
NITROS
PHARMGRADE
A PharmGrade Product

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WHAT IS NITROS?

Pharmgrade NITROS is the industry flagship in sustainable nitrogen supplementation. Engineered with a highly concentrated blend of nitrogen-fixing bacteria, NITROS empowers plants and soil systems to harness nitrogen directly from the atmosphere, converting it into a plant-efficient form that maximizes growth without the losses associated with traditional fertilizers.

- NITROS is Pharmgrade’s premium blend of nitrogen fixing organisms, designed to bring in steady-state N to the plant from the Nitrogen found in the air.
- 1 gallon has shown to have similar effect as 10 units N.
- NITROS is the primary N source of all of Pharmgrade’s organic field programs, from small grains to potatoes.
- NITROS is also fortified with facultative anaerobes and Trichoderma to provide plant growth promoting metabolites, biocontrol of pathogens, and the stress reduction you’ve come to expect from our products.

PRODUCT INFORMATION

NITROS is a concentrated biological inoculum formulated with broad spectrum, beneficial bacillus and Trichoderma fungi species. **NITROS** is known as a Plant Growth Promoting Rhizobacteria (PGPR). This inoculum provides more than traditional plant nutrient uptake by promoting healthy soil biofilm on strategic root and plant surfaces. These AGBIOFILM® layers become strategic exchanges for nutrient flow and relief of crop stress. Carbon flows efficiently back and forth through these layers carrying nutrient to the plant and sugars back to the microbes. This exchange is the key for effective yield increase. **NITROS** is rich in food for microbes. **NITROS** is a liquid substrate to establish AGBIOFILM® ecosystems in the soil, on the leaf surface and the root rhizosphere. **NITROS** applications provide the best means to transport, propagate, and stabilize biological cultures on these AGBIOFILM® surfaces. **NITROS** may stimulate root development, increase plant vigor, yield and quality of produce.

RECOMMENDED APPLICATION

For use on all agricultural crops and applications.

Application and Rates: Apply 3-7 gallon per acre 3-4 times per year on all field crops. This product can also be used in the following ways; foliar, fertigation, root drench, and in furrow at planting. Mix 1.5-2.5oz per gallon of water to apply as a root dip, foliar feed or to pre irrigate rows. Apply 1 gallon of mix per 100 linear feet of row.

Contact a local PHARMGRADE representative for more specific rates and instructions.

This product may be mixed with a variety of fertilizers and pesticides. Please call for further directions. Always perform a jar test to ensure compatability.

CONTAINS NON-PLANT FOOD INGREDIENTS

Bacillus amyloiquefaciens	$1.58x10^5$ cfu/ml
Bacillus licheniformis	$4.50x10^5$ cfu/ml
Bacillus megaterium	$1.10x10^6$ cfu/ml
Bacillus pumilus	$8.10x10^6$ cfu/ml
Bacillus subtilis	$4.05x10^6$ cfu/ml
Bacillus subtilis var natto	$1.80x10^6$ cfu/ml
Bacillus simplex	$6.48x10^8$ cfu/ml
Bacillus firmus	$1.35x10^6$ cfu/ml
Bacillus polymyxa	$2.70x10^7$ cfu/ml
Bacillus mucilaginosus	$9.00x10^4$ cfu/ml
Bifidobacterium animalis	$6.75x10^4$ cfu/ml
Bifidobacterium bifidum	$1.35x10^5$ cfu/ml
Bifidobacterium longum	$1.35x10^5$ cfu/ml
Lactobacillus acidophilus	$1.13x10^5$ cfu/ml
Lactobacillus buchneri	$2.70x10^5$ cfu/ml
Lactobacillus casei subsp. casei	$2.03x10^5$ cfu/ml
Lactobacillus delbrueckii bulgaricus	$4.50x10^4$ cfu/ml
Saccharomyces cerevisiae	$1.58x10^5$ cfu/ml
Streptococcus saivarius subsp. thermophilus	$2.25x10^6$ cfu/ml
Paecilomyces lilacinus	$2.03x10^7$ cfu/ml
Penicillium bilaiae	$2.25x10^7$ cfu/ml
Paenibacillus polymyxa	$2.70x10^7$ cfu/ml
Trichoderma harizanum	$3.38x10^6$ cfu/ml
Trichoderma koningii	$4.50x10^7$ cfu/ml
Trichoderma polysporum	$4.50x10^7$ cfu/ml
Total Biological Consortium	**$8.32x10^8$ cfu/ml**

HANDLING AND STORAGE

Follow appropriate safety procedures. Skin contact may cause temporary staining. In case of accidental exposure, flush with plenty of water. Product is non-hazardous.

