

Field Results Show Big Dividends from Reallocating Fertilizer Dollars to Nutrient-boosting Biologicals

A Post-harvest Position Paper from Meristem Crop Performance®

This year, before planting season, we shared a position paper about leveraging soil biology to make the most of plant nutrition already in every acre. Here, we check in on farmers making the most of their fertilizer spend with a fertility plan that includes biologicals.

– The Meristem Team

James Wengerd comes down the ladder of his fertilizer spreader with a spring in his step. It's a bright, sunny day in central Kentucky, and harvest is going well. His brother is in the combine, finishing one season, and James is starting the next with potash and dry humic acid in the big rig.

"Dad never held us back," he says, "but we think differently than when he grew up. We used to put out lots and lots of dry fertilizer trying to raise our soil tests, and we weren't having good results," he says. That's when the Wengerds began to move dollars from conventional NPK to biologicals.

"We cut our rates on commercial fertilizer the last few years, and we spent those dollars improving our soil health," he says. "We've learned that with commercial fertilizer, you're only getting maybe 20 to 40 percent of it available to the crop. With biologicals, we're trying to make that 70, 80, or maybe 100 percent available to that crop." Wengerd says they spend the same amount of money per acre as they did before their move to biologicals, "but our yield has gone up."

"With the potential for volatile commodity prices on the horizon, now more than ever, you can see the advantage of moving a portion of the fertilizer spend to a biological-based plan," says Mitch Eviston, founder and CEO of Meristem Crop Performance. "We're getting an abundance of live microbes all the way into the target with our BIO-CAPSULE® and MICROBILIZE™ technology, and farmers are telling us they are going faster and seeing real productivity gains."

Biology Works All Season-long.

"Biology is fertility," Brewer Blessitt, Ph.D., says flatly. The crop consultant and founder of Blythe Bayou Research and Consulting helps manage 40,000 acres of crops in the mid-south.

"We can put the microbes out there, and they help provide nutrients to the plant, and the plant, in return, provides those bugs with carbon, the soil currency, in the form of root exudates." Blessitt explains that biologicals do better as season-long plant nutrition than commercial fertilizer.

"Applying too much synthetic fertilizer makes plants lazy," he says. "They choose the NPK you put down rather than build their microbial supply. If you want to build a less expensive, full-season plant nutrition system, you have to reduce the amount of synthetic fertilizer you're applying." Blessitt says you don't need to go 'whole hog,' but "be open to dialing back a little, especially with N, P, and K." He suggests backing off 30 or 40 pounds.

"Crop input decisions at the family level can be tough," says Peter Rousonelos, Senior VP of Business Development for Meristem, but igniting this 'biology-is-fertility' system can pay big dividends. "Talk it over. Talk to your agronomist. Think about taking \$30 from your dry fertilizer spend and reallocating it. If you've got liquid on your planter, we can save you at least \$40 per acre, reduce your hassles and get you better results."

Go Faster. Win More.

Two CLAAS combines are speeding through a standing army of light brown soybeans as Gary Barten steps out of his truck at the edge of the field. “This is the truth detector moving across the field today,” he laughs. “It’s crunch time. We’re trying to beat the rain.”

Barten has a difficult job. As row crop manager for Wysocki Farms in Central Wisconsin, he oversees dozens of people growing a half-dozen crops across thousands of acres.

“Every soybean acre got Meristem’s REVLIN[®] HOPPER THROTTLE[™] this year, and we are picking up some yield increases,” he says. “Yields in a drought year are running 5 to 10 bushels above what we’ve been getting in the past.” Barten says learning more about biology and how it boosts fertility is critical. “Soil health translates to plant health and nutrient use efficiency,” he says, “and the HOPPER THROTTLE was user-friendly and allowed us to get bios and micros right into the furrow.”

To say soil fertility is complex is an understatement, but one thing is now clear: Soil microbes make nutrients already in the soil available to the plant. Here’s what biologicals do for crop production:

Enhance Nutrient Use Efficiency. The right biologicals unlock nutrients tied up in crop residue and build healthier soils through increased biological activity. The right biologicals unlock the nutrients you already own.

Build Strong, Healthy Plants Faster. Biofertilizers and biostimulants are redefining the term “starter.” When added to the furrow, they boost plant nutrition by fixing nitrogen, solubilizing nutrients and building robust root systems.

Optimize Genetic Potential All Season Long.

In-season use of biologicals — enzymes, amino acids, and other plant extracts — along with fungicides and micronutrients, will help mitigate yield-robbing stresses and maximize yield potential, leading to more grain and pod retention and fill.

Fast Start, Solid Finish.

“Getting fast emergence and big roots is huge,” says Rousonelos, “but to convert that fast start to a solid finish, you have to manage in-season stresses and feed the beast as it grows to maximize the yield potential we started.” Rousonelos shares his proven “yield-multipliers”:

Make The Most of Nutrients You Already Own. “Unlock valuable pounds of NPK trapped in crop residue with EXCAVATOR[®], powered by MICROBILIZE[™]; you may save even more fuel and labor with one less tillage pass. This stuff works.”

Manage Nitrogen for Just-in-time Delivery. “Meristem’s N-GEAR[®] DUAL ACTION with Micro-Chain Technology captures and maintains more nitrogen in the upper root zone, increasing nitrogen uptake and utilization at planting time.”

Boost the Plant’s Focus on Building Massive Root Systems and Enhance Nutrient Availability. “At planting, use REVLIN HOPPER THROTTLE, powered by ETHER[™] Enzyme Technology, to deliver active, lively microbes to build massive root structures and boost nutrient availability. Growers with liquid systems on the planter should use UPSHIFT[®] C liquid fertilizer concentrate to dramatically reduce costs compared to traditional starters and jumpstart biologicals.”

Feed The Beast All Season Long. “Once you get off to a successful early start with big roots and fast growth, you need to give the crop what it needs to excel and maximize yield potential,” says Rousonelos. “You need to add yield multipliers like HARVESTSHIELD[™] COMPLETE and HOMESTRETCH[®] NKB-S to retain more grain and pods — resulting in better grain fill.”

John Torrance, who farms around his home near Gladstone, Illinois, maneuvers his combine into a river bottom field. You can’t see the Mississippi River from here, unless maybe you stood on top of the cab. “We’re hoping to put some good numbers up today,” he says. Torrance is a man of faith, and a humble one. Fact is, he rotates corn and soybeans in this field and last year, it made 113 bu./A. beans — the best in Illinois. He says

pursuing excellence means close-in, year-long management. He used EXCAVATOR on his residue, REVLIN HOPPER THROTTLE in his planter box, and HOMESTRETCH NKB-S in his fungicide pass.

“Nutrients you get from the residue with EXCAVATOR are about three times more efficient than with commercial fertilizers. So that is a big, big deal when it comes to really driving home yield.” Torrance says pushing for higher yields means being mindful of the details that help make the most of every seed planted. “It’s about seed size,” he says. “If you have a million seeds and can increase the size of each one by even 100th of a percent, it’s a big deal. At the end of the day, if you can improve your efficiency of the uptake and nutrients, that’s where a lot of yield comes from.”

“We’re learning a lot,” says Meristem CEO Eviston. “We believe biologicals are a big part of the future of agriculture, but whether it’s synthetics, chemistry, enzymes — we want to bring innovation to farmers that help them go faster, win big, and keep more of what they earn.”

*For more information and an expanded version of this story, **please visit MeristemAg.com**.*