



Bio Green Late Season Soybean Test

Conducted by: Orthman Laboratories

Testing Site: Orthman Research Farm  
Lexington, Nebraska

Bio Green USA, Inc.  
1009 Greg St.  
Sparks, NV 89431  
877-246-2406

# EFFECTS OF BIO GREEN 3-0-1 ON SOYBEANS

**NAME:** John Perry **DATE:** November 3, 2008 **TIME:** 6/28/08-10/30/08 **TEST:** Orthman Manufacturing, Lexington, NE

## QUESTION:

Can Bio Green increase yields and be profitable?

## HYPOTHESIS:

The plants with Bio Green will produce more beans and increase overall profitability per acre.

## MATERIALS/APPARATUS:

Control (no fert)  
 BG 3-0-1 at 2 gallons per acre  
 Kugler 12-12-12 at 4 gallons per acre  
 Kugler 12-12-12 at 6 gallons per acre

## PROCEDURE:

Over the course of 120 days plants will be measured by total bushel per acre.

## CONCLUSION:

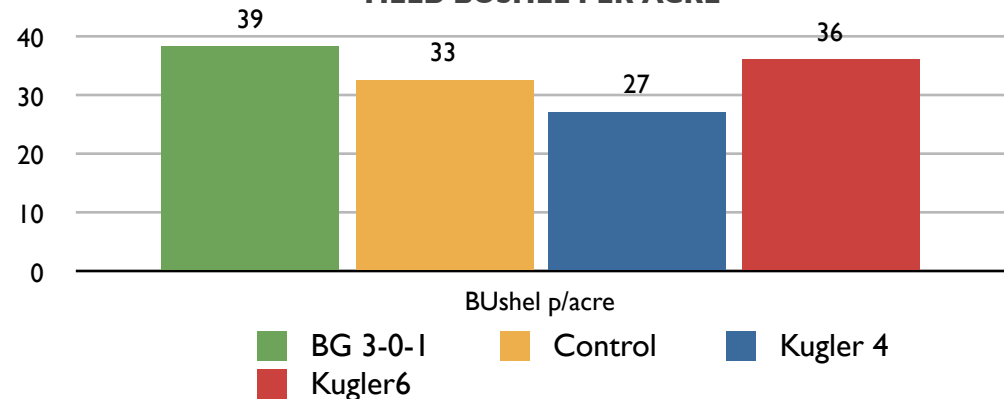
After a short growing season Bio Green 3-0-1 out performed all other tests, including an additional net of \$20.00 per acre for farmers profits



**BUSHEL PER ACRE YIELD**

DATE	BG 3-0-1	CONTROL	KUGLER 4	KUGLER 6
BUSHEL P/ACRE	38.5	32.8	27.4	36.2

**YIELD BUSHEL PER ACRE**



Ag Testing - Consulting

Account No. : 28966

Feed Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY NE 68845

Invoice No. : 1041072  
Date Received : 10/30/2008  
Date Reported : 11/03/2008  
Lab Number : 8801

Results For : BIO GREEN  
Sample ID : 1-CHECK  
Description : SOYBEANS

	Analysis As Received	Analysis Dry Basis
Moisture, %	8.79	0.00
Dry Matter, %	91.21	100.00
Crude Protein, %	32.1	35.2
Fat (Oil), %	18.9	20.7

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Feed Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY NE 68845

Invoice No. : 1041072  
Date Received : 10/30/2008  
Date Reported : 11/03/2008  
Lab Number : 8802

Results For : BIO GREEN  
Sample ID : 2-BIO GREEN  
Description : SOYBEANS

	Analysis As Received	Analysis Dry Basis
Moisture, %	8.25	0.00
Dry Matter, %	91.75	100.00
Crude Protein, %	32.5	35.4
Fat (Oil), %	19.3	21.0

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**Feed Analysis Report**

**PETERSEN, CHAD**  
**BIO GREEN**  
**1514 16TH AVE**  
**KEARNEY NE 68845**

**Invoice No. : 1041072**  
**Date Received : 10/30/2008**  
**Date Reported : 11/03/2008**  
**Lab Number : 8803**

**Results For : BIO GREEN**  
**Sample ID : 3 K 4 GAL**  
**Description : SOYBEANS**

	<b>Analysis As Received</b>	<b>Analysis Dry Basis</b>
Moisture, %	8.41	0.00
Dry Matter, %	91.59	100.00
Crude Protein, %	33.4	36.5
Fat (Oil), %	19.4	21.2



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Feed Analysis Report

PETERSEN, CHAD
BIO GREEN
1514 16TH AVE
KEARNEY NE 68845

Invoice No. : 1041072
Date Received : 10/30/2008
Date Reported : 11/03/2008
Lab Number : 8804

Results For : BIO GREEN
Sample ID : 4 K 6-GAL
Description : SOYBEANS

Table with 3 columns: Analysis As Received, Analysis Dry Basis, and values for Moisture, Dry Matter, Crude Protein, and Fat (Oil).

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Feed Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY NE 68845

Invoice No. : 1041072  
Date Received : 10/30/2008  
Date Reported : 11/03/2008  
Lab Number : 8805

Results For : BIO GREEN  
Sample ID : 5 BG+FOLIAR  
Description : SOYBEANS

	Analysis As Received	Analysis Dry Basis
Moisture, %	7.92	0.00
Dry Matter, %	92.08	100.00
Crude Protein, %	34.0	36.9
Fat (Oil), %	19.4	21.1



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Soil Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY NE 68845

Invoice No. : 1041067  
Date Received : 10/30/2008  
Date Reported : 11/03/2008

Results For : BIO GREEN  
Location : SOYBEAN

Lab No. : 74511	Depth : 0 - 10
ID : CHECK-1	
1:1 Soil pH	7.8
Soluble Salts 1:1, mmho/cm	0.25
Excess Lime Rating	NONE
Organic Matter LOI, %	1.8
Nitrate-N Ca-P, ppm N	1.8
Nitrate-N, lbs N / Acre	5
Phosphorus Mehlich P3, ppm P	12
Potassium NH <sub>4</sub> OAc, ppm K	513