots (3). Slice a nodule in half to see the colour within; pink indicates that N fixation is occurring, while white, green, grey, or no nodules indicates N-fixation is not active.

What?

What to do if you have a lack of nodulation. There are many factors as to why nodules are not pink or do not appear at all.

Pale white nodules can mean that the plant is still young, and N-fixation has not started. Grey or green coloured nodules can indicate that N-fixation has stopped and is no longer active (3). If there is no nodulation whatsoever, this could be due to many reasons: the soil pH is below 6.0 or above 8.0, a lack of soil moisture, too high or too low temperatures, high soil N levels, excessive salinity, compatibility issues with other seed treatments, or improper handling and storage methods prior to application (5, 6).

Root nodulation occurs when bacteria infect legume plants and provide usable N in exchange for food. Nodules can form naturally in soil where legume crops have been repeatedly grown. But numerous third party research studies conducted on our inoculant products (XiteBio® SoyRhizo® and XiteBio® PulseRhizo®) have, on average, shown that commercial inoculation produces higher yielding crops. Commercial inoculants contain specific bacterial strains and other ingredients that promote N fixation and plant health.

We always suggest using a premium liquid inoculant product to ensure that your legume crop produces to its highest potential. Using XiteBio products with AGPT® technology also helps to bolster soil health by ensuring that the introduced rhizobia work in synergy with the native microflora.

References:
1. Bjederbeck VO, Bjorge HA, Brandt SA, Henry JL, Hultgreen GE, Kielly GA, Slindard AE. 2005. Soil improvements with legumes. Ed: BJ Green, VO Bjederbeck. Government of Saskatchewan.
2. Staton M. 2014. Identifying and responding to soybean inoculation failures. Michigan State University. Published 4 February 2014.
3. Conley S. 2015. Non-nodulating soybean questions. Agri-View Briefs. Published 23 July 2015.
4. https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/crops-and-irrigation/soils-fertility-and-nutrients/inoculation-of-pulse-crops
5. https://www.farmanddairy.com/news/inoculants-support-soybean-farmers/3535.html
6. https://xitebio.ca/xitebio-soyrhizo-premium-liquid-inoculant/

XiteBio® PulseRhizo® with AGPT®

Active Ingredient:
Minimum of 7.2 x 10^8
Rhizobium leguminosarum CFU per mL

Formulation:
Ready-to-Use (RTU) Liquid

Application Options:
On-seed or in-furrow

Application Rate:
On-seed:
75 mL/27 kg (2.5 fl oz/ 60 lb or 2.1 fl oz/ 50 lb)
In-furrow:
250 mL/ac (at 12″ row spacing)

Package Size:
1 x 12.0 L or 405.76 fl oz/Case
4 x 3.0 L or 101.4 fl oz/Case

Case Treats:
12 L bag: 160 bu/4356 kg/9584 lb seed
3 L bag: 40 bu/1089 kg/2400 lb seed

On-Seed Life:
Up to 7 days
Please consult compatibility charts

Shelf Life:
1 year

Approved for organic use in Canada

What is XiteBio® PulseRhizo®?

XiteBio® PulseRhizo® for pea, lentil and faba bean is a premium liquid inoculant with Advanced Growth Promoting Technology (AGPT®) that delivers better plant vigor and higher yields.

XiteBio® PulseRhizo® helps farmers maximize the potential of their pea, lentil, and faba bean crops.

Recent field trials have found that when used properly our premium liquid inoculant is on average equal to or better than the granular competitors. But the benefits of our liquid inoculant go beyond yield. Our liquid inoculant is more cost effective than granular* and easier to handle and store. With no storage or hauling of large bags our premium liquid inoculant saves space and physical effort for farmers and retailers.

XiteBio® PulseRhizo® has been tested across the Canadian Prairies and Northern United States. Visit our website for more information on test locations and yield results.

*Pricing as of September 2023 against leading granular competitors.

Why use XiteBio® PulseRhizo®?

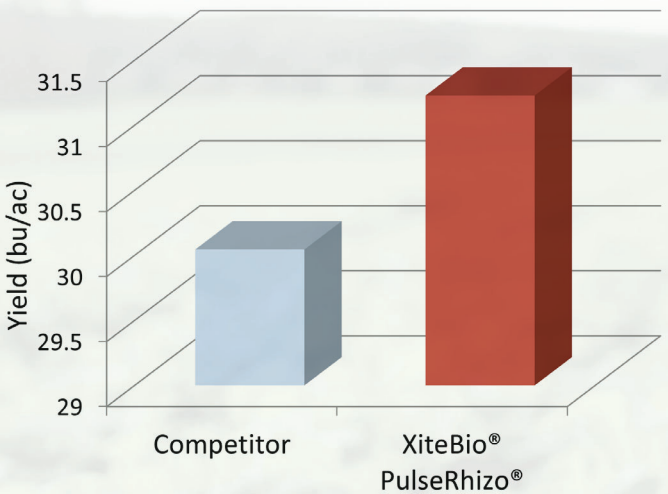
- Ready-to-Use liquid formulation
- No sticking or reduced bridging of seeds
- Invigorates native bacteria
- Works under different soil and environmental conditions
- Up to 7 days on seed
- Compatible with most seed treatments and some fertilizers*
  *Please consult compatibility charts

Handling directions

- Shake well before use
- Store in a cool dry place between 4°C and 25°C, away from high wind
- Do not allow product to freeze
- Open only when ready to use

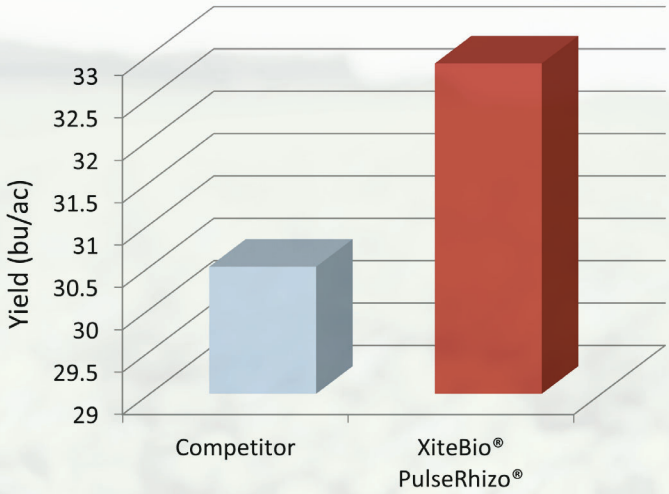
Effect of Inoculant on Lentils

+1.2 bu/ac



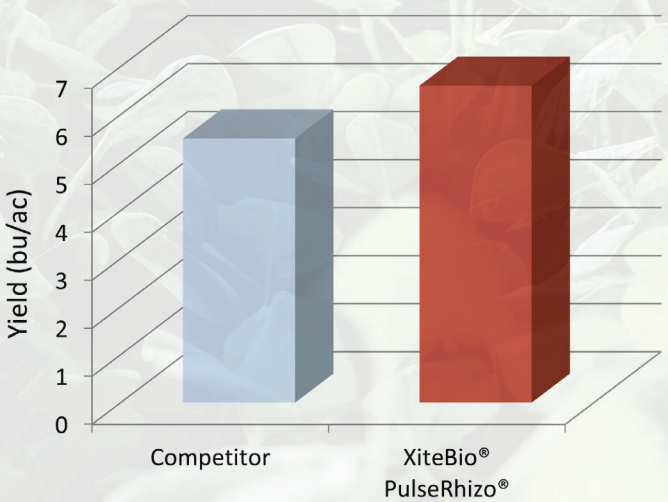
Source: 3rd Party Research; Hamman Ag Research; Small Plot Inc; SARDA.
Competitors: Nodulator® Duo granular, TagTeam® granular, Cell-Tech® etc. (20 Trials: 2015-2023)

+2.4 bu/ac



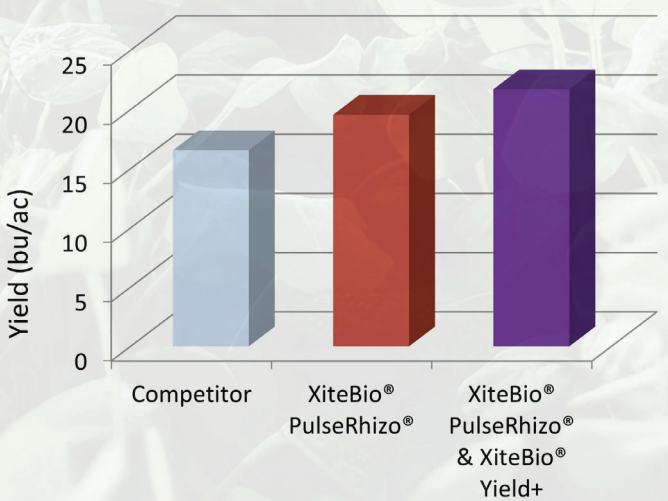
Source: 3rd Party Research, Strasboug, SK; 2020
Competitor: TagTeam® liquid and peat full rate.

