



# CROP NUTRITION PRODUCT GLOSSARY



[Research](#) has shown that the fertilizer improves yield by 40-60% in the U.S.

With so much on the line, it's important to evaluate your crop nutrition program each season, which includes reviewing tissue and soil samples, analyzing yield results, and recalling in-season nutritional challenges. Armed with that information, you can build a winning strategy for next season.

FBN® Direct offers a comprehensive portfolio of high-uptake nutrients to support your season-long fertility plan. Use the information on the following pages to guide your product decisions, with products from the following four categories:

### [Carbon Sources](#)

- Inhabit Boost™
- Inhabit Build™

### [High Uptake Nutrients](#)

- Inhabit B™
- Inhabit N™
- Inhabit P™
- Inhabit Start™
- Nourish Ca™
- Nourish Mn™
- Nourish Vitals™
- Nourish Zn™

### [Soil Prebiotics](#)

- Catalyst ADV™

### [Soil Probiotics](#)

- Inject-Myco ADV™
- Inject-N ADV™

### [Photosynthetic Enhancers](#)

- Atarrus™



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# CARBON SOURCES

One of the most important indicators of soil quality, carbon has a direct relationship with nitrogen. Soil health and activity levels are indicated through a C to N ratio at which living things break down and decompose.

As carbon begins to settle into the soil, it helps to:

- Improve overall soil structure
- Maximize water and nutrient holding capacity in soil
- Optimize water infiltration to reduce erosion and soil crusting
- Enhance crop health through increased diversity and fertility in the soil biome, in addition to reduced crop disease because of additional organic matter
- Boost water quality through decreased runoff and reduced sediment levels
- Improve air quality, since healthy soil gives dust and other particulates a place to settle

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# INHABIT BOOST™

Inhabit Boost™ is a humate-based fertilizer additive/soil amendment that visibly boosts root mass and enhances soil quality.

## When to Use

Inhabit Boost™ improves soil characteristics and, when used as a fertilizer additive, can help increase plant nutrient uptake.

## How to Use

Inhabit Boost™ can be applied to soil, mixed with most fertilizers and crop protection products or used as a dry fertilizer coating. Add to starter fertilizers or side-dress UAN applications to increase nutrient uptake.

## Why Use It

Inhabit Boost™ is a high-efficiency carbon source that improves nutrient transport qualities in soils and increases fertilizer efficiency. The carbon in Inhabit Boost™ also increases the soil's water-holding capacity and physical structure. Unlike conventional humic and fulvic acids, Inhabit Boost™ is a unique microhumate that prevents nutrient loss at lower use rates, is highly compatible with most fertilizer products, and flows through equipment more cleanly.



Application Type	All Crops
Soil Performance	1-2 pints per acre
Fertilizer Performance	1-2 pints per 40 gallons
Dry Fertilizer Coating	1-2 quarts per ton





# INHABIT BUILD™

Inhabit Build™ is a premium 12% humic acid product containing 4% soluble potash.

## When to Use

Inhabit Build™ helps improve soil characteristics and, when used as a fertilizer additive, can help increase plant nutrient uptake.

## How to Use

Inhabit Build™ is formulated for soil application only and performs best when applied directly in the root zone. Repeated, long-term use is recommended to facilitate the breakdown of the product's organic acids for maximum benefit. The use rate for all crops is 1 to 10 quarts per acre.

## Why Use It

Inhabit Build™ provides stable carbon in the form of humates to improve soil quality and facilitate nutrient transport into and within the plant. The carbon in Inhabit Build™ also increases the soil's water-holding capacity. It is highly compatible and soluble in a pH range of 2.0 to 12.0, including most high-phosphate fertilizers.



# HIGH UPTAKE NUTRIENTS

High-uptake nutrients balance the plant diet by supplementing nutrients available in the soil and mitigating in-season nutrient deficiencies. They can be soil- or foliar-applied and delivered to crops in a very efficient, plant-available form.

High-uptake nutrients are ideal for foliar-applied applications. Adding high-uptake nutrient products to a fungicide tank mix is an efficient way to support late-season plant health and boost crop nutrition ahead of reproductive growth.

High-uptake nutrients also help mitigate in-season nutrient deficiencies visually observed or confirmed with tissue testing. Common visual symptoms of nutrient deficiencies may include:

- Leaf discoloration (light yellow, purple, bronze, striping)
- Stunted plants
- Poor flowering or fruiting
- Necrotic leaves
- Shortened plant internodes (bushy appearance)

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# INHABIT B™

Inhabit B™ is a soil-applied boron (10%) fertilizer complexed with micronized, oxygen-rich carbon derived from a unique source of leonardite that enables high nutrient uptake with a low use rate.

