

SOYBEAN

PRODUCT PORTFOLIO

biotinsic
by indigo

 **SATISFACTION
GUARANTEE**
100% with replant policy.

INDIGO'S BIOLOGICAL SEED TREATMENT

Plant for Performance and Grow with Confidence

Soybean

biottrinsic® M34 + N13 + E13

biottrinsic® M34+N13 is a powerhouse combination of multiple microbes that work together to improve nutrient loading into the plant resulting in greater growth and resilience in the spring leading to a stronger healthier plant that can better withstand stresses during flowering and pod fill.

2 NEW BREAKTHROUGH TECHNOLOGIES COMBINED TO INCREASE NUTRIENT UPTAKE IN STRESSFUL CONDITIONS

Have you experienced variability, environmental, or nutrient stress that impacts yield in your fields or across your farm?

If so, this can result in shortened soybean plants, low pod number, low seed number, dry or shriveled roots, nodules, seeds, and pods, wilting plants, and yield loss. What if there was a product that could help your soybean plant withstand the stresses that are negatively impacting yield?

M34 + N13 STARTS WORKING FROM THE MOMENT YOU PLANT THE SEED AND WORKS FROM THE ROOTS TO THE SHOOTS TO IMPROVE ENVIRONMENTAL STRESS TOLERANCE AND NUTRIENT LOADING ALL SEASON LONG TO HELP YOUR CROP BETTER WITHSTAND THE STRESSES NEGATIVELY IMPACTING YIELD

OUR PROPRIETARY 3 STRAIN BRADYRHIZOBIUM BLEND INCREASES NITROGEN FIXATION AND IS 30-100% MORE EFFICIENT THAN OTHER PRODUCTS.



FEATURES AND BENEFITS

- › biottrinsic® M34+N13 is comprised of multiple live microbes that work together and form a symbiotic relationship with the plant
- › biottrinsic® M34+N13 work together to improve the availability and uptake of key macro and micronutrients needed for plant growth
- › Improves plant tolerance to environmental stress resulting in improved yield
- › Provides drought protection through flowering and pod fill leading to a greater return on your investment
- › Includes an extender, E13, that facilitates on seed survival enabling an 60 day planting window after seeds are treated

+2
Avg bu/a

2 years field trials

- › low rainfall
- › higher temperatures
- › moderate soil water holding capacity

**Product performance information based on third-party field trials. Results will vary across growers and farm operations. A number of variables may affect agronomic outcomes. Indigo does not make any representations, warranties or guarantees as to any specific results or outcomes. Product may not be available in all areas. Limitations, terms, and conditions apply.*

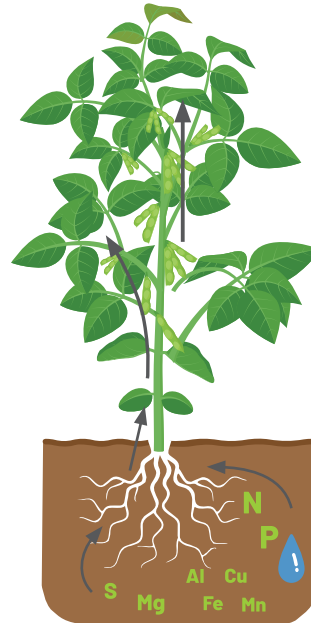
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HOW IT WORKS

biottrinsic® M34+N13 is a combination of multiple microbes that work together to mine nutrients from the soil and load them into the plant. This leads to greater growth and resilience to stress throughout the season.