+1 bu/ac



Source: Small Plot Inc., Vulcan, AB; 2023
Competitor: TagTeam® granular

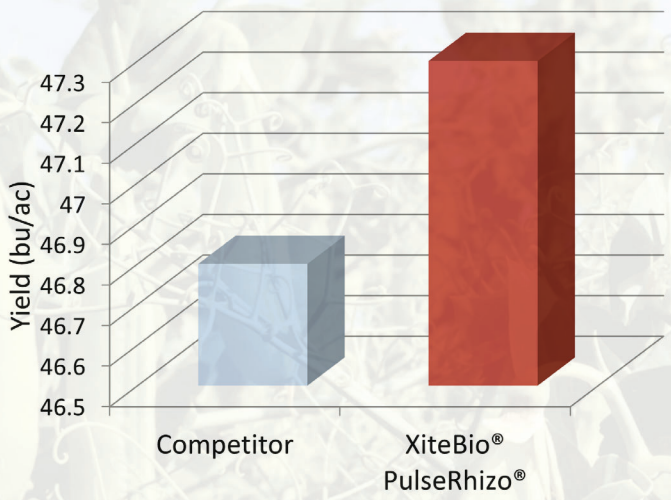
+3-5 bu/ac



Source: Synergy Ag, Govan, SK; 2021
Competitor: Lift Kit (N-Take, Accolade, Takeoff)

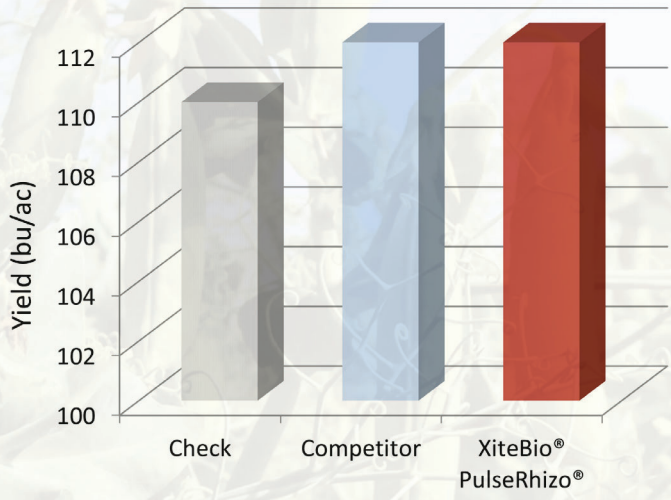
Effect of Inoculant on Peas

+0.5 bu/ac



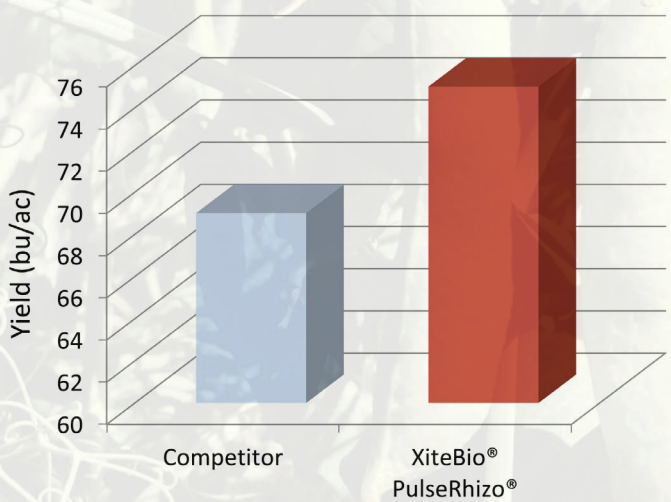
Source: 3rd Party Research; Montana State University; North Dakota State University; Hamman Ag Research; Small Plot Inc.
Competitors: Nodulator® Duo granular, TagTeam® granular, Agtiv® Rhizo etc. (40 Trials: 2015-2024)

+2 bu/ac



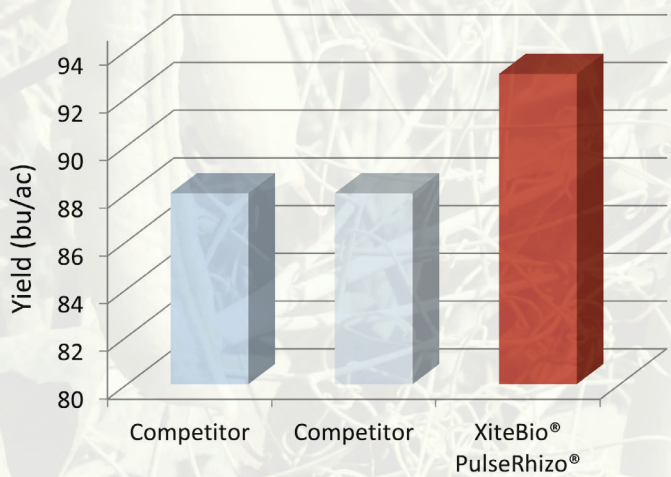
Source: SARDA, Debolt, AB; 2023
Competitor: TagTeam® granular

+6 bu/ac



Source: Hire Yield Ag Solutions, Arcola, SK; 2022
Competitor: Nodulator® Duo granular

+5 bu/ac



Source: Hamman Ag Research Inc. Lethbridge, AB; 2021
Competitors: Agtiv® Rhizo; TagTeam®

Seed Treatment Compatibility

Compatible Seed Treatment Product Choices	Pea, Lentil & Faba Bean On-Seed Planting Window	Compatible Seed Treatment Product Choices	Pea, Lentil & Faba Bean On-Seed Planting Window
Allegiance® FL	7 days	PreCede® Pulse	7 days
Apron® Advance	7 days	Rancona®	24 hours*
Apron Maxx® RFC	7 days	Rancona® Trio	24 hours*
Apron Maxx® RTA	7 days	Regent®	7 days
Crop Aid Seed	48 hours	Stress Shield® 600	24 hours*
Cruiser® 5FS	7 days	Sombrero™ 600 FS	24 hours*
Cruiser Maxx® Vibrance® Pulses	7 days	Trilex® AL	7 days
EverGol® Energy	7 days	Trilex® EverGol®	7 days
Inspire - Seed Starter	48 hours	Vibrance® Maxx	7 days
Insure® Pulse	24 hours*	Vibrance® XL	7 days
INTEGO® Solo	48 hours	Vibrance® Total	7 days
Lumnivia CPL™	48 hours	Vitaflo® 280	7 days
Obvious	7 days	Zeltera® Pulse	48 hours

Application Rate: 75 mL/27 kg (2.5 fl oz/bu if 1 bu = 60 lb, 2.1 fl oz/bu is 1 bu = 50 lb)
NOTE: PulseRhizo® may be applied with approved seed treatment products either simultaneously, sequentially, or in a tank mix (slurry). If a tank mix is used, the mixture must be applied to the seed immediately and only the amount that can be applied to the seed in an hour should be premixed.
*Treat and seed same day.

In-Furrow Tank-Mix Fertilizer Compatibility

Compatible In-Furrow Fertilizer Product Choices	Pea, Lentil & Faba Bean Tank-Mix Planting Window	Compatible In-Furrow Fertilizer Product Choices	Pea, Lentil & Faba Bean On-Seed Planting Window
Arise™	8 hours	Lignijoule™	8 hours
Alpine K24®	8 hours	NutriPak™	8 hours**
Kalibrate®	8 hours	XiteBio® Yield+	8 hours

**Fertilizer must be diluted with water to a ratio of 10:1 or greater

List last Updated: 25 March 2024

Please read product label carefully and follow application directions.
For more info and any updates: Visit www.xitebio.ca or call toll-free 1-855-XITEBIO (1-855-948-3246)

What is PGPR?

Plant Growth Promoting Rhizobacteria

PGPR (Plant Growth Promoting Rhizobacteria) are the class of beneficial soil bacteria in the root zone that colonize the roots and stimulate plant growth. The XiteBio® Yield+ line of products uses patented PGPR *Bacillus firmus.* The XiteBio® Yield+ line of products promotes plant growth and development resulting in more yield via the following modes of action:

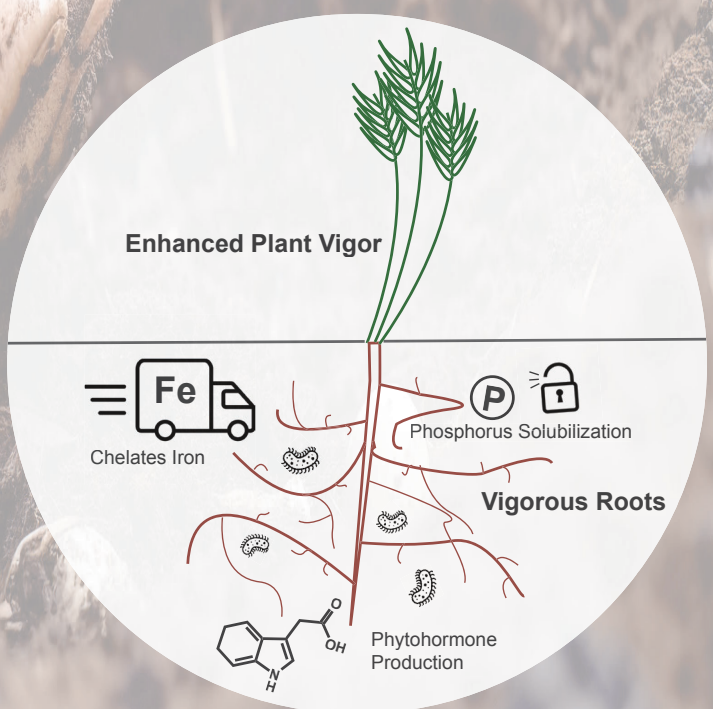
Phosphorus Solubilization
Adequate P (phosphorus) is critical to plant development, particularly early in the growing season. Not all P is accessible to plants as it can bind to minerals in the soil such as calcium, iron, and aluminum. The XiteBio® Yield+ line of products releases enzymes into the soil that unlocks P from these ions and makes it more available for plants.

Phytohormone Production
Just as they are for animals, hormones are important for healthy plant growth. The XiteBio® Yield+ line of products produces vital plant hormones such as IAA (indole-3-acteic acid) that encourage the root system to grow early, vigorously and seek out nutrients.

Iron Chelation
Iron (Fe) is a critical component of many plant functions such as chlorophyll production. Not all Fe in the soil is accessible to plants since it is in the unavailable form. XiteBio® Yield+ produces siderophores, which are molecules that chelate (bind to) Fe and make it more available to plants.

Available in XiteBio® Yield+ line of products.

Soybean - Dauphin, MB; 2023



The 5 Ws of P-Solubilization

What?

Plant Growth Promoting Rhizobacteria (PGPR) are bacteria that live in the root zone (rhizosphere) that can enhance plant growth.

