

Envita® Nitrogen Mgt. Study PTI Partner Trial



Objective: To evaluate yield and economics of Envita®, applied in-furrow at planting in a FurrowJet® center only application (Figure 1.), at 100% and 90% nitrogen rates, and a foliar V3 application.

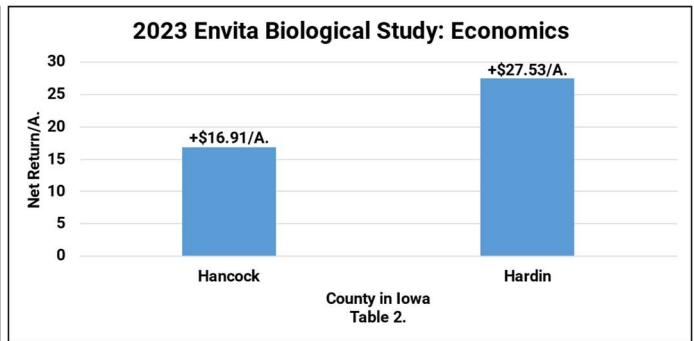
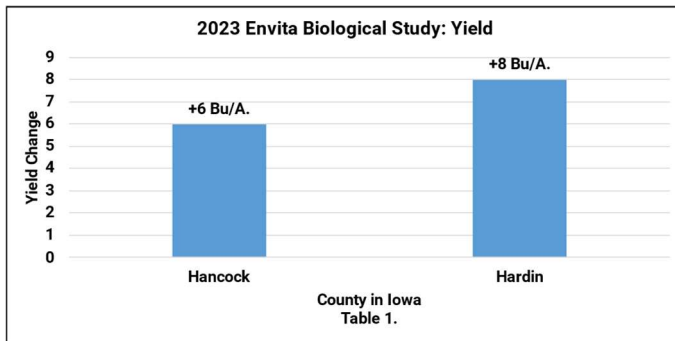
Figure 1: FurrowJet® In-Furrow Application



Envita®, distributed by NewFields Ag™, is a naturally occurring, food-grade bacteria (*Gluconacetobacter diazotrophicus*) that was originally discovered in sugarcane. Envita® forms a symbiotic relationship with the host plant and provides nitrogen to cells throughout the plant, both above and below ground, all season long. The use of fertilizers and particularly nitrogen fertilizer is necessary for crop yield and quality. Soybeans and other legume crops have a natural ability to fix nitrogen through their root system, a process supported by rhizobia, which allows inoculated plants to create nodules that fix additional nitrogen in the soil. This practice is commonplace in soybean, but until now there has not been a similar solution for non-legume crops – now there is.

Results: Table 1. illustrates yield gains of +6 and +8 Bu/A. when Envita® was applied in-furrow when nitrogen rate was reduced by 10%, yield increased by +\$16.91 and +\$27.53 A.

This trial was done as a PTI partner trial, implemented by Arnold Farms in Hancock and Hardin County, Iowa.



Source™ Foliar V4 Application Study

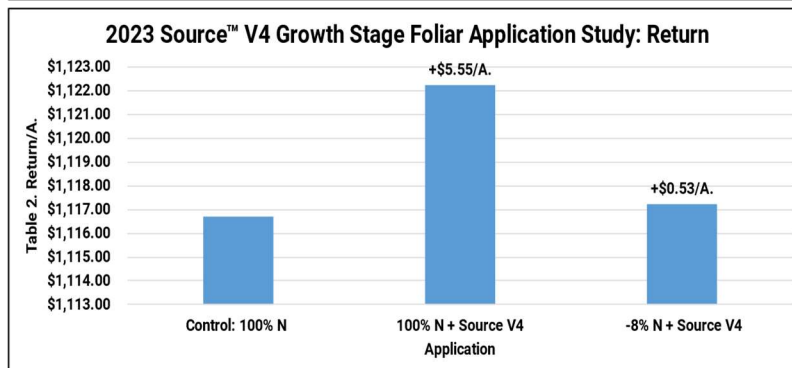
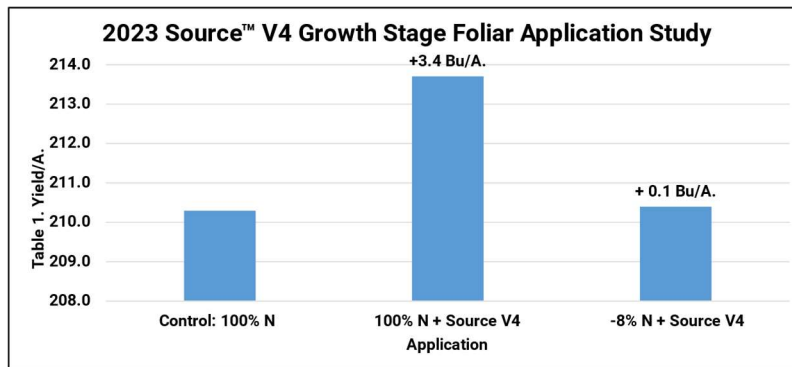
Objective: To evaluate the yield, economics, and nitrogen efficiency of Source™, a foliar-applied nutrient efficiency product that increases plant-available nitrogen and phosphorus to support healthier plants and improved productivity. Source™ contains 20.5% Maltol Lactone that activates nitrogen fixing bacteria, which turns atmospheric nitrogen into a plant available form.