- BIOTRINSIC® M34 WORKS BY REDUCING THE PH OF THE SOIL AROUND THE ROOTS IN ORDER TO INCREASE THE AVAILABILITY AND MOBILITY OF NUTRIENTS. LOWERING SOIL PH CAUSES NUTRIENTS TO BE MORE SOLUBLE, LEADING TO BETTER UTILIZATION BY THE PLANT.
- BIOTRINSIC® M34 SIGNIFICANTLY IMPROVES WATER-SOLUBILITY OF KEY MICRONUTRIENTS REQUIRED FOR PLANT GROWTH.
- IMPROVEMENT IN SOIL TO PLANT NUTRIENT UPTAKE IS MOST PRONOUNCED IN M34 TREATED PLANTS UNDER WATER DEFICIT CONDITIONS. THIS MEANS THAT WHEN DROUGHT STRIKES DURING THE CRITICAL FLOWERING AND POD FILL STAGES, BIOTRINSIC® M34 TREATED PLANTS DEMONSTRATE GREATER RESILIENCE.
- IN THE LAB, WHEN WE COMPARE TREATED TO UNTREATED SOYBEAN WE HAVE OBSERVED THE TREATED NUTRIENT CONTENT BEING REDUCED IN THE SOIL AND INCREASED IN THE PLANT'S ROOT AND SHOOT.
- IN THE FIELD, WHEN WE COMPARE TREATED TO UNTREATED SOYBEAN LEAVES USING SAP ANALYSIS WE SEE INCREASED NUTRIENT CONCENTRATIONS.

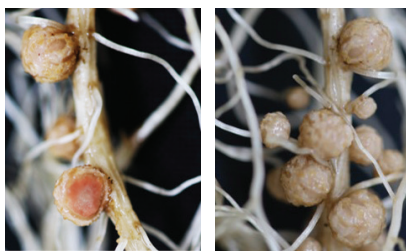


- N** NITROGEN
- P** PHOSPHORUS
- S** Sulfur
- Mg** Magnesium
- Al** Aluminum
- Cu** Copper
- Fe** Iron
- Mn** Manganese
- !** MOISTURE

N13 is our exclusive proprietary blend of 3 Bradyrhizobium strains, 1 is patented. This combination is 30-100% more efficient than older strains

- › Nodules are fewer, but larger, and create a larger reservoir of nitrogen that the plant can pull from
- › N13 nodules have a wrinkled appearance that provides a greater surface area for nitrogen conversion
- › Tolerant to glyphosate optimizing nitrogen fixation
- › Works better than traditional Bradyrhizobium in hot dry soils or cool wet soils
- › Includes an extender and a polymer that supports on seed stability and seed flow resulting in fewer skips and doubles

Strong leghemoglobin response in nodules; actively fixing nitrogen



biottrinsic®

Significant increase of nodulation on the tap root



Untreated

biottrinsic®

Treated plants show less symptoms of nitrogen deficiency



Untreated

biottrinsic®

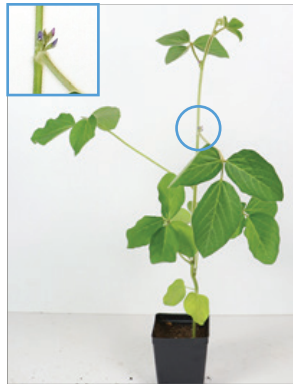
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BRADYRHIZOBIUM

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Untreated



biottrinsic™

30-100%

MORE EFFICIENT BRADYRHIZOBIUM

Soybeans benefit from this unique Bradyrhizobium and forms nodules that are:

- › **Larger** = greater reservoir of nitrogen that the plant can access
- › **Wrinkled** = provides a greater surface area for nitrogen conversion
- › **Fewer** = the plant has less nodules to feed which makes it more efficient and can use the energy elsewhere
- › **Glyphosate tolerant** = optimized nitrogen fixation
- › **Resilient in soil** = hot dry soils or cool wet soils

Our proprietary 3 strain Bradyrhizobium maximizes nitrogen availability and uptake. Together these provide superior nutrition to the plant.

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M34 SHOWS MORE SHOOT AND ROOT BIOMASS