XiteBio's Phosphorus (P)-solubilizing technology is based on a patented strain of PGPR called *Bacillus firmus*. This technology concentrates naturally occurring bacteria that have been selected for their ability to solubilize P.

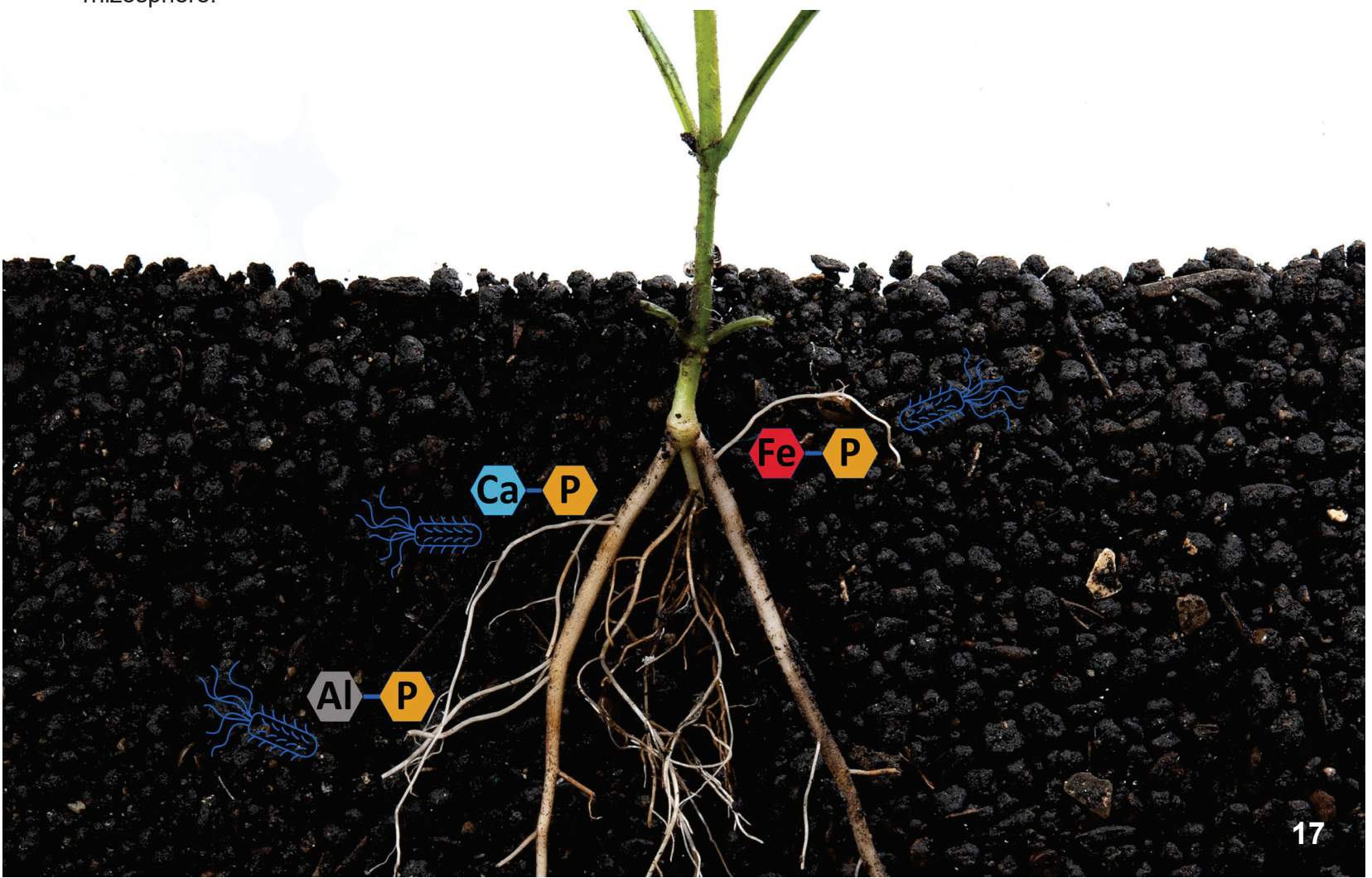
Phosphorus can become chemically unavailable in the soil binding to ions of Iron (Fe) in low pH soils (<4.5), Aluminium (Al) in medium pH soils (4.5-5.5), and Calcium (Ca) in higher pH soils (>5.5).

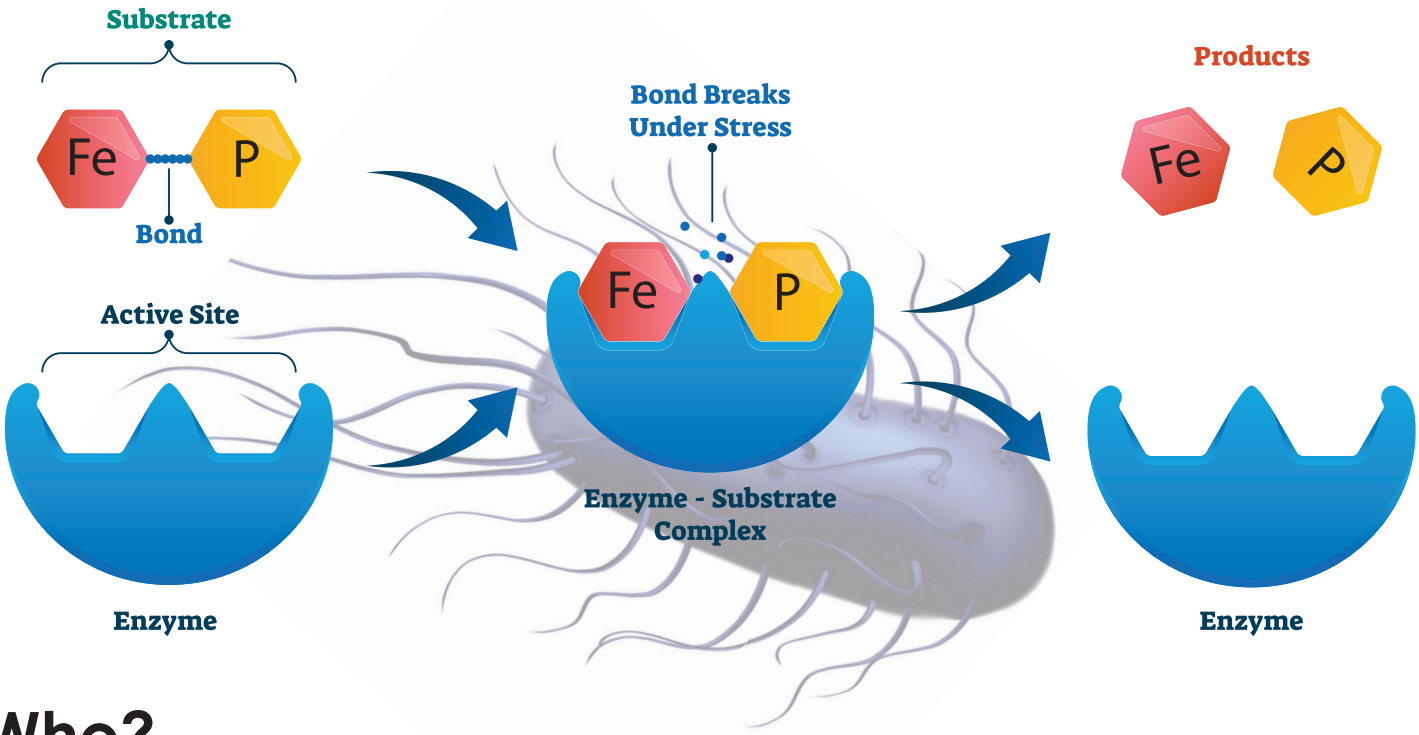
P-solubilizing PGPR's are applied near the root zone (rhizosphere) in much higher concentrations than they are found naturally. They then establish colonies and help to free P for uptake by the plant.

Where?

P-solubilizing microbes operate in the rhizosphere. The rhizosphere is also known as the root zone defined as the area within 4 mm (1/8 inch) around plant roots.

Once the P-solubilizing microbes have reached the ground they travel through micropores in the soil through a process called chemotaxis. The bacteria use signals exuded by the plant's roots to travel towards the rhizosphere. The carbon deposits that come from the roots of the plants have been seen to indirectly increase P availability by stimulating the P-solubilizing micro-organisms to release more phosphatase (the P-solubilizing enzyme) into the rhizosphere.





Who?

P-solubilizing bacteria produce natural enzymes that affect soil pH and break the bonds connecting the Fe, Al and Ca to the P. These enzymes are called phosphatase enzymes. They are produced by bacteria, fungi, and plant roots and their function is to break phosphate away from its substrates transforming unavailable forms of P into plant available forms of P.

The above schematic diagram is showing how a phosphatase enzyme works. As the substrate of P bonded with Fe enters the active site of the enzyme it breaks the bond between the P and the Fe. Once the bond is broken the now solubilized (free) P is available for uptake by the plant.

When?

We recommend applying our XiteBio® Yield+ P-solubilizing line of products in-furrow or in the 0-6 leaf stage through the sprayer. Because PGPR products colonize the rhizosphere (root zone) they need to reach the soil near the plant to be effective.

The best results from ag-biological products often come when they are applied early and paired with an existing practice. Because of this a good PGPR technology needs to be compatible with products that are already used by the farmer. When PGPR is timed with an existing application of herbicide or fertilizer it does not necessitate extra passes through the field. This saves time, money (fuel, wear-and-tear on the equipment) and compaction. Our Xitebio® Yield+ line of products has advanced compatibility both in-furrow and through the sprayer. See our compatibility charts for more details.

Why?

The world has never produced more food through agriculture than it does today. Phosphorus fertilizer plays an important role in increasing agricultural output, however, its finite source, dwindling supplies, and overall environmental impact have begun the conversation on how to manage this resource more efficiently.

