



As the world's largest producer of plant-based humic/fulvic acid products, we believe in the principles of sustainability and stewardship. We are different in the fact that, unlike conventional humic/fulvic acid products isolated from leonardite, our products are extracted from harvested straws, making them organic-based, renewable, cost-effective and eco-friendly.

What Are Humic Acid and Fulvic Acid?

Humic and **fulvic acids** are humus substances, which are clusters of small molecules chemically/biochemically/microbially transformed from plants or minerals, capable of sustaining plant growth and soil life, regulating soil carbon and microorganisms, and dealing with anthropogenic substances. Humic acid becomes less water soluble as pH level decreases, but fulvic acid remains water soluble at any pH level, thus a more effective form of humus substances. Vastly® fertilizer products are mostly fulvic acid-based.

Benefits of Vastly® Products



Better Nutrient Uptake for Higher Yield

Vastly® improves nutrient uptake. Higher yield is achieved at normal fertilization or similar yield with reduced fertilization.



Multiple Methods of Application

Vastly® may be used alone or in combination with other products (fertilizers, pesticides, fungicides), as a soil application or a foliar application, to achieve the best result for different crops.



Less Need for Pest Control and Disease Control

Vastly® improves crop health and resilience, and reduces need of pest control and disease control.



Better Soil and Water Conservation

A major part of the soil's organic matter is comprised of humus substances. Use of Vastly® means keeping your soil more organic by adding more humus substances to it. That will lead to better soil health, longer soil life and greater water efficiency.



Better Fertilizer Efficiency and Environmental Protection

Better uptake reduces loss of nutrients to rainfall. Vastly® helps you cut fertilizer application rates, comply with regulatory rules and protect the environment.



Greater Food Safety, Longer Shelf Life and Better Taste

Humus substances reduce translocation of heavy metals and other anthropogenic matters from soil to crops, thus improving food safety. In addition, Vastly® makes harvested crops stay fresh longer and taste better.



Reduced Length of Growth Cycle

The number of growth days needed are significantly reduced for many crops.

Vastly® vs. Conventional Products

	Vastly®	Conventional
Derived from sustainable sources of plants, not coal	✓	
Water-soluble at all pH levels	✓	Not all of them
Replaces other soil conditioners	✓	✓
Easy to blend with fertilizer, fungicide, and pesticide	✓	✓
Non-corrosive and non-staining at all pH levels	✓	
More bio-active	✓	

Product by Vastly®

5-0-2+
+ HUMIC/FULVIC ACIDS

5-0-2 + by Vastly with water-soluble humic/fulvic acids and organic carbon helps improve health and yield of a variety of crops. It is intended for use as a supplement to a balanced fertilization

Product Characteristics

Specific Gravity: 1.27

Analysis	International (%)
Nitrogen (N)	5
Potassium (K)	2
Sulfur (S)	5
Fulvic Acid	15
Organic Matter	40

Directions for Use

CROPS

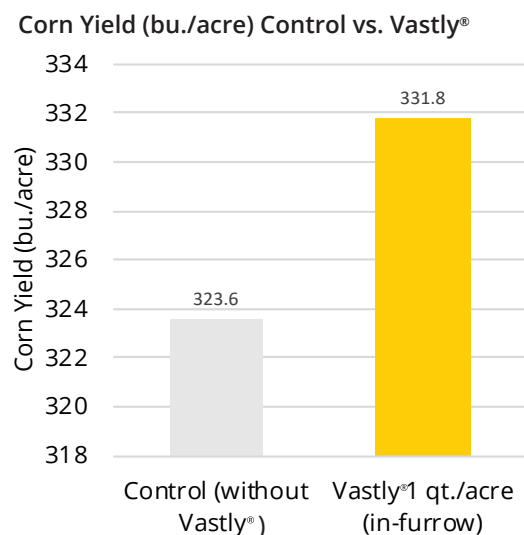
5-0-2 + by Vastly is intended for use on crops such as, but not limited to corn, soybeans, berries (cane, bush and strawberries), brassicas, cucurbits, cereals, citrus, leafy greens, legumes, onions, ornamentals, pome fruits, potatoes, stone fruits, tomatoes, turf and vine crops.

COMMENTS

1. Suitable for application by fertigation, irrigation, and foliar spray.
2. For crop-specific application rates, please contact your local sales representative.

Corn and Soybean Trials

Corn Trial



Trials by a corn grower in Kent, VA: 1 quart/acre of Vastly®, with the previous N.P.K. rates unchanged, led to an 8 bushel/acre increase in corn yield.

Soybean Trial



Herbicide + Water. Obvious leaf burn when herbicide is used alone, causing high risk of crop loss.



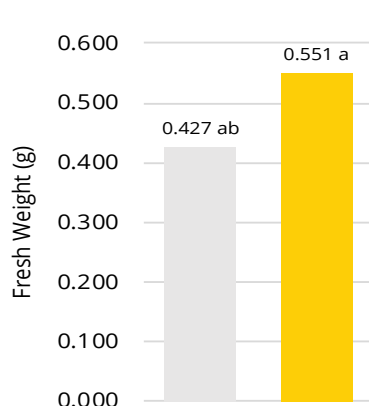
Herbicide + Vastly Product + Water. Obvious improvement in leaf burn when herbicide is used in combination with Vastly thanks to Vastly's buffering effect.