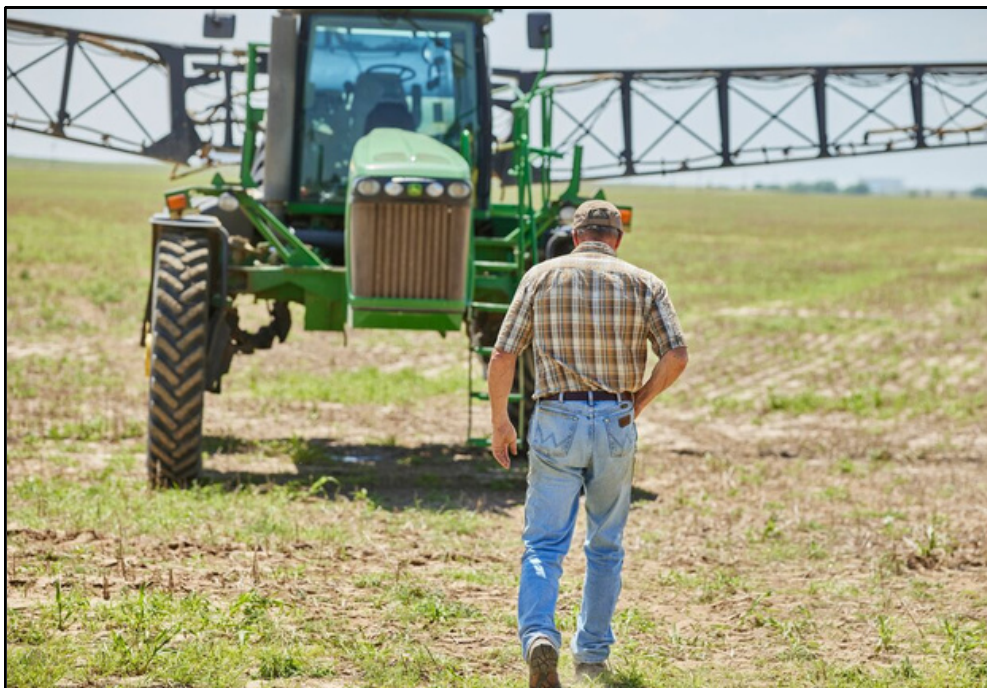
## When to Use It

Apply Inhabit B™ to prevent and treat boron deficiencies in a variety of row, vegetable, fruit, and tree crops.

## How to Use It

Inhabit B™ is applied via a soil application in-furrow, banded, or side dressed at 8-16 ounces per acre for best performance. It may also be broadcast applied at 16-32 ounces per acre during early and late vegetative growth stages in most crops.

It is compatible with most crop protection, plant growth regulator and fertilizer products. Add Catalyst ADV™ soil prebiotic at 16-32 fl oz. per acre to provide a complex nutrient source.



## Why Use It

Boron is essential for seed development, cell division, plant metabolism, cell structure, and sugar transport. The low-salt content formulation of Inhabit B™ benefits soil health and function.



# INHABIT N™

Inhabit N™ (30-0-0) is a highly available nitrogen source complexed with micronized, oxygen-rich carbon derived from a unique source of leonardite that enables high nutrient uptake with a low use rate.

## When to Use

Apply Inhabit N™ to prevent and treat nitrogen deficiencies in a variety of row, vegetable, fruit, and tree crops.

## How to Use

Inhabit N™ may be applied via a foliar or soil application. It can typically be used at lower rates when compared to conventional UAN. Use Inhabit N™ as either a replacement for conventional products or in combination with them. For best results, apply in-furrow up to the late vegetative growth stages. Recommended application approaches and rates are outlined in the table below.



Application Type	All Crops
Foliar Broadcast	2 qt. to 2 gal per acre
In Furrow/Banded/Sidedress	1 to 10 gal per acre
Soil Broadcast	1 to 20 gal per acre

## Why Use It

Nitrogen is often the most yield-limiting nutrient in crop production. It is involved in many critical developmental processes, including root growth, leaf expansion, photosynthesis, and grain production. Nitrogen-deficient plants will never meet their genetic yield potential.

Inhabit N™ supplies a growing crop with the vital nitrogen they need at key developmental stages. Its unique leonardite source has a low salt content and reduced risk of leaching and volatilization when applied to keep more nutrients in the root zone for plant uptake.





