

# Evaluation of Stoller Brand of Products for the Production of Soybeans

John Yost, Ohio State University Extension Educator, Fayette County

Mike Estadt, Ohio State University Extension Educator, Pickaway County

Joe Davlin, OARDC, Western Agricultural Research Station, South Charleston, OH

## Objective

To determine the soybean yield response to BioForge and Flower Power on a glyphosate tolerate soybean variety and a non-GMO soybean variety

## Background

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Crop Year:	2009	Tillage:	No-Till
Location:	Western Agricultural Research Station, South Charleston, OH	Planting Date:	May 21, 2009
County:	Clark County	Seeding Rate:	170,000 seeds/acre
Drainage:	Tiled, Well drained	Variety:	Asgrow 3803 and Pioneer 93B82
Previous Crop:	Clover	Harvest Date:	October 21, 2009

## Methods

Products tested include the following:

**Bio-Forge:** Product is marketed as an antioxidant that purges plant cells of excess ethylene for all crops. Bio-Forge makes crops and plants stronger and better able to live through a number of stressful conditions including drought, flood and freeze.

**Flower Power:** Product is marketed as a complex micronutrient and antioxidant with growth enhancing co-factors resulting in increased fruit set and crop yield. Flower Power increases auxin, the hormone that dictates pollination, in every flower for stronger pollination. Poor pollination is a common problem on many perennial trees, vines, bushes, and multiple fruiting crops resulting in lower yields.

This study was conducted at the OARDC branch located in South Charleston, OH. Both the RR and non-GMO soybean trials were planted into a 10' X 100' plot, in 15 inch rows using a Kinze 7 row planter. The two soybean varieties used were Asgrow 3803 and Pioneer 93B82, which were planted on May 21 at a seeding rate of 170,000 seeds per acre. The treatments used were:

- 1) Non-treated control
- 2) Seed Treatment of 4 oz/cwt of Bio-Forge & 4 oz/cwt CoMo
- 3) Bio-Forge foliar applied at 1 pt/ac prior to flowering
- 4) Bio-Forge foliar applied at 1 pt/ac at growth stage R4.5
- 5) Flower Power foliar applied at 1 pt/ac every 14 days beginning at 1st flower
- 6) Manganese foliar applied 2 qt/ac with last herbicide treatment.

All plots were harvested using a Kincaid plot combine and weight, moisture, and test weight measurements were recorded with a weigh bucket system.

## Results

RR Soybean Yield (bu/A) Response and a Average Harvest Population to Foliar Fertilizers

	Yield (bu/A)	Harvest Pop
Non-treated	66.52	139500
Seed Treatment Bio-Forge & CoMo	55.97	103500
Bio-Forge foliar prior to flowering	67.3	137500
Bio-Forge foliar applied at R4.5	67.34	132750
Flower Power; every 14 days beginning at 1st flower	65.96	128500
Manganese applied with last herbicide treatment.	66.21	123750
	64.88	127583
<b>Confidence Interval = 10%</b>	<b>LSD</b>	<b>3.47</b>
		<b>19835</b>

Non-GMO Soybean Yield (bu/A) Response to Foliar Fertilizers

	Yield (bu/A)	Harvest Pop
Non-treated	53.99	112000
Seed Treatment Bio-Forge & CoMo	47.61	67750
Bio-Forge foliar prior to flowering	52.09	120000
Bio-Forge foliar applied at R4.5	50.78	112750
Flower Power; every 14 days beginning at 1st flower	53.89	116000
Manganese applied with last herbicide treatment.	54.29	121000
	52.11	108250
<b>Confidence Interval = 10%</b>	<b>LSD</b>	<b>4.11</b>
		<b>16516</b>

## Summary

The 2009 growing season was exceptional for the production of corn and soybeans. The limiting factor was below average temperatures during the late summer months. However, the lower temperatures had limited impact with above average yields reported around the region. Results from this study were inconclusive. Given that the products tested are meant to assist the plant in managing stress, the ideal weather conditions did not provide the ideal environment for evaluating their effectiveness.

Yields were near identical for Roundup Ready beans. A significant reduction in yield was seen when the Bioforge product was utilized as a seed treatment on both the RR and Non-GMO varieties. This was reflected in a significant reduction in harvest populations for both RR and non-GMO varieties when BioForge was used as a seed treatment.

For more information, contact:  
 John Yost  
 OSU Extension Fayette County  
 1415 U.S. Rte 22 SW, Suite 100  
 Washington Court House, Ohio 43160  
 yost.77@osu.edu