P-solubilizers like the XiteBio® Yield+ line of products have been shown in trials to increase yields while simultaneously allowing for more efficient use of P fertilizer. Using the XiteBio® Yield+ line of products means farmers do not have to choose between sustainability and profitability.

Early-Post PGPR Application vs. Foliar Application

What is the difference between a foliar application and an early-post (post-emergence) Plant Growth Promoting Rhizobacteria (PGPR) application? Essentially one works on a plant's leaves while the other works on a plant's roots. To get the best ROI out of your ag-biological products it is important to understand how they work so you can apply them in the most beneficial way.

Ag-biological products often work in one of two ways when applied through the sprayer. They can be absorbed through the plant's leaves which is called a foliar application, or they become active in the plant's rhizosphere (root zone). These rhizobacteria are often referred to as PGPR (1).

Understanding the differences between these two products and how they work can help farmers to time their applications correctly and get the most out of their crop inputs.

Foliar inputs face two main challenges: retention and penetration (2). Retention means the applied input needs to stay on the leaf instead of sliding off. Penetration means the applied input needs to penetrate the leaf's surface to enter the plant and be effective. An effective foliar application needs to stay on the plant's leaf long enough to penetrate the surface.

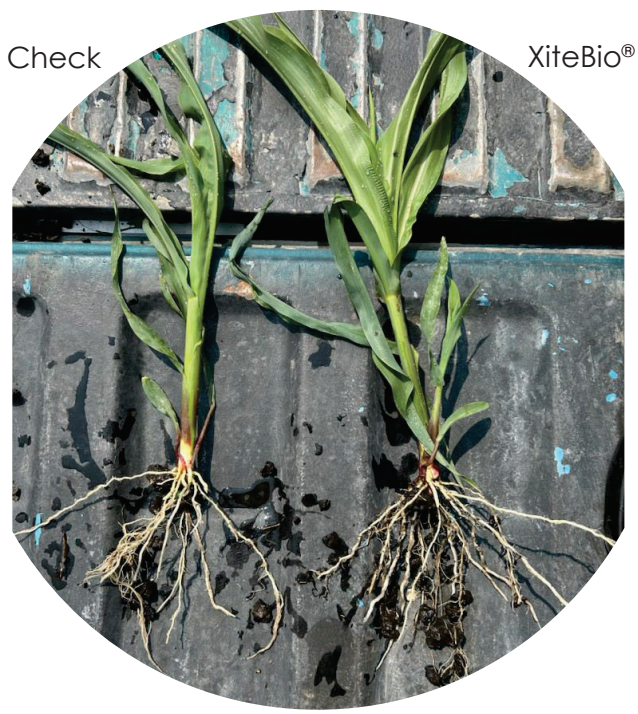
PGPR technology by contrast only faces one challenge. It needs to be applied in a way that it touches the soil near the base of the plant.

Once PGPR have reached the ground they travel through micropores in the soil through a process called chemotaxis. Chemotaxis is driven by the movement of the bacteria's flagella to create a 3-dimensional walk biased by signals exuded by the plant roots (3).

To explain that last sentence in layman's terms: Some bacteria have little tails known as flagella. They wave these tails around to travel. While they don't always travel in straight lines, they are able, in a meandering way, to travel in a certain direction. Since bacteria are motivated by external stimuli, they tend to move towards chemical signals (root exudates or sloughed off tissues, basically the substrates or bacterial food) produced by the plant roots in the rhizosphere.

Because PGPR need to reach the soil to be effective it is important to time their application correctly. We recommend that our XiteBio® Yield+ line of products (our P-solubilizing PGPR) be applied in the 0-6 leaf stage. However, this can vary depending on the crop.

Contact your local XiteBio sales representative for more information specific to PGPR application timing on your crop.



Corn - Altona, MB; 2023

References:
https://microbiologyjournal.org/plant-growth-promoting-rhizobacteria-pgpr-prospective-and-mechanisms-a-review/
https://biologicalslatam.com/en/issue-02/keys-to-the-effective-foliar-application-of-biostimulants/
https://www.frontiersin.org/articles/10.3389/fpls.2021.725338/full

XiteBio® Yield+ with PGPR

Active Ingredient:
Minimum of 1 x 10^8
Bacillus firmus CFU per mL

Modes of Action:
- Phosphorus (P) Solubilization
- Phytohormone Production
- Iron (Fe) Chelation

Formulation:
Ready-to-Use (RTU) Liquid

Application Options:
- In-furrow (at planting)
- Early post-emergence (at 0-6 leaf stage)

Tank-Mix Compatible:
Yes
Please consult compatibility charts

Package Size:
10 L or 338.1 fl oz/Case

Case Treats:
40 - 65 acres*
*depending on row spacing

Application Rate:
0.25 L/ac (post-emergent or in-furrow)

Shelf Life:
2 Year

Approved for organic use in Canada

Why is XiteBio® Yield+ revolutionary?

1. Solubilizes soil-bound P (phosphorus) into forms plants can uptake, increasing plant available P
2. Produces and releases phytohormones, encouraging early root growth and development
3. Produces Iron (Fe) chelating siderophores, increasing iron availability for plant uptake

Why use XiteBio® Yield+?

- Enhanced root development and plant vigor
- Improved P availability encourages earlier flowering
- Easy-to-use, all-in-one 10 L package treats 40-65 acres depending on row spacing
- Compatible with most herbicides and starter fertilizers
- In-furrow or early post-emergent application
- No extra passes needed
- Tank mixable
- Extended shelf life over 2 cropping seasons

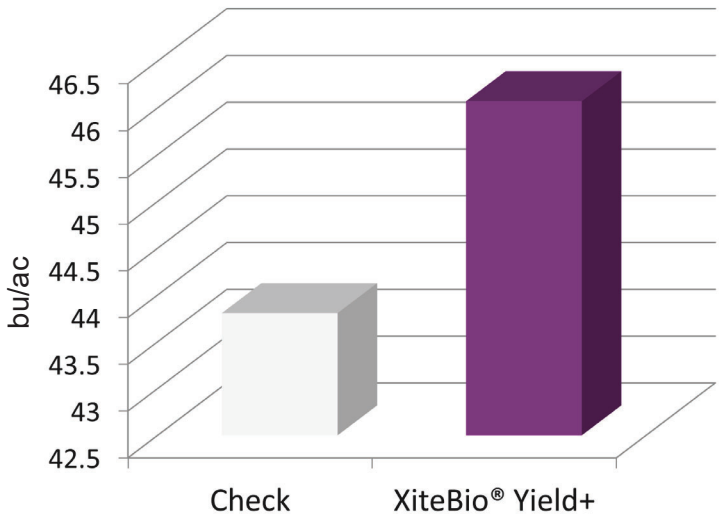
Handling directions

- Shake well before use
- Store in a cool dry place between 4°C and 25°C, away from high wind
- Do not allow product to freeze
- Open only when ready to use

About *Bacillus firmus*

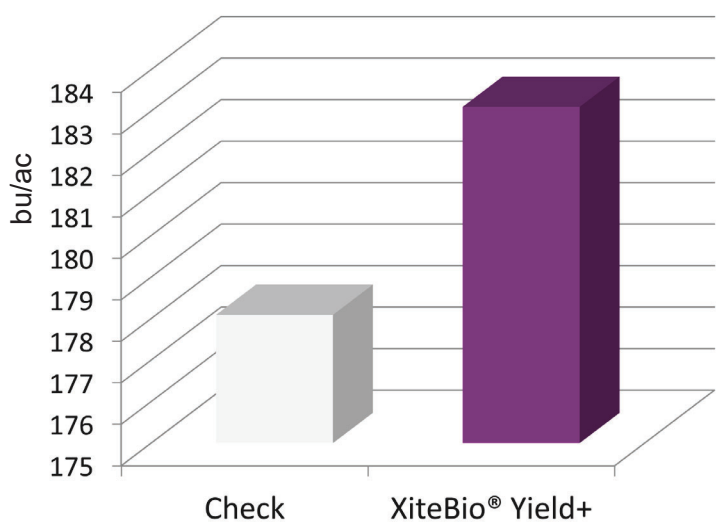
Bacillus firmus (B. firmus) is a competitive and resilient bacteria. It has a high stress tolerance and is able to persist through unfavorable environmental conditions. *B. firmus* is a spore forming bacteria, meaning when it becomes stressed it produces spores that will persist in the soil if it is unable to survive. The spores remain in the soil until conditions become more convenient, which then leads to the sporulation/regeneration of the bacteria.

Canola +2.6 bu/ac



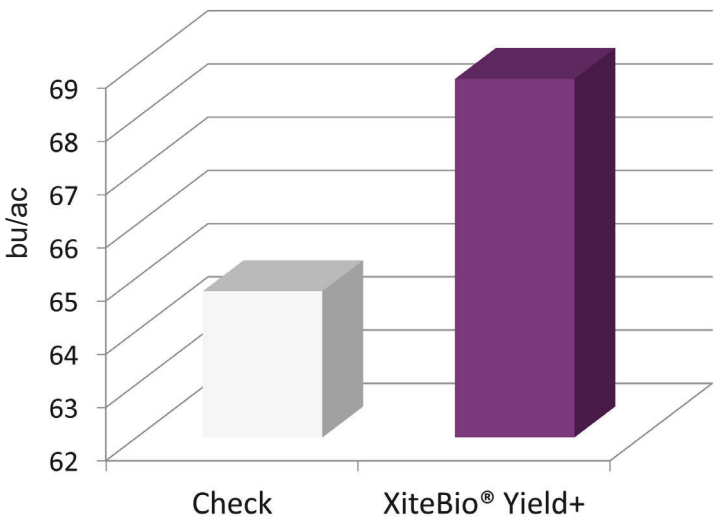
Source: 3rd Party Research Trials; Ag-prove Trials; 3rd Party Trials; Double Diamond Farm Supply; New Era Technologies Inc. (60 Trials: 2012-2024)