# INHABIT P™

Inhabit P™ is a starter fertilizer replacement containing 50% phosphate derived from phosphoric acid. It can replace or be combined with other conventional starter fertilizers or soil-applied phosphorus sources.

## When to Use

Inhabit P™ is a low-salt, high-efficiency starter fertilizer for corn farmers who want to store and handle less fertilizer. It provides up to a 10x reduction in applied product with a proven ability to maintain expected yields at a rate of 2 quarts per acre compared to 5 gallons per acre of conventional starter.

## How to Use

Inhabit P™ is a soil-applied fertilizer that performs best when used in furrow. Mix Inhabit P™ at a minimum ratio of 10:1 with water (10 parts water to 1 part Inhabit P™) for optimal results and equipment compatibility. Two to three quarts per acre is the optimal rate range when using Inhabit P™ as a standalone starter fertilizer.

## Why Use It

Starter fertilizers with phosphorus help ensure plants have access to vital nutrients to start early season growth. These products are especially beneficial for planting into cool soils with limited nutrients, no-till acres with high crop residue, and soils with poor drainage conditions.

Unlike conventional starter fertilizers such as 10-34-0, Inhabit P™ contains a unique micro-humate complexed with phosphorus that keeps nutrients plant-available and reduces tie-up, resulting in less product purchased, stored, hauled, and applied.



[View Field Trial Results](#)



# INHABIT START™

Inhabit Start™ is a soil-applied fertilizer with highly available sources of nitrogen (4%), phosphorus (14%), potassium (12%), and sulfur (8%).

## When to Use

Inhabit Start™ is an early starter blend that promotes early germination and crop vigor. It can be used as a replacement for or in combination with conventional starter fertilizers.

## How to Use

Inhabit Start™ is a soil-applied fertilizer that performs best when used in-furrow at planting. Mix Inhabit Start™ at a minimum ratio of 5:1 with water (5 parts water to 1 part Inhabit Start™) for optimal results and equipment compatibility. Two to three quarts per acre is the optimal rate range when using Inhabit Start™ as a standalone starter fertilizer.

## Why Use It

A complete starter fertilizer that contains nitrogen, phosphorus, potassium, and sulfur gives crops the essential nutrients they need to optimize early-season plant growth. When crops have a strong start with adequate fertility, they emerge more uniformly and are more resilient to early-season stresses.



Inhabit Start™ nutrients are complexed with micronized, oxygen-rich carbon derived from a unique source of leonardite that enables high nutrient uptake with a low use rate. The low salt content of this formulation benefits soil health and function.





# NOURISH CA™

[Nourish Ca™](#) is a foliar calcium (5%) source that includes soy protein hydrolysate (2% N). It is suitable for most row crops, tree crops, grapes, and berries.

## When to Use

Use Nourish Ca™ to treat and prevent calcium deficiencies in a growing crop.

## How to Use

Nourish Ca™ is an in-season foliar fertilizer that performs best when applied in early or late vegetative growth stages in most crops. The application rate depends on the crop and number of applications and can vary from 3 ounces per acre up to 64 ounces per acre for tree crops. Consult the product label for specific application recommendations.

Nourish Ca™ is compatible with most tank mixes and can be combined with [Atarrus™](#) for extra stress mitigation with post-emergence herbicide applications.

## Why Use It

Calcium is an essential component of plant enzymes and is vital for cell wall integrity. Soy protein hydrolysate provides nitrogen to enhance plant growth, increase fruit production, and improve plant quality.

Nourish Ca™ is complexed with plant-based peptides containing 18 amino acids essential for plant health and stress response. These peptides also function as efficient carriers to enable rapid nutrient uptake and translocation throughout the plant with reduced risk of phytotoxicity.



# NOURISH MN™

Nourish Mn™ is a foliar manganese (5%) source that includes soy protein hydrolysate (1% N). It is suitable for most row crops, orchards, and viticulture.

## When to Use

Use Nourish Mn™ to treat and prevent manganese deficiencies in a growing crop.

## How to Use

Nourish Mn™ is an in-season foliar fertilizer that has top performance when applied in early or late vegetative growth stages in most crops. The application rate depends on the crop and number of applications and can vary from 3 ounces per acre up to 28 ounces per acre for orchard and viticulture crops. Consult the product label for specific application recommendations.

Nourish Mn™ is compatible with most tank mixes and can be combined with Atarrus™ for extra stress mitigation with post-emergence herbicide applications.