+20%

shoot biomass

+154%

tap root biomass

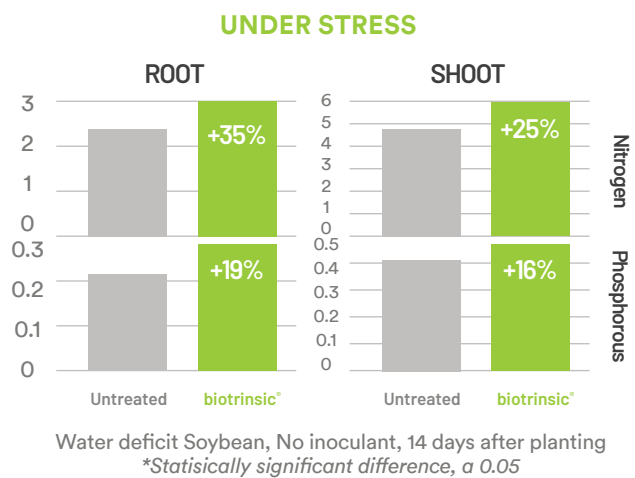
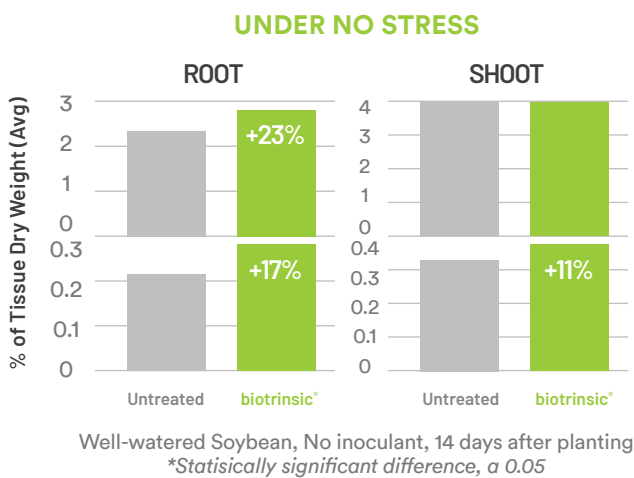
Average values measured two weeks after planting in plants treated with biotrinsic[®] M34



M34 consistently shows an increase in the lab and field



M34 RESULTS IN MORE NITROGEN AND PHOSPHOROUS IN THE WHOLE PLANT



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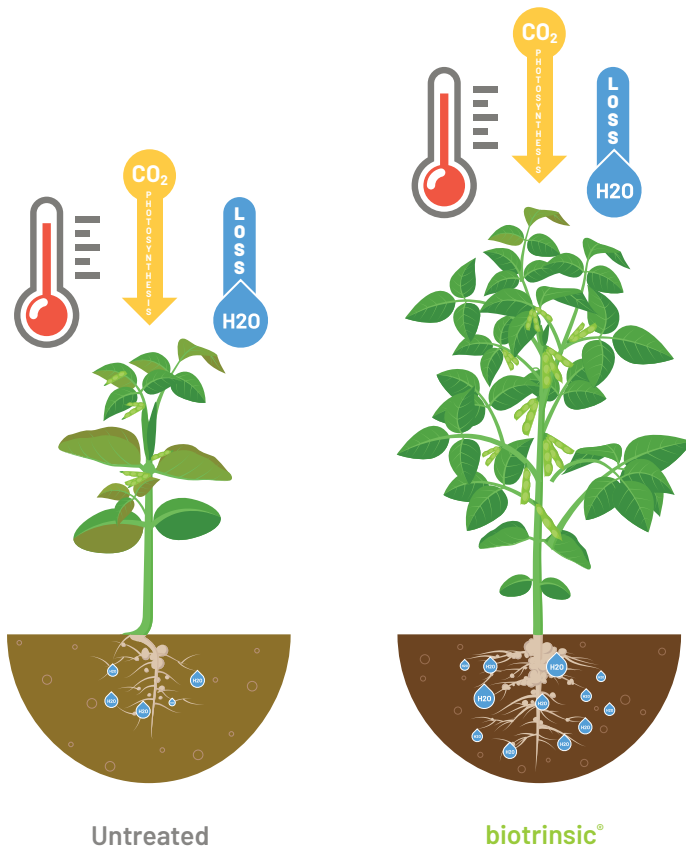
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IMPROVING DROUGHT TOLERANCE LEADS TO INCREASED YIELDS

Flowering and pod fill are two critical growth stages where a soybean plant uses approximately 60% of its seasonal water use. A soybean crop is likely to have lower yields due to water deficit during the pod fill stage than they are earlier in the season.

Performance of M34 was shown to have superior results in soils with lower water holding capacity and in climates that were hotter and drier.