Corn +5.4 bu/ac



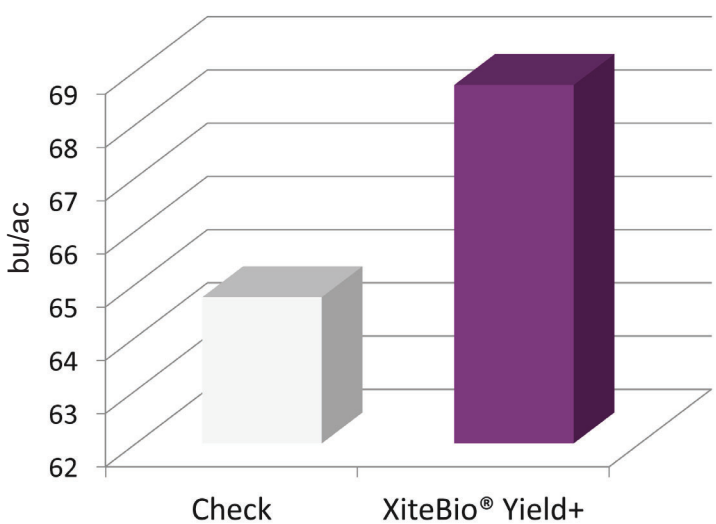
Source: 3rd Party Research Trials; Ohio State University; University of Illinois; University of Wisconsin; 3rd Party Trials; Sample Agri; GJ Chemical (55 Trials: 2012-2023)

Wheat +4.5 bu/ac



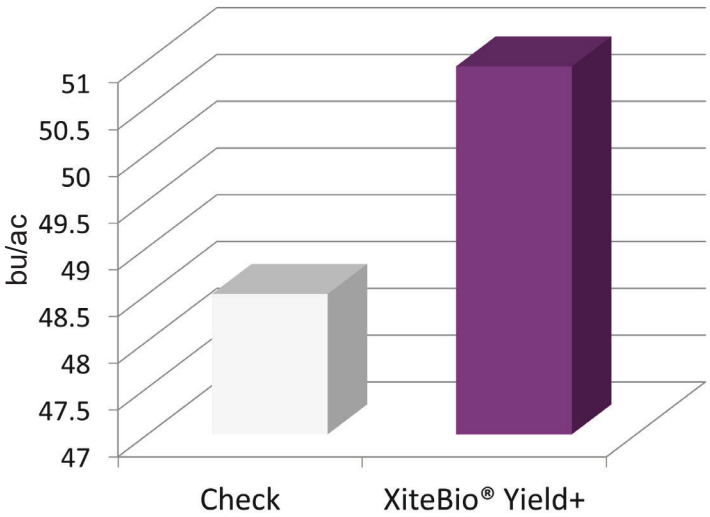
Source: 3rd Party Research Trials; Ag-prove Trials; 3rd Party Trials; Double Diamond Farm Supply; New Era Technologies Inc. (16 Trials: 201-2025)

Barley +7.9 bu/ac



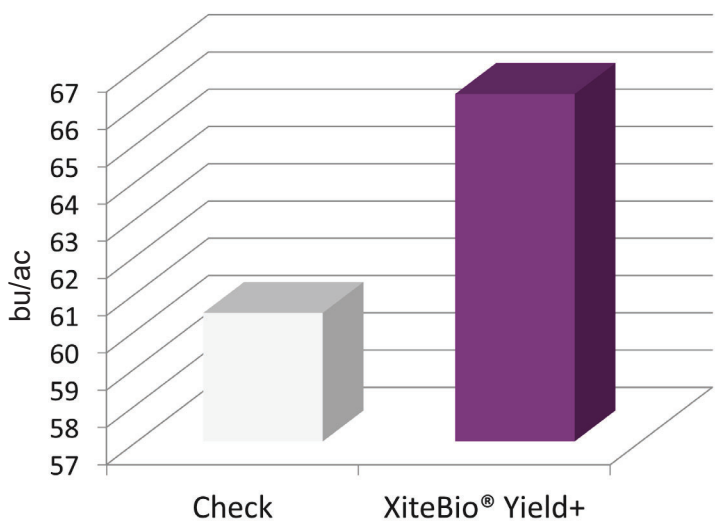
Source: 3rd Party Trials (2016-2018)

Soybean +2.3 bu/ac



Source: 3rd Party Research Trials; University of Missouri; Kent Ag Research; 3rd Party Trials; New Era Technologies Inc. (20 Trials, 2016-2023)

Peas +6 bu/ac



Source: 3rd Party Research Trial; 3rd Party Trials; New Era Technologies Inc. (2016-2023)

In-Furrow Tank-Mix Compatibility

Compatible In-Furrow Fertilizer Products	Tank-Mix Application Window	Compatible In-Furrow Fertilizer Products	Tank-Mix Application Window
6-24-6	8 hours	iQ Phos	8 hours
10-34-0	8 hours	KQ2517™	8 hours
15-0-0-20	8 hours	KQ-XRN™	8 hours
15-0-0-20 + 28-0-0	8 hours	KS1022	8 hours
28-0-0	8 hours	KS1410	8 hours
Active BUILD™	8 hours	KS2075	8 hours
Agriflora™	8 hours	LigniJoule®	8 hours
Alpine Bio20™	8 hours	LS624	8 hours
Alpine Bio22 Micro	8 hours	LS924	8 hours
Alpine G22®	8 hours	ManZinPhos™	8 hours
Alpine HKW18®	8 hours	Nachurs® Bio-K®	8 hours
Alpine K24®	8 hours	Nachurs® Triple Option®	8 hours
Alpine MicroBolt B®	8 hours	Pro-Germinator®	8 hours
Alpine MicroBolt Mn®	8 hours	TNT Starter	8 hours
Alpine MicroBolt Zn®	8 hours	Sunalta Boron	8 hours
Bio-Forge®	8 hours	XiteBio® PulseRhizo®	8 hours
CHS Aventine™ Complete	8 hours	XiteBio® SoyRhizo®	8 hours

Early-Post Tank-Mix Compatibility

Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window	Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window
2,4-D Ester 700	8 hours	Headline®	8 hours
AAtrex® Liquid 480	8 hours	Liberty®	8 hours
Ares®	8 hours	Odyssey®	8 hours
Armezon®	8 hours	Pounce®	8 hours
Axial® + Infinity®	8 hours	Primextra®	8 hours
Boundary®	8 hours	Prowl® H20	8 hours
Broadstrike™	8 hours	Roundup®	8 hours
Buctril® M	8 hours	Sencor®	8 hours
Callisto®	8 hours	Sierra®	8 hours
Classic® Grande + Glyphosate	8 hours	Solo® WDG	8 hours
Centurion® + Amigo® + Liberty®	8 hours	Talinor®	8 hours
Curtail® M	8 hours	Traxos®	8 hours
Factor® 540	8 hours	Viper® ADV	8 hours
Frontier® Max	8 hours	XtendiMax®	8 hours
Halex® GT	8 hours		

List last Updated: 30 May, 2023

Please read product label carefully and follow application directions.
For more info and any updates: Visit www.xitebio.ca or call toll-free 1-855-XITEBIO (1-855-948-3246)

True Biologicals vs So-Called Biologicals

The term “biologicals” is used as an umbrella term to describe “true biologicals and so-called biologicals”, and this has led to lots of confusion in agriculture that we would like to clarify here. Their modes of action, storage requirements, and handling processes vary significantly. Often, the term “biologicals” is used broadly to describe any nature-based technology used in crop management. However, it's important to draw a line between the two categories for clarity.

What are True Biologicals?

True biologicals are living organisms, which can include insects, bacteria, or fungi, and are used to stimulate, protect, or enhance plant growth. These organisms are directly applied to crops and either form symbiotic relationships with the plants, remain active in the rhizosphere, or live in the soil. True biologicals can include soil bacteria-based inoculants that work through various mechanisms. These can involve symbiotic relationships where microorganisms fix nitrogen from the atmosphere, produce phytohormones that stimulate plant growth, solubilize nutrients into forms usable by plants, create compounds that help plants resist pathogens, and improve soil structure and water retention capacity. True Biologicals are considered superior for crops, because they are considered more natural, and target soil health more closely. True biologicals also include beneficial insects, like those in the BioBest Group’s line of biocontrol products, which help to mitigate pests. Another example of a true biological is XiteBio® SoyRhizo® inoculant that contain Bradyrhizobium.

What Are So-Called Biologicals?

The term “biologicals” is sometimes also used to describe products that are derived from or mimic natural compounds, yet they are not alive. These include plant growth regulators (PGRs), biocontrol products, and biostimulants. While these products are nature-derived, they do not contain living organisms. Examples include Bio-Forge Premier™ by Corteva, Ibisio® by Bayer, and Brexil® products by Syngenta, among others.

Are Handling and Storage Different?

Yes, handling and storage differ for “true biologicals” compared to metabolites or PGRs. Since true biologicals are living organisms, they require more careful handling and often have a shorter shelf life. They may have specific storage needs to maintain their viability. When applying true biologicals, it's important to follow specific guidelines to ensure the organisms remain active. Once applied, true biologicals continue to function in the soil or through their symbiotic relationships with the crop throughout the growing season.

XiteBio’®s Biologicals

It’s all we do; XiteBio®’s biologicals are all true biologicals because they always contain living bacteria.

Key Takeaway

Although both nature-derived products and living organisms are referred to as “biologicals,” they are distinct categories. Each has its own unique mode of action, storage needs, and handling requirements, true biologicals may have more careful handling, but they are a better soil booster. Before deciding on using biologicals be aware of the two distinct categories.

XiteBio® OptiPlus® with AGPT® and PGPR

Active Ingredients:
Minimum of 1 x 10^8
Bacillus firmus CFU per mL

Minimum of 2 x 10^9
Bradyrhizobium japonicum CFU per mL

Modes of Action:
- Nitrogen (N) Fixation
- Phosphorus (P) Solubilization
- Phytohormone Production
- Iron (Fe) Chelation

Formulations:
Ready-to-Use (RTU) Liquids

Application Options:
In-furrow (at planting)

Tank-Mix Compatible:
Yes
Please consult compatibility chart

Package Size:
22.6 L or 764 fl oz/Case

Case Treats:
Variable acres depending on row spacing and/ or previous history of soybeans on field. Consult label for full details.