## Why Use It

Manganese is an important micronutrient for carbon dioxide assimilation during photosynthesis. Soy protein hydrolysate provides nitrogen to enhance plant growth, increase



fruit production, and improve plant quality. Nourish Mn™ is complexed with plant-based peptides that support plant health and stress response. Its unique formulation enables rapid nutrient uptake and translocation throughout the plant with reduced risk of phytotoxicity.





# NOURISH VITALS™

Nourish Vitals™ is a premium foliar nutrition product that provides an optimal balance of nitrogen (5%), phosphorus (14%), potassium (8%), and micronutrients (B, Cu, Fe, Zn, Mn, and Mo) in a single, cost-effective product.

## When to Use

Nourish Vitals™ is a go-to tank-mix partner with a late post-emergence pass for an end-of-season nutrient boost.

## How to Use

Nourish Vitals™ provides application flexibility with compatibility in solution with most common tank mixes. The ideal application timing is in the late vegetative to early reproductive stages tank mixed with fungicide. The application rate depends on the crop and number of applications and can vary from 7 ounces per acre up to 36 ounces per acre for row crops. Consult the product label for specific application recommendations.

## Why Use It

Adding a late-season foliar nutrient application containing vital micronutrients is one way to ensure crops have the nutrition they need as they head into the critical reproductive growth stages that will ultimately determine yield potential and crop quality.

Unlike conventional foliar fertilizers, Nourish Vitals™ contains beneficial amino acids in peptide form, allowing for more efficient nutrient delivery throughout the plant. Its balanced formulation gives crops what they need in ratios that maximize performance.



# NOURISH ZN™

Nourish Zn™ is a foliar zinc source (7%) that includes soy protein hydrolysate (1% N). It is suitable for most row crops, tree crops, grapes, and berries.

## When to Use

Use Nourish Zn™ to treat and prevent zinc deficiencies in a growing crop.

## How to Use

Nourish Zn™ is an in-season foliar fertilizer that has top performance in most crops when applied in late vegetative or early reproductive growth stages. The application rate depends on the crop and number of applications and can vary from 3 ounces per acre up to 80 ounces per acre for tree crops. Consult the product label for specific application recommendations.

Nourish Zn™ is compatible with most tank mixes and can be combined with Atarrus™ for extra stress mitigation with post-emergence herbicide applications.



## Why Use It

Zinc is essential in chlorophyll production, photosynthesis, and enzyme systems. Soy protein hydrolysate provides nitrogen to enhance plant growth, increase fruit production, and improve plant quality. The peptide-complexed formulation of Nourish Zn™ enables faster nutrient uptake and translocation with a plant compared to other foliar zinc products.





# SOIL PREBIOTICS

Soil prebiotics increase soil microbial diversity and health by promoting the growth of microorganisms already present in the soil-plant system. Prebiotics do not contain live microbes, so they have a longer shelf life than products that contain microorganisms, including inoculants, probiotics and some biostimulants.

Natural products, including biochar, compost and animal manure, are examples of prebiotics that enhance soil structure and promote soil biological activity.

Benefits of prebiotics include:

- Versatility and compatibility with other agricultural inputs to enhance application efficiency
- Ability to improve soil health and microbial diversity
- Enhancement of soil structure

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# CATALYST ADV™

Catalyst ADV™ is a soil prebiotic that provides a diverse energy source to activate the native soil microbiome to release plant-available soil nutrients.

## When to Use It

Add Catalyst ADV™ to burndown or pre-plant herbicide applications to increase soil nutrient availability and residue breakdown.

## How to Use It

Catalyst ADV™ is formulated for soil application only and can be applied standalone or as a tank mix partner with most fertilizer and crop protection products. It performs best when applied pre-plant to pre-emerge in most crops at 16-32 fluid ounces per acre.



## Why Use It

Catalyst ADV™ increases soil nutrient availability and improves both soil quality and structure. When applied near planting time, it facilitates healthy root and plant development.



# SOIL PROBIOTICS

Soil probiotics are biological agricultural inputs containing living microbes that benefit soil health and plant growth. Probiotic fertilizers promote nutrient-mobilizing properties and enhance root development and natural biocontrol to improve yield and resilience to stress and climate change.

Probiotic fertilizers come in many formulations, including solid, liquid, and gel. They can be applied directly to the seed as a seed treatment or in-furrow, banded, side-dressed or broadcast to the soil. Soil probiotics typically perform best when applied in-furrow at planting but can also be effective when applied pre-emergence or during early vegetative growth stages.

Soil probiotics can be more challenging to manage than soil prebiotics because they contain live organisms sensitive to weather extremes, handling, storage and mixing. Shelf life may be short for probiotic fertilizers, so it's important to plan appropriately for the most effective performance.

