

# MERISTEM FEATURED PRODUCT



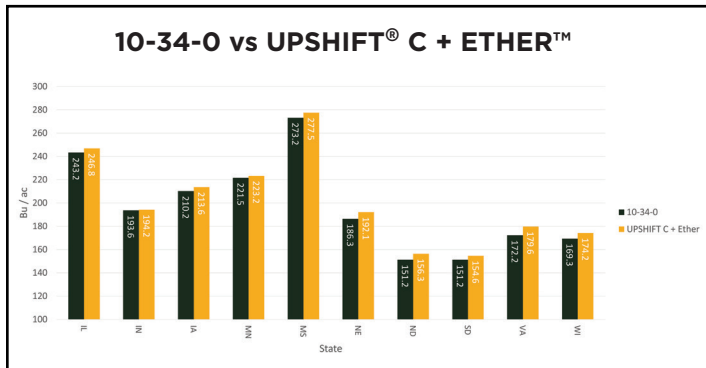
**THE FIRST LIQUID STARTER THAT SIGNIFICANTLY DECREASES COST WHILE DELIVERING MORE PLANT-AVAILABLE PHOSPHORUS.**

## ABOUT UPSHIFT® C

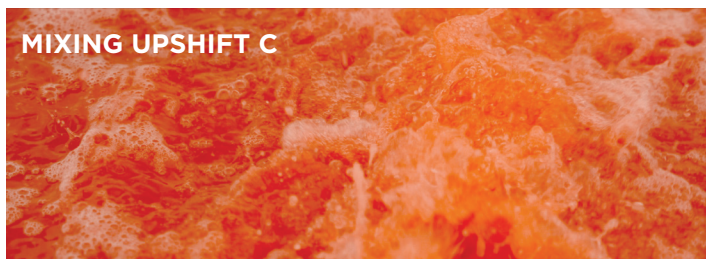
Powered by ETHER™ Enzyme Technology, **UPSHIFT C** is a 12-58-0 dry flowable with two powerful and unique enzymes. By adding one half-pound of **UPSHIFT C** to a gallon of water, you can replace a gallon of traditional synthetic-based starter.

Used as a starter or side-dress fertilizer, **UPSHIFT C** delivers as much or more plant-available phosphorus for less cost, less working capital, less wear and tear on equipment and more convenience than traditional synthetic alternatives. This concentrated starter system also helps cut out hauling water – one of the biggest wastes in agriculture.

**UPSHIFT® C** is another addition to the Meristem family of concentrates that radically restructures crop input markets and enables farmers to use sunk-cost labor and infrastructure to add water locally – creating real productivity gains right at the farm.



Source: BRANDT, research by Ed Corrigan



## WHAT IS ETHER?

**ETHER** Enzyme Technology protects enzymes by keeping them from degrading too quickly in the soil after application. Maintaining enzyme activity longer increases the efficacy of an enzyme, leading to improved soil and plant health. **ETHER** allows macro and micro elements to be plant available with extreme speed and is a companion product with live biology.

The first enzyme is mannanase, which breaks down starches surrounding the root tip's outermost layer. This chemical reaction increases the flow of water and nutrients to the root zone and sugars in the plant, boosting root growth and increasing microbial activity.

The lipase enzyme breaks down lipids, root exudates, and organic residue in the soil, allowing for better water flow and nutrient uptake.

Combining these two enzymes is the ultimate kickstart to deliver big, strong healthy plants fast and foster microbial activity to ensure long-term crop benefit.



# MORE BUSHELS FOR LESS

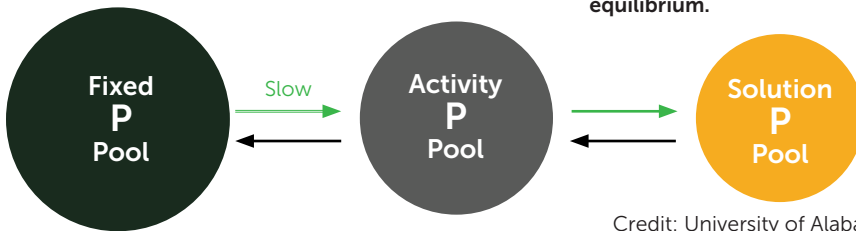
## WHY ARE SYNTHETIC FERTILIZERS SO INEFFICIENT AT THE PLANTER? ONLY 15-20% ARE PLANT AVAILABLE

Farmers have always known the best way to build phosphorus in soil is through well-planned, systematic fall applications. Most farmers agree that using phosphorus in-furrow or 2x2x2 applications is not part of their plan to build soil fertility over time. As the graphic below demonstrates, synthetic fertilizers take time to become plant-available. **UPSHIFT C** and **ETHER** can immediately deliver as much or more plant available P to the plant, despite having less total pounds of equivalent phosphorus per application.

### PHOSPHORUS POOLS IN THE SOIL

Phosphorus release from fixed pool to active pool occurs very slowly over time.

Whenever the concentration of solution P drops due to plant uptake, P is released from active pool to maintain the equilibrium.



Credit: University of Alabama



## WHY FARMERS USE STARTER FERTILIZER

Farmers have relied on synthetic liquid fertilizers for decades to ensure crops get a fast, early start, especially in cool soils. While synthetic fertilizers have delivered tremendous value, massive consolidation of fertilizer companies and limited control of the assets used to transport heavy volumes of liquid fertilizer has led to farmers' inability to control large swings in starter fertilizer costs.

Further, starter fertilizers have traditionally been high in salt content and are difficult to handle, quickly corroding and wearing out handling equipment. These factors limit a farmer's ability to control input costs and best manage their ability to produce a sustainable and consistent return on their investments.

## TESTIMONIAL

*Troy Jangula, Napoleon, ND*

"UPSHIFT C has exceeded our expectations. We totally altered our starter program and aren't seeing any drawbacks. UPSHIFT C is easy to use, we have had zero plugging issues while planting, and the results we're seeing are just as good or better at half the cost. We haven't seen a downside to this product since using it."

## COMPLEMENTARY MERISTEM PRODUCTS