Application Rate:
Variable rate depending on row spacing and/ or previous history of soybeans on field. Consult label for full details.

Shelf Life:
1 Year

Approved for organic use in Canada

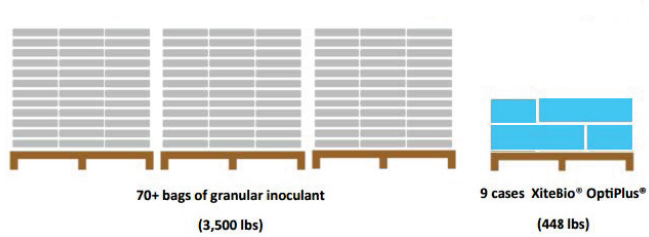
Why you should use XiteBio® OptiPlus®?

- N-fixing dual inoculant
- Unlocks tied up nutrients
- Cost effective vs. dry granular inoculant
- No air tank bridging, no dust
- No plugged equipment
- Easy and uniform in-furrow application
- Quick and simple inoculant refill
- Use your preferred liquid starter fertilizers
- Agronomic performance equal to or better than granular inoculants expected by 3-6%

Handling directions

- Shake well before use
- Store in a cool dry place between 4°C and 25°C, away from high wind
- Do not allow product to freeze
- Open only when ready to use

Product needed to treat 800 acres of soybeans at 12" row spacing:

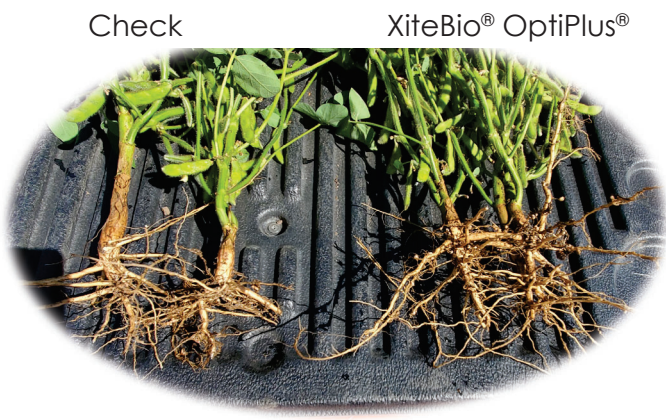


XiteBio® OptiPlus® with AGPT® and PGPR

XiteBio® OptiPlus® saves you time and money. This product is for soybean growers that want to take their yields to the next level. We have combined our AGPT® and PGPR technology into one easy to use liquid co-pack. XiteBio® OptiPlus® contains an N-fixing inoculant and a P-solubilizing biological.

Our liquid formulation saves retailers and growers space over the granular competitor. This means less shipping and warehousing costs. XiteBio® OptiPlus® uses cutting edge ag-biological technology to reduce inputs while delivering healthier plants and better yields.

"There's a product called OptiPlus® from XiteBio that we've been using for about four years now ... We've got quite a few clients who are using it with their soybeans and are VERY happy with the results."
- Chris Tuchsherer, Owner Optimum Ag Solutions



New Lepzig, ND; 2021

In-Furrow Tank-Mix Fertilizer Compatibility

Compatible In-Furrow Fertilizer Product Choices	Tank-Mix Planting Window	Compatible In-Furrow Fertilizer Product Choices	Tank-Mix Planting Window
3-18-18	8 hours	KS 1410	8 hours
10-34-0	8 hours	Lignijoule™	8 hours
Alpine Bio20™	8 hours	LS 624	8 hours
Alpine G22®	8 hours	Nachurs® 3-18-18	8 hours
Alpine K24®	8 hours	Nachurs® Triple Option®	8 hours
Alpine Microbolt Mn®	8 hours	Nexus Zinc 9% EDTA	8 hours
Alpine Microbolt Zn®	8 hours	NutriPak™	8 hours
Arise™	8 hours	Pro-Germinator®	8 hours
CHS Aventine™ Complete	8 hours	Soygreen® - Low Rate	6 hours
KS 1022	8 hours	Soygreen® - High Rate	—

List last Updated: 30 May, 2023

Please read product label carefully and follow application directions.
For more info and any updates: Visit www.xitebio.ca or call toll-free 1-855-XITEBIO (1-855-948-3246)

XiteBio® Tuber+ with PGPR

Active Ingredient:
Minimum of 1 x 10^8
Bacillus firmus CFU per mL

Modes of Action:
- Phosphorus (P) Solubilization
- Phytohormone Production
- Iron (Fe) Chelation

Formulation:
Ready-to-Use (RTU) Liquid

Application Options:
- In-furrow (at planting)
- Early post-emergence (at 0-6 leaf stage)

Tank-Mix Compatible:
Yes
Please consult compatibility charts

Package Size:
10 L or 338.1 fl oz/Case

Case Treats:
40 - 65 acres*
*depending on row spacing

Application Rate:
0.25 L/ac (post-emergent or in-furrow)

Shelf Life:
2 Year

Approved for organic use in Canada

Ag-Biological for Tuber Crops

- Phosphorus (P) solubilizer
- Phytohormone production
- Iron (Fe) Chelation

3 in 1

About XiteBio® Tuber+

- Patented *Bacillus firmus*
- Proven microbial technology
- All-in-one liquid formulation
- 10 L bag in a box packaging
- Treats up to 65 acres*

*Depending on row spacing

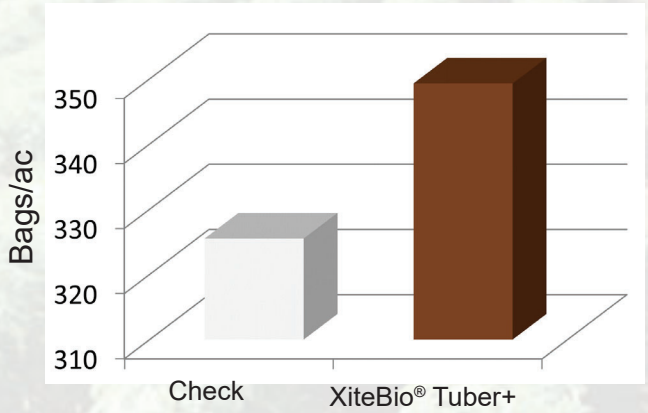
Why use XiteBio® Tuber+?

- Unique patented strain of *Bacillus firmus* vigorously colonizes plant roots and solubilizes soil-bound P for increased plant uptake.
- In-furrow application can be used with water or with select liquid starter fertilizers.
  Consult label & compatibility charts for further details
- Convenient early-post application: tank mix with many post-emergent herbicides at 0-6 leaf stage.

Handling directions

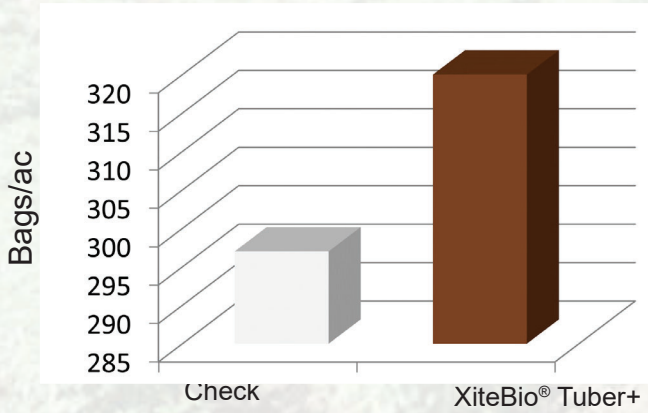
- Shake well before use
- Store in a cool dry place between 4°C and 25°C, away from high wind
- Do not allow product to freeze
- Open only when ready to use

Potatoes +23.5 bags/ac



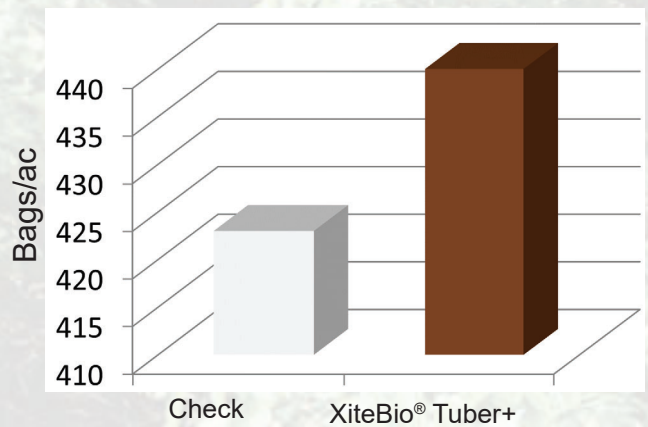
Source: Gaia Consulting, Roland, MB; 2023