Unlike prebiotics, probiotics don't necessarily feed existing native soil microbial populations. They can generally be mixed with other fertilizers but may not be compatible with crop protection products.

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# INJECT-MYCO ADV™

Inject-Myco ADV™ is a soil-applied mycorrhizal formulation that enhances root growth and water utilization, increases soil nutrient availability and uptake, and improves plant stress tolerance.

## When to Use It

Add Inject-Myco ADV™ to starter fertilizer applications for best results. It is especially beneficial for low-phosphorus soils.

## How to Use It

Inject-Myco ADV™ can be applied as a seed treatment or in-furrow at planting. Apply 1.5 fluid ounces per 100 pounds of seed as a seed treatment or dilute in water at 2 fluid ounces per acre for soil applications. Inject-Myco ADV™ is compatible with some common crop protection and fertilizers but avoid use with high-rate phosphate starters. Consult the product label for tank mix compatibility information.

## Why Use It

Inject-Myco ADV™ is a super concentrated, liquid mycorrhizae (*Rhizophagus irregularis*) spore formulation. Mycorrhizal fungus colonizes plant roots, creating a symbiotic relationship that allows plants to optimize the reach and absorption of water and nutrients in areas not easily accessible by the plant.



Unlike other mycorrhizal products, Inject-Myco ADV™ is a highly concentrated formulation without clays and other insoluble elements that stimulates root colonization faster (in as little as two weeks), providing enhanced stand establishment and stress adaptability.





# INJECT-N ADV™

Inject-N ADV™ is a soil probiotic that contains nitrogen-fixing bacteria that enhance root nodulation, early rooting, early vigor, and nitrogen availability and uptake.

## When to Use It

Add Inject-N ADV™ to starter fertilizer applications for best results. It is especially beneficial for low-nitrogen soils.

## How to Use It

Inject-N ADV™ can be applied as a seed treatment or in-furrow at planting. Apply at 3 fluid ounces per 100 pounds of seed as a seed treatment or dilute in water at 3 fluid ounces per acre for soil applications. Inject-N ADV™ is compatible in solution with most liquid fertilizers but is not compatible with herbicide, insecticide, and fungicide tank mixes. Consult the product label for tank mix compatibility information.

## Why Use It

Inject-N ADV™ is a highly concentrated, low-rate microbial containing *Azospirillum brasilense*. *Azospirillum brasilense* is a well-studied plant-growth-promoting bacteria that helps plants establish more robust root systems, improves plant stress tolerance, increases nutrient use and fertilizer efficiency and fixes atmospheric nitrogen for plant health benefits.



# PHOTOSYNTHETIC ENHANCERS

Photosynthetic enhancers are foliar-applied biostimulants that aid a crop's ability to convert light energy into chemical or plant energy. This increased energy supports the health of the plant and it feeds the soil biology by delivering increased nutrition through root exudates.

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# ATTARUS™

Atarrus™, a photosynthetic enhancer, is the proven post-emergence herbicide tank mix partner to help mitigate negative impacts of environmental and pesticide stress on crops. It contains 18 essential amino acids in peptide form that provide supplemental energy to help plants better metabolize chemicals to minimize damage from chemical stress.

## When to Use

Best used as a preventative product prior to stress, Atarrus™ can also be applied following stress to help the crop bounce back more quickly. Ideal application timing is as a post-emergence herbicide tank mix in the early to late vegetative stages at 16 oz/A.

## How to Use

Atarrus™ can help address three key challenges affecting crops like corn, soybeans, sugar beets, and additional specialty crops early in the season:

### 1. Herbicide Stress

Apply Atarrus™ with your herbicide application to ensure the crop is adequately prepared to withstand herbicide stress.

### 2. Weather Stress

It is advisable to proactively apply Atarrus™ before the onset of adverse weather conditions.

### 3. Optimal Nutrient Efficiency

Adding Atarrus™ to your crop nutrition program is most effective during critical growth stages such as early vegetative growth, flowering and fruit development.

## Why Use It

By proactively incorporating Atarrus™ into your crop protection strategy this season, you'll see better nutrient flow through your plants, higher nutrient levels in your tissue analysis, less or no visual stress from herbicides, improved root formation, and healthier plants.





# GET THE AG PRODUCTS YOU NEED DELIVERED DIRECT TO YOUR FARM



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**FARMER**  
**MEMBERS**



**34%**  
**AVERAGE**  
**FARMER SAVINGS**



**20**  
**U.S.**  
**LOCATIONS**

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