

# TERRANU<sup>®</sup> HI-P<sup>™</sup>

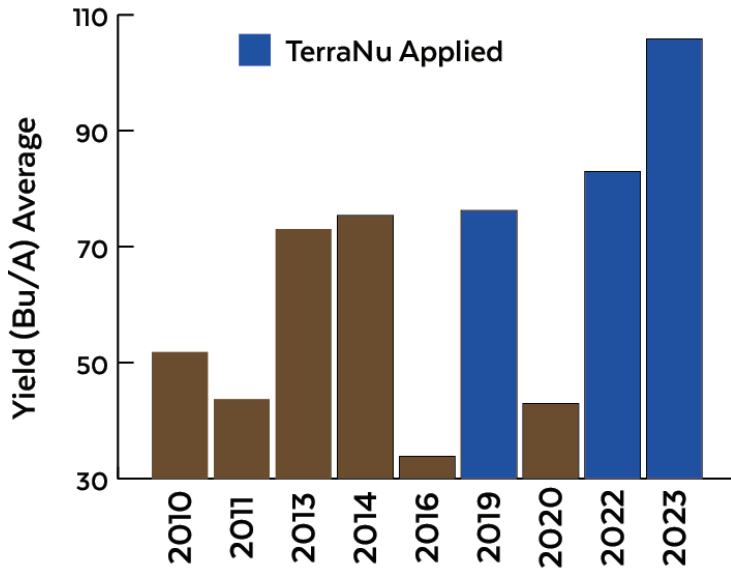
Phosphorus tie-ups in the soil represent a significant loss in fertilizer efficiency and ROI in challenging soil conditions. TerraNu HI-P stands alone in overcoming these limitations by buffering phosphorus with carbon, reducing phosphorus fixation or tie-ups to the soil particle, and increasing phosphorus availability and uptake.

## Unlock your soil's full potential

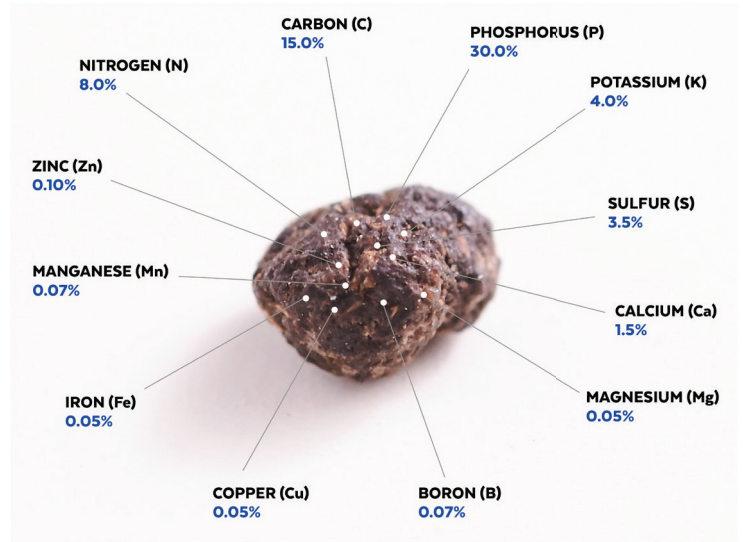
TerraNu HI-P's 15% carbon makeup delivers nutrients in an organic form. Anaerobically digested dairy manure infused with concentrated mineral levels is exactly the fuel your microbiology needs to achieve higher yields.

TerraNu HI-P not only delivers phosphorus to a seedling's root system, it promotes root exploration and expansion without stressing the crop, boosting crop resiliency and performance throughout the season.