Potatoes +23 bags/ac



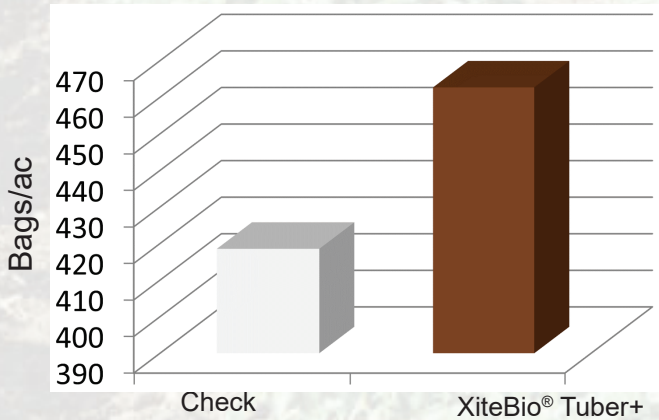
Source: synAgri, Sainte-Croix, QC; 2023

Potatoes +17 bags/ac



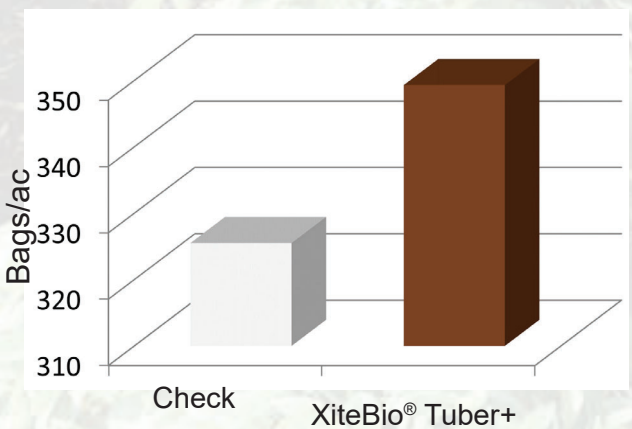
Source: McCain Foods, Shilo, MB; 2022

Potatoes +44 bags/ac



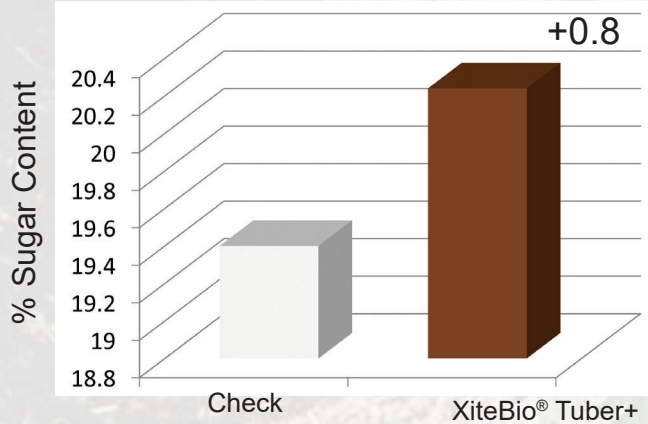
Source: 3rd Party Trial, Plover, WI; 2022

Potatoes +14 bags/ac



Source: Gaia Consulting, Southport, MB; 2023

Sugarbeet +0.8% SC



Source: 3rd Party Trial, Moorhead, MN; 2020

XiteBio® Tuber+ trials on sugar beets in 2023 showed an increase in extractable sugar and a decrease in molasses loss.

Source: Lantic Sugar, Taber, AB; 2023

"In this study carried out in Manitoba in 2022 Tuber+ applications increased potato stem number and tuber number regardless of when or how it was applied. Past research has clearly shown that as stem number increases so does tuber number. Treatments all produced higher yield than the grower standard."
- Gaia Consulting Ltd.; 2022

In-Furrow Tank-Mix Compatibility

Compatible In-Furrow Fertilizer Products	Tank-Mix Application Window	Compatible In-Furrow Fertilizer Products	Tank-Mix Application Window
6-24-6	8 hours	iQ Phos	8 hours
10-34-0	8 hours	KQ2517™	8 hours
15-0-0-20	8 hours	KQ-XRN™	8 hours
15-0-0-20 + 28-0-0	8 hours	KS1022	8 hours
28-0-0	8 hours	KS1410	8 hours
Active BUILD™	8 hours	KS2075	8 hours
Agriflora™	8 hours	LigniJoule®	8 hours
Alpine Bio20™	8 hours	LS624	8 hours
Alpine Bio22 Micro	8 hours	LS924	8 hours
Alpine G22®	8 hours	ManZinPhos™	8 hours
Alpine HKW18®	8 hours	Nachurs® Bio-K®	8 hours
Alpine K24®	8 hours	Nachurs® Triple Option®	8 hours
Alpine MicroBolt B®	8 hours	Pro-Germinator®	8 hours
Alpine MicroBolt Mn®	8 hours	TNT Starter	8 hours
Alpine MicroBolt Zn®	8 hours	Sunalta Boron	8 hours
Bio-Forge®	8 hours	CHS Aventine™ Complete	8 hours
		Velum Prime	8 hours

Early-Post Tank-Mix Compatibility

Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window	Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window
Clethodim	8 Hours	Mutribuzin	8 Hours
Diaquat	8 Hours	Poast® Ultra	8 Hours
Focus®	8 Hours	Reglone® Ion	8 Hours
Frontier Max®	8 Hours	Sencor®	8 Hours
Glyphosate	8 Hours	Ziuda® SC	8 Hours

Compatible Early-Post Fungicide/ Pesticide Product Choices	Tank-Mix Application Window	Compatible Early-Post Fungicide/ Pesticide Product Choices	Tank-Mix Application Window
Elatus®	8 Hours	Serenade®	8 Hours
Pounce®	8 Hours	Serenade® OPTI	8 Hours
		Serenade® Soil	8 Hours

List last Updated: 26 February, 2025

Please read product label carefully and follow application directions.
For more info and any updates: Visit www.xitebio.ca or call toll-free 1-855-XITEBIO (1-855-948-3246)

XiteBio® Vegi+

For Vegetable Crops

Active Ingredient:
Bacillus firmus
Minimum of $1x10^8$ *CFU per mL*

Formulation:
Ready-To-Use (RTU) Liquid
10 L/Case

Application Rate:
250 mL/ac (may vary with row spacing)

Application Method:
In-furrow
Early-post (0-6 leaf)

Compatibility:
Compatible with starter fertilizers*
Compatible with pesticides*
*See compatibility chart

Organic:
Certified organic in Canada

What is it?

XiteBio® Vegi+ is a unique ag-biological that uses a patented strain of *Bacillus firmus.* This bacteria vigorously colonizes plant roots and solubilizes soil bound phosphorus (P) for increased plant uptake.

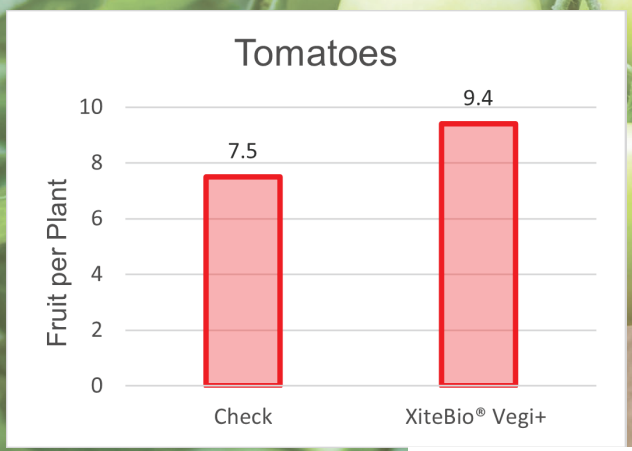
This unique bacteria also produces phytohormones which stimulate earlier initiation of roots and their development. Allowing the plant to have more access to soil nutrients, air and water.

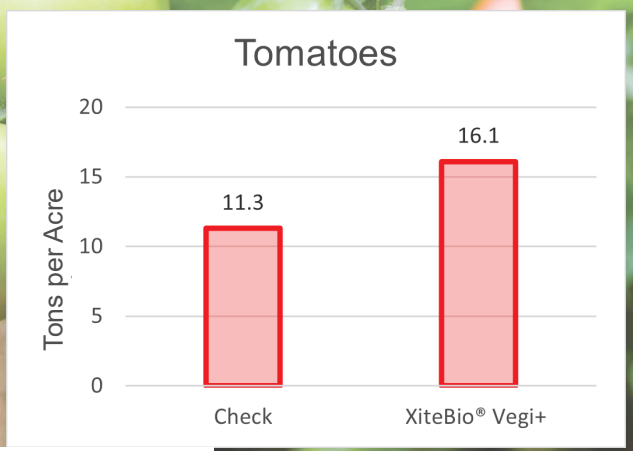
These modes of action have been observed to increase the number of fruits per plant, the number of marketable vegetables and overall yield.

Crops

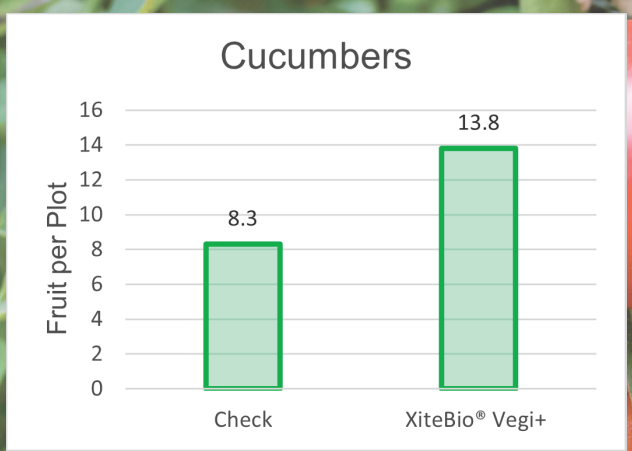
- Tomatoes
- Peppers
- Cauliflower
- Onions
- Cucumbers
- Carrots
- Navy Beans

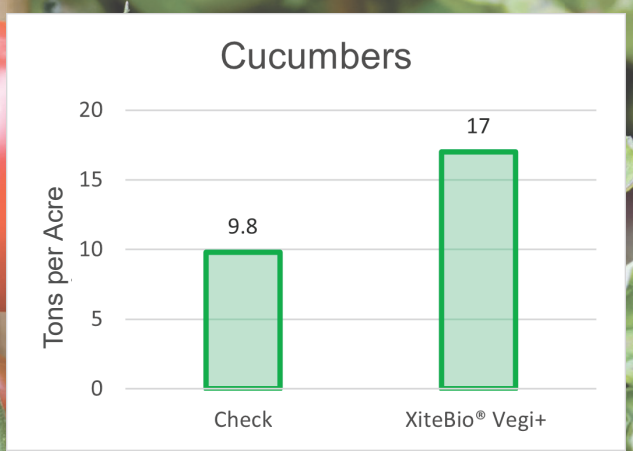
Effect of XiteBio® Vegi+
Greenhouse Tomatoes, Cucumbers & Peppers



