

# Product Evaluation: BioWash 100 Field 1 Trial (In Furrow Treatment)

## The 2012 Crop Year in Review

No producer needs to be reminded that the 2012 crop year was challenging to say the least. We hope we will not witness these extreme hot and dry conditions for a long time. Even with proper management of crop inputs, lack of moisture made absorption of these inputs more critical than ever. It is no accident that major industry leaders focus their research on root development of plants. More root mass builds the capacity a plant needs to support its growth during a normal growing season and is absolutely essential during times of weather stress.

## Manufacturer/Distributor:

The following research evaluates the effectiveness of a product called BioWash 100 produced by 1<sup>st</sup> EnviroSafety, Inc., St. James City, Florida. Research was conducted by Robert R. Treloar, retired Professor of Biology who now farms in Northeastern Iowa. Positive Plant Products, LLC of Fredericksburg, Iowa is the distributor of this product.

## Product Summary:

BioWash 100 is an all-natural product that increases the ability of plant roots to absorb necessary nutrients and water. Tiny particles in BioWash 100 called colloidal micelles carry a negative charge that attracts positive charged particles (cations) many of which are fertilizers and essential micronutrients. Plant response to application of BioWash 100 should:

- (1) Increase cationic exchange via the root system and the existing soil nutrients
- (2) Enhance translocation of these nutrients throughout the plant

## 2012 Research Results

This year's focus was on corn acres where a significant yield improvement was reported with application of BioWash 100. With severely curtailed precipitation during the months of June, July, and August, absorption and translocation of plant nutrients played an even greater role in determining the ultimate yield.

Treated with 3 ounces of BioWash 100 in the furrow at planting, plant health and root dynamics were improved and sustained throughout the summer. A noticeable increase in root size and mass was observed in August between the control and the treated acres. Below are pictures of treated versus control taken in mid-August.

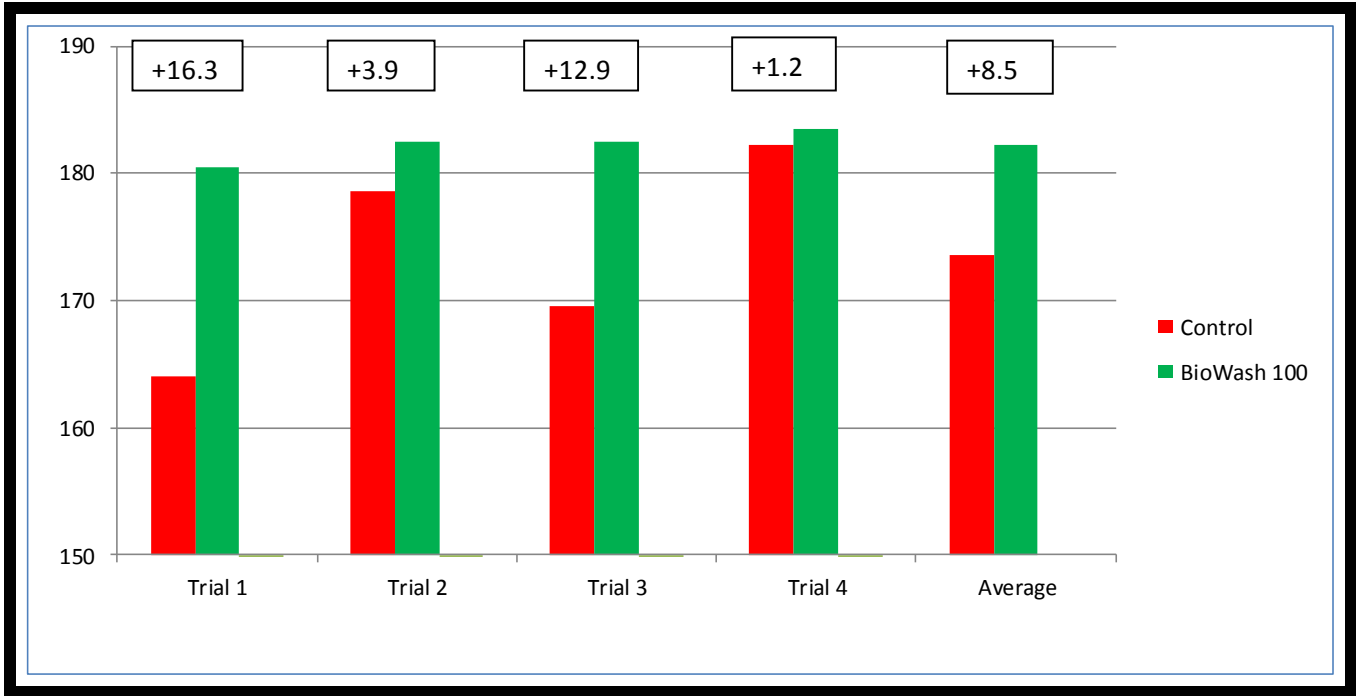
Control



Treated



While a more robust root structure is impressive, the bottom line is “Do they produce increased yields?” This year, Robert had eight test plots on his farm. Corn variety, soil type, tile pattern, nutrients, pesticide, and tillage management were the same on all eight test plots. The only variable was the addition of BioWash 100 in the furrow at planting. The average increase over all eight plots was 8.57 bushel per acre. All plots demonstrated a yield benefit. One test plot had an increase of 16.3 bushels per acre.



***Averaged 8.57 bushels/acre more corn yield when 3 ounces of BioWash 100 was included with starter solution***

**Control starter solution was 5 gallons 10-34-0, 5 ounces Ascend, 2 quarts 10% Zn in furrow at planting**

**Trial starter solution was 5 gallons 10-34-0, 5 ounces Ascend, 2 quarts 10% Zn, and 3 ounces BioWash 100 in furrow at planting**

### Economic Impact

Utilizing the data collected this year (8.57 bushels/acre average increase in yield) and a \$7.50 harvest corn price, the gross increase per acre would be \$64.28. A 160 acre field at a cost of \$5.00 per acre (\$800.00), would return (\$10,284.80) on your dollar invested

### Conclusions:

As a result of the visual inspection of the roots and positive yield response, the plant response was verified and the product has a very high return on investment.