As **SOYBEAN** plants grow and develop their transpiration increases, and soil water depletion happens faster. Soybean vegetative growth only require 0.7 inches of water per week, but flowering (stages R1 and R2) plants need twice that amount (1.4 inches of water per week). Once bean pods are elongating (R3), soybean water use increases to 1.4-1.75 inches of water per week. A soybean crop uses more water and is more likely to have lower yields due to a water deficit during the pod-fill stage than they are earlier in the season.¹



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¹ <https://coolbean.info/2020/06/16/soybean-irrigation-reproductive-growth/>

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PRODUCT DETAILS

CAN BE USED ON

- › Fields where nutrient deficiencies have limited yields in the past
- › Fields where temperature exceeds 94°F during the growing season
- › Dryland fields where rain fed crops are limited by moisture
- › Crops that are planted in an ideal or late planting window
- › All soybean varieties and traits

Pkg Treats	Pkgs/ Case	Case	Case Treats	Unit Measures
40 units	5	5x2x40	400 units	50 lbs
400 units	1	1x400	400 units	50 lbs

HOW TO USE IT

- › Seed treater friendly
- › By applying it directly to the seed the microbes adhere to the roots where it starts working immediately supporting plant health and nutrition. You don't have to worry about weather events stripping away your investment.
- › The low use rate allows additional room on the seed so it can be applied with other products.
- › Applications on the seed creates an immediate team between microbes and plants positively improving plant and root growth with no wasted time. Our seed treatment starts working the moment you plant because it's on the seed.
- › 120 days on-seed stability provides the flexibility you need during the planting season.
- › Broad chemical compatibility so it can be used with your existing treatments. Always reference Indigo's compatibility guide.

5X2X40 UNITS



5 BOXES IN A CASE



400 UNITS



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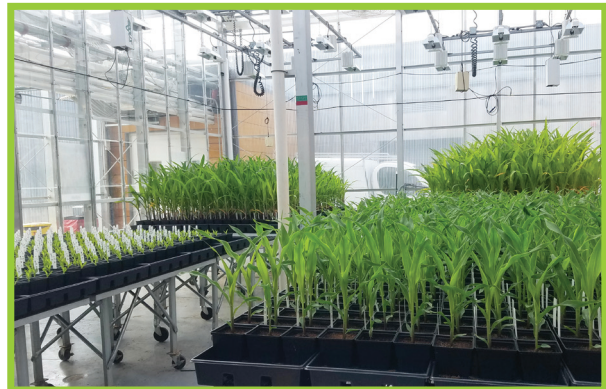
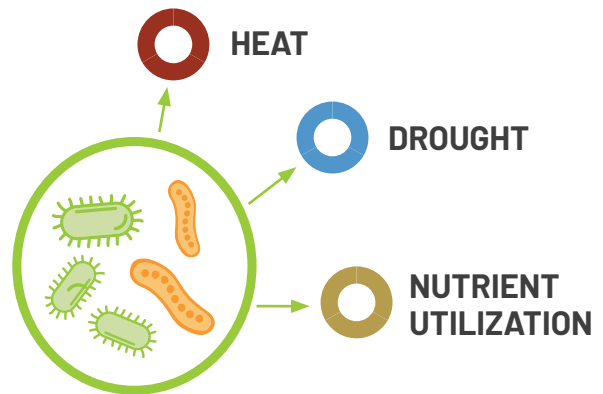
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THE SCIENCE BEHIND THE DIFFERENCE

Microbiomes, or communities of microbes, help maintain internal processes for all living things – Indigo focuses on identifying microbes that have evolved in conjunction with plants over time to optimize health and maximize productivity.

At Indigo, we identify which of these microbes are most beneficial to a plant's health through the application of algorithms and machine learning. We further prove their performance at our research laboratories and greenhouses in Boston, Massachusetts and Research Triangle Park, North Carolina along with extensive field trials throughout the United States. Our resulting seed treatment products complement a plant's natural process to improve health and development across each phase of life, while boosting crop yields.



WHAT MAKES BIOTRINNIC® DIFFERENT

More Beneficial for Your Crop

Microbes are selected to address the key stresses that limit crop yield potential. This allows you to select the right biottrinsic® products based on the stresses that have the greatest impact on your farm.

From Plants for Plants

biottrinsic® is a collection of over 30,000 naturally occurring microbes that have been extracted from plants thriving in stressful conditions. We isolate microbes that are abundant in plants that are thriving under stress while other plants around them are not. This allows us to tailor our products to a specific crop and set of stresses.

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