Germination Study by University of Florida

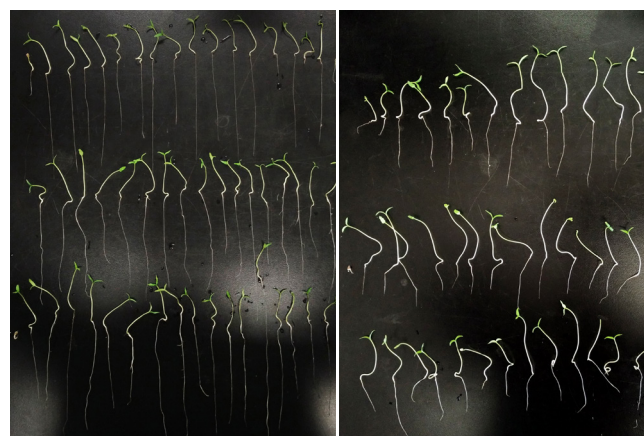
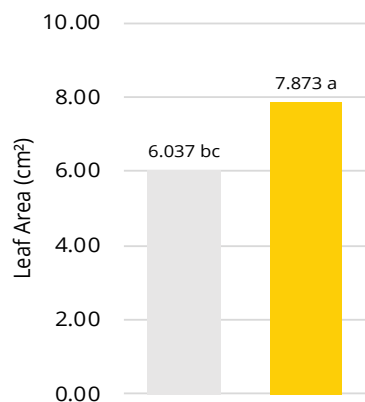
The University of Florida used Vastly® to treat tomato seeds in different concentrations and proved that Vastly® helps seed germination and shoot growth.

Control (Without Vastly®) Vastly 5-0-2 +0.75%

Twenty Tomato Seedlings Fresh Weight (g) on Control vs. Vastly®



Twenty Tomato Seedlings Leaf Area (cm²) on Day 10 Control vs. Vastly®



Control
(Without Vastly®)

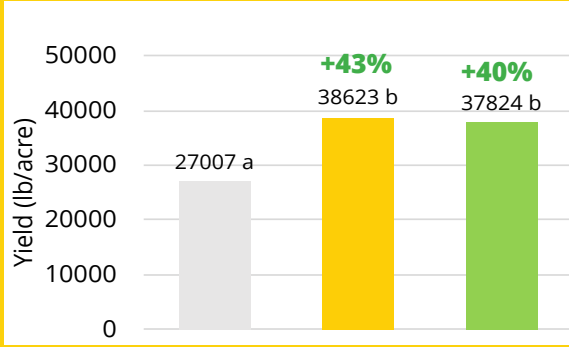
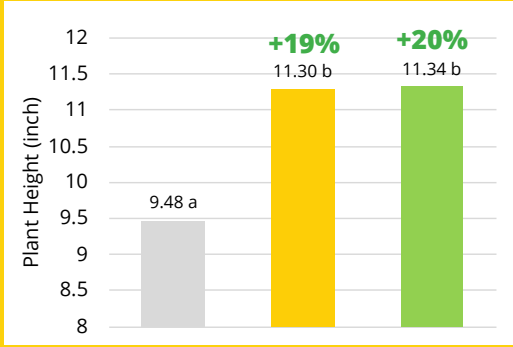
Treatment with
0.75% Vastly 5-0-2 +

Lettuce Trial

by SynTech Research

Lettuce Height (inch) Control vs. Vastly®

Lettuce Yield (lb/acre) Control vs. Vastly®



- Control (Normal Fertilization)
- Normal Fertilization + Vastly® 6 gal/acre
- 85% Normal Fertilization + Vastly® 12 gal/acre

Actual Field Trial Results Photos



Control
(Normal Fertilization)

Normal Fertilization
+ Vastly® 6 gal/acre

85% Normal Fertilization
+ Vastly® 12 gal/acre

Trials in Sanger, CA: 6 gal/acre of Vastly 5-0-2 +, with the previous N-P-K rates unchanged, led to a 40-43% increase in lettuce yield.

Treatment with 6 gallon/acre of Vastly 5-0-2 + expedited the lettuce height growth, reaching the same harvesting height 20 days earlier than control treatment group.

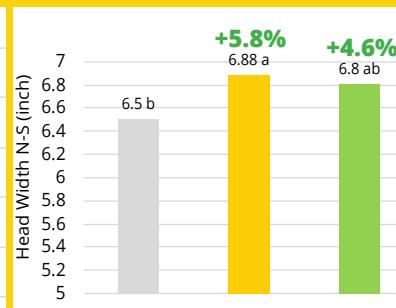
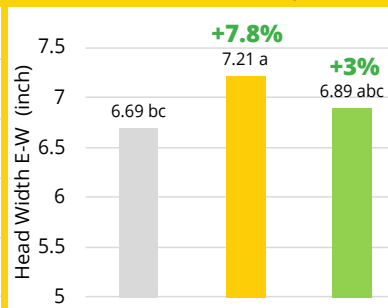
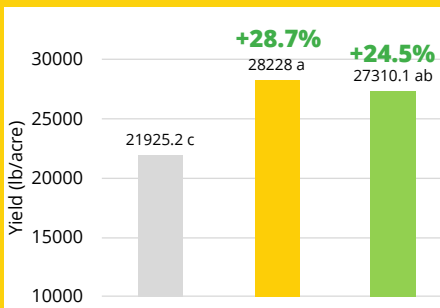
Broccoli Trial

by SynTech Research

Broccoli Totald Yield (lb/acre)
Control vs. Vastly®

Broccoli Head Width E-W
(inch) Control vs. Vastly®

Broccoli Head Width N-S
(inch) Control vs. Vastly®



- Control (Normal Fertilization)
- Normal Fertilization + Vastly® 12 gal/acre
- 85% Normal Fertilization + Vastly® 12 gal/acre

Actual Field Trial Results Photos



Control
(Normal Fertilization)



Normal Fertilization
+ Vastly® 12 gal/acre



85% Normal Fertilization
+ Vastly® 12 gal/acre

Trials in Sanger, CA: 12 gal/acre of Vastly 5-0-2 +, with the previous N-P-K rates unchanged, led to a 28.7% increase in broccoli yield.