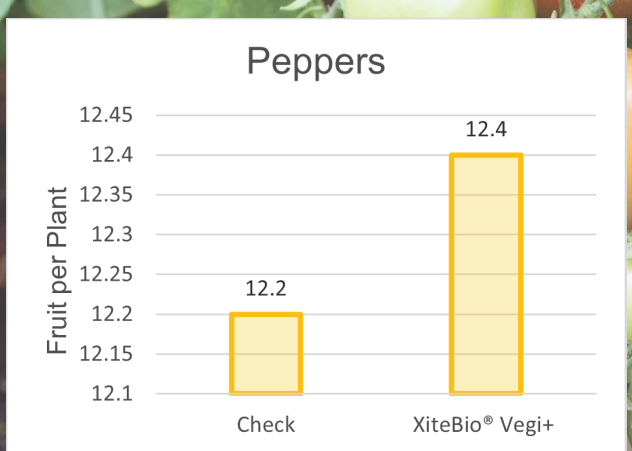


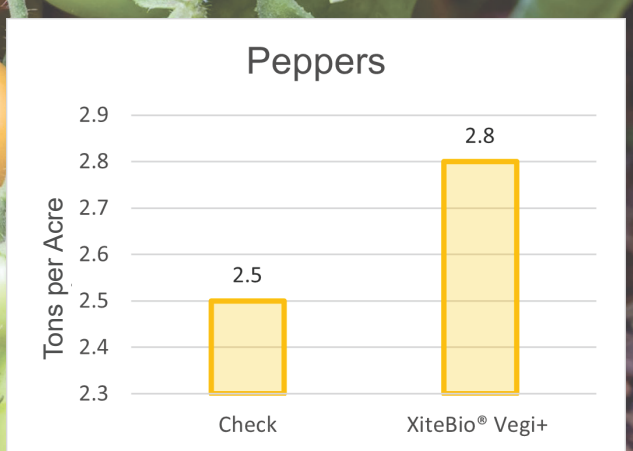
Variety: Early Girl
Application method: Drench at planting
Plot size used: 1m²





Variety: Straight 8s
Application method: Drench at planting
Plot size used: 1m²

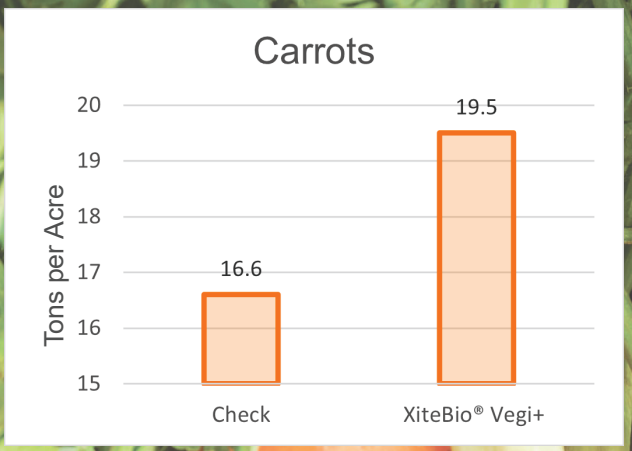




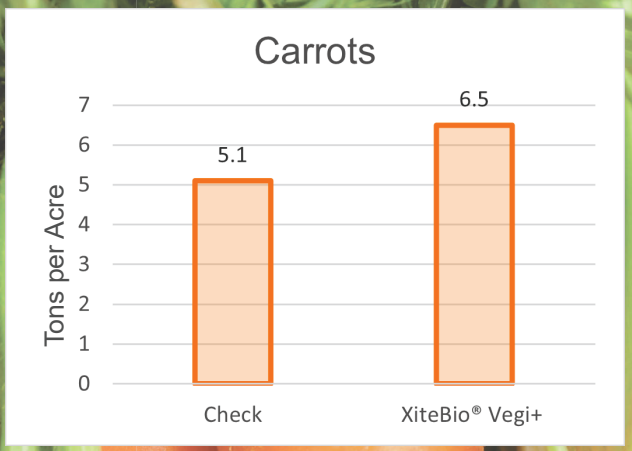
Variety: Banana Peppers
Application method: Drench at planting
Plot size used: 1m²

Source: FarmForest Research Inc., Westport, ON; 2020

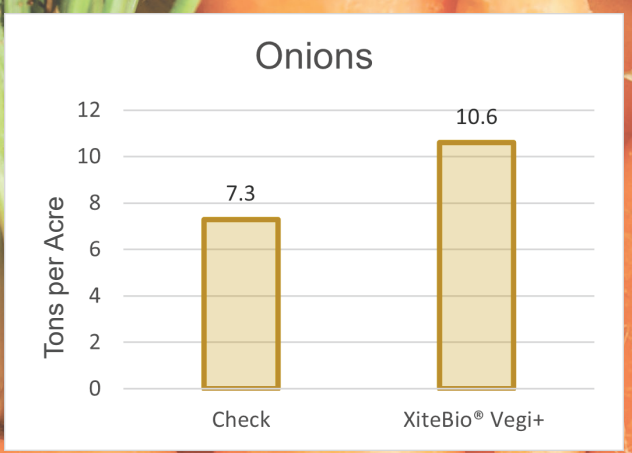
Effect of XiteBio® Vegi+ on Field Vegetables



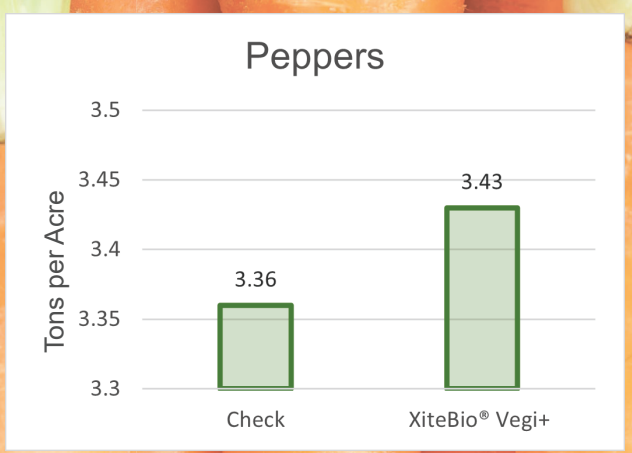
Plot size used: 6m²
Source: FarmForest Research Inc., Braeside, ON; 2021



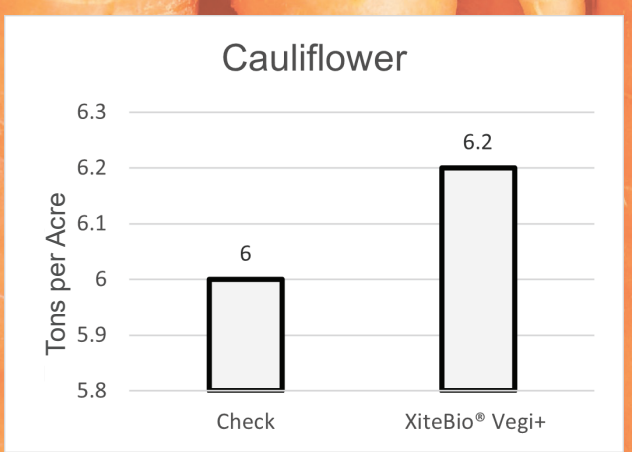
Plot size used: 3m²
Source: FarmForest Research Inc., Almonte, ON; 2020



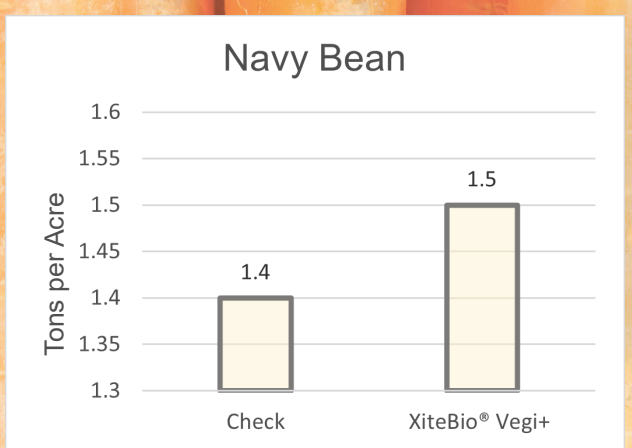
Plot size used: 6m²
Source: FarmForest Research Inc., Braeside, ON; 2021



Plot size used: 9m²
Source: BlackCreek Research, Bright, ON; 2021



Plot size used: 9m²
Source: BlackCreek Research, Bright, ON; 2021



Plot size used: 9m²
Source: BlackCreek Research, Bright, ON; 2020

XiteBio®Vegi+ for your Garden

This new P-solubilizing ag-biological is designed specifically for your home and/or kitchen gardens. With an aseptic pouch that contains premium vegetable inoculant and an easy-to-use spray bottle, all a gardener needs to do is pour their inoculant packet into the spray bottle, add water, shake, and spray. We look forward to seeing this unique PGPR technology used widely in your greenhouses or home gardens to reach their real potential.

In-Furrow Tank-Mix Compatibility

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Bio-Forge®	8 Hours	TNT Starter	8 hours
CHS Aventine™ Complete	8 Hours	Sunalta Boron	8 hours

Early-Post Tank-Mix Compatibility

Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window	Compatible Early-Post Herbicide/Pesticide Product Choices	Tank-Mix Application Window
2,4-D Ester 700	8 hours	Liberty®	8 hours
Buctril® M	8 hours	Odyssey®	8 hours
Callisto®	8 hours	Pounce®	8 Hours
Centurion® + Amigo® + Liberty®	8 hours	Prowl® H20	8 Hours
Factor® 540	8 hours	Roundup®	8 hours
Frontier ®Max	8 hours	Sencor®	8 hours
Headline®	8 hours		

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List last Updated: 25 October, 2023

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