Source™ is applied at a rate of 0.7 fl oz/A. at the V4 growth stage with 20 Gal/A. water carrier.

Due to its potential nitrogen efficiency, Source™ was applied in conjunction with 100% rates of N (180# N) as well as a -8% reduction.

Results: Tables 1-2. illustrate applications of Source™ at V4 resulted in +3.4 Bu/A. yield gains with a positive return on investment of +\$5.55/A. when applied with normal 100% nitrogen rates. As nitrogen rates were decreased by 8% with Source™, yield was stable and +0.1 Bu/A. of the control. Economics in Table 2. illustrate a positive return on investment of +\$0.53/A.



Source™ Foliar VT Application Study

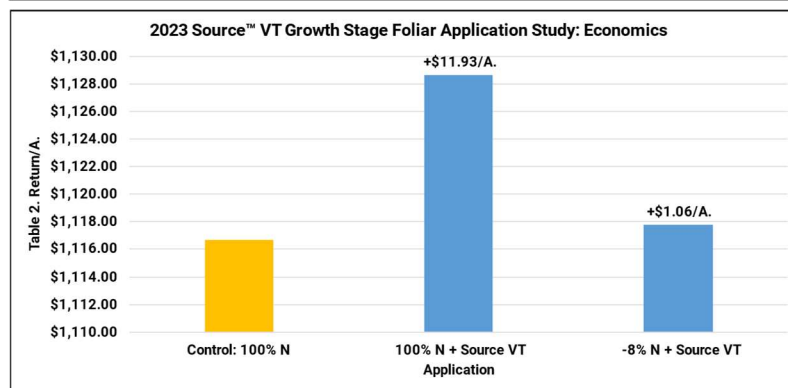
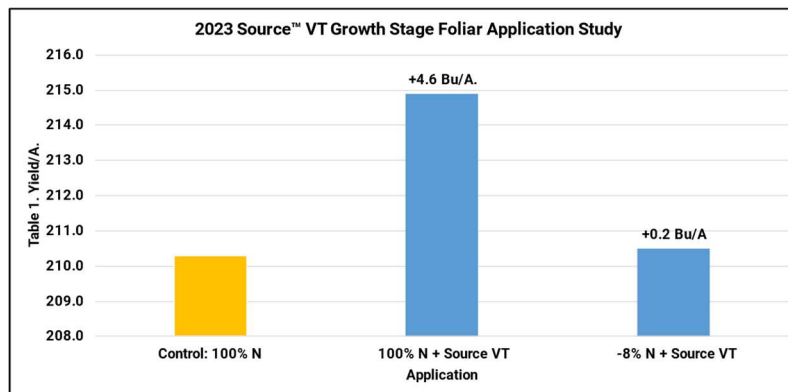
Objective: To evaluate the yield, economics, and nitrogen efficiency of Source™, a foliar-applied nutrient efficiency product that increases plant-available nitrogen and phosphorus to support healthier plants and improved productivity. Source™ contains 20.5% atmospheric nitrogen into a plant available form.



Source™ is applied at a rate of 0.7 fl oz/A. at the VT growth stage with 20 Gal/A. water carrier.

Due to its potential nitrogen efficiency, Source™ was applied in conjunction with 100% rates of N (180# N) as well as a -8% reduction.

Results: Tables 1-2. illustrate applications of Source™ at VT resulted in +4.6 Bu/A. yield gains with a positive return on investment of +\$11.93/A. when applied with normal 100% nitrogen rates. As nitrogen rates were decreased by 8% with Source™, yield only went up by +0.2 Bu/A. of the control with a return of +\$1.06/A.



Planting Date: 4/28 Hybrid: AgriGold® 639-70 Pop: 36K Row Width: 30" Rotation: CAB Corn Price: \$5.31 N Cost: \$0.88/# Source: \$12.50/A.