### PROVEN YIELD RESPONSE IN WINTER WHEAT<sup>1</sup>



1) Yield data from Hettinger County, ND



## Revolutionary carbon-based fertilizer with 12 essential minerals in each granule

- While most synthetic fertilizer only has a chemical appeal, TerraNu HI-P directly engages soil biology, stimulating native bacteria to enhance phosphorus uptake
- Non-abrasive on application equipment due to low salinity content
- Ideal for growers currently placing a phosphorus source in-furrow
- Enhances emergence, vigor, and root growth



### Guaranteed Analysis

Nitrogen (N)	8.0%
Phosphorus (P)	30.0%
Potassium (K)	4.0%
Sulfur (S)	3.5%
Magnesium (Mg)	0.5%
Calcium (Ca)	1.5%
Boron (B)	0.07%
Copper (Cu)	0.05%
Iron (Fe)	0.05%
Manganese (Mn)	0.07%
Zinc (Zn)	0.10%



### Ingredients

A homogeneous granule of manure digestate, ammonium sulfate, monoammonium phosphate, sulfate of potash, potassium magnesium sulfate, lime, borate, zinc sulfate, manganese sulfate and copper sulfate.



### Typical Application Rates

Apply at 75-300 lbs. per acre, or based on soil test and crop needs.  
Application Methods: In-Furrow, Air Drill, Broadcast, Strip-Till

Work with your consultant or agronomist to find the application timing and methods that work best for you.

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# TERRANU<sup>®</sup> HI-P<sup>™</sup>

## Carbon Improves Phosphorus Availability

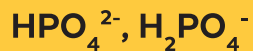
For farmers looking to maximize yield and ROI in challenging soil conditions, phosphorus fixation is a significant concern.

TerraNu technology can reduce phosphorus fertilizer fixation by buffering phosphorus fertilizers with carbon and reducing adsorption. Acidic (low pH) and alkaline (high pH) soils, low organic matter soils, and soils depleted in phosphorus represent opportunities to utilize TerraNu HI-P to improve phosphorus ROI.

### Soil processes that Increase Plant-Available P

Weathering  
Mineralization  
Dissolution  
Desorption

### Plant-Available P



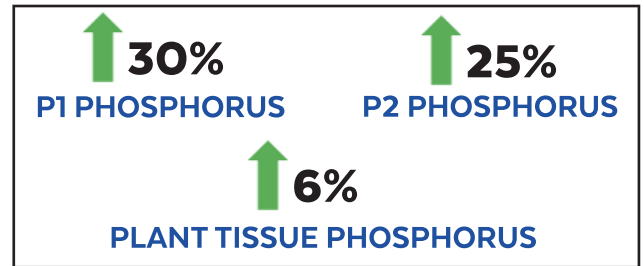
Immobilization  
Adsorption  
Precipitation  
Runoff & Erosion

### Soil processes that Decrease Plant-Available P

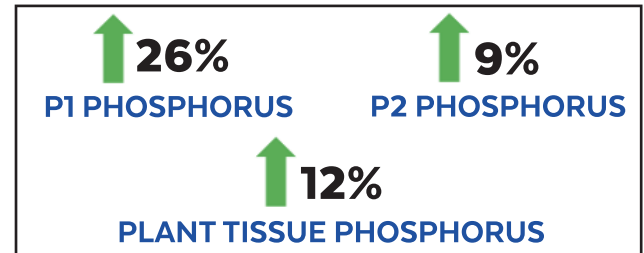
## Proven Results

Recent research on TerraNu HI-P, compared to traditional phosphorus fertilizers, reported increases in P1 and P2 phosphorus in the soil and increased uptake in the plant tissue.

Winter wheat trials in North Dakota reported increases of 30% in P1 phosphorus, 25% in P2 phosphorus, and 6% in plant tissue phosphorus levels compared to the grower standard fertility program.<sup>2</sup>



TerraNu HI-P was also applied at equivalent rates to traditional MAP fertilizers in three separate trials on corn in Illinois. Results from these trials reported increases in P1 phosphorus of 26%, P2 phosphorus increases of 9%, and plant tissue increases of 12% over the traditional MAP fertilizer.<sup>3</sup>



2) Yield data from Adams County, ND - samples collected at heading

3) Trials were located in northern Illinois, and samples collected at V6-V8

## Fields Planted Same Day

TerraNu Blend



Grower Standard Blend



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