Storage in a cone-bottomed tank to facilitate agitation is recommended. When stored in a cone-bottomed tank, agitate 10 minutes before application or transfer. When stored in a flat-bottomed tank agitate 30 minutes before application or transfer. Avoid airblast agitation or over the top rotation as foaming will result. If foaming does occur through normal agitation, use an approved defoamer. Agitation is recommended once every four weeks. Agitation prior to production transfer and application is required. Storage for longer than 12 months is not recommended.

Caution keep out of reach of children. Contact poison control if ingested.

Derived From: 100% Probiotic Fermentation Media

Information regarding the contents and levels of metals in this product is available on the internet at: https://www.aapfco.org/metals.htm

HOW DOES IT WORK?

NITROS contains an assortment of Nitrogen Fixers- two important distinctions:

- Some colonize the plant in the leaf itself through the stomata.
- Others adhere or colonize the roots, fixing Nitrogen there and routing to the plant.

CONTROL

TREATED

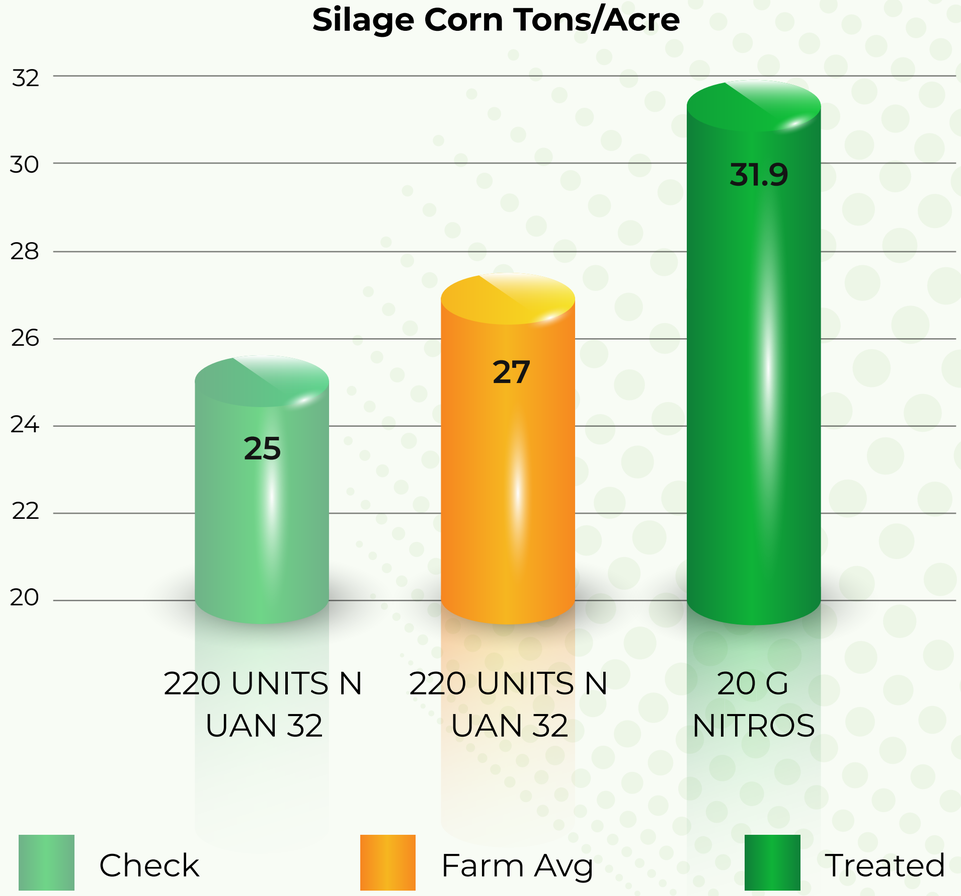
- N provided by NITROS will not leach or volatilize, most efficient form of N to the plant, supplied on-demand.
- NITROS also contains mineralizing and solubilizing organisms that help make P, K and micronutrients more readily available for the plant.
- NITROS metabolites help build more fine hairy roots, which in turn assimilate nutrient and water better for a healthier, stress resistant plant.

HIGHLIGHTS

- High nitrogen prices allowed for extensive experiments with using Nitros as a meaningful part of grower's fertility programs in 2021.
- Full replacement of 220 units in silage corn.

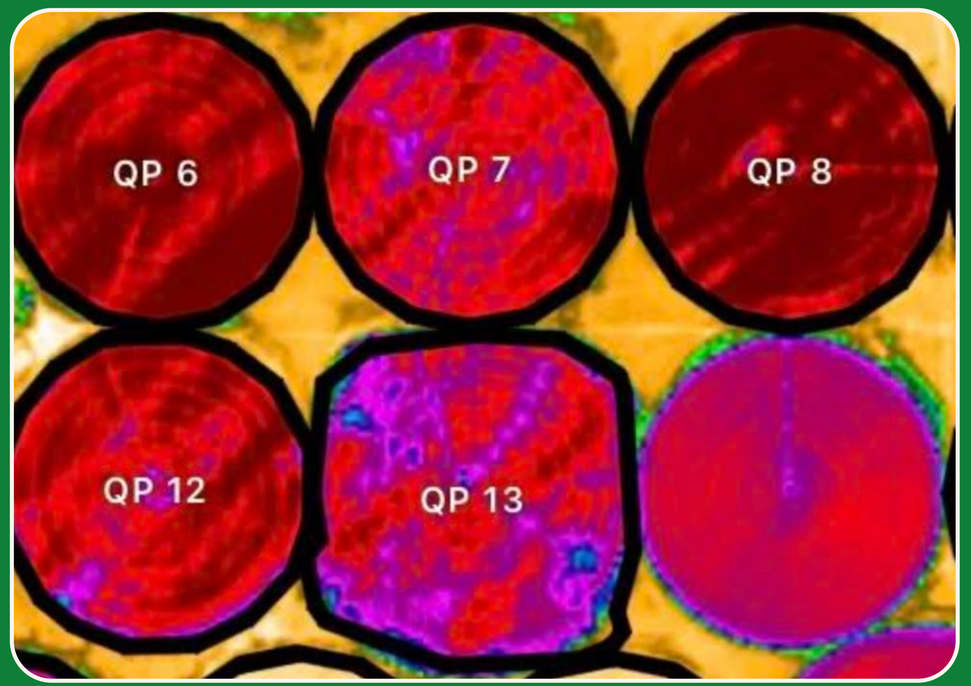
CHECK

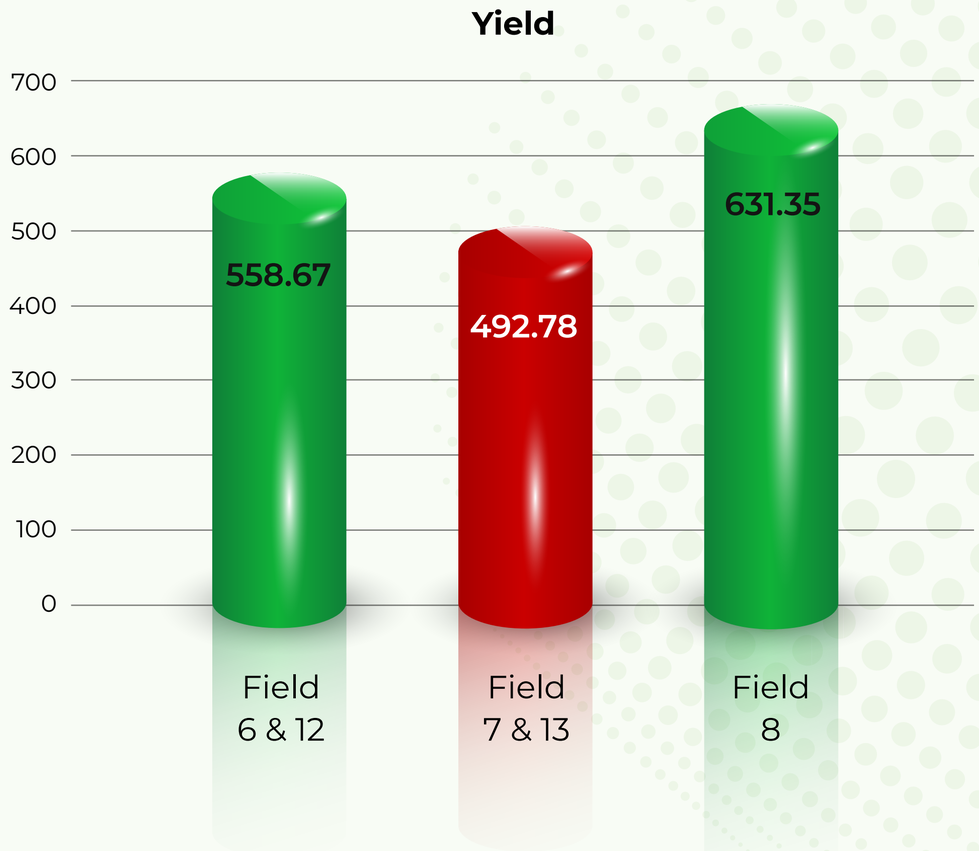
5 GAL NITROS AT PLANTING



HIGHLIGHTS

- 7.5 Gallon Nitros replacing ~75 Units N in conventional Potatoes.
- Both green blocks were treated, Red block was synthetic N only.
- Yield monitor data from grower.
- Aerial imaging gave us indication early on that there were meaningful differences happening in the field.





AWARDS & RECOGNITION

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Chief Commercial Officer

Kelly Tuttle
CEO

Richard Tuttle
CEO

INNOVATORS
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COVER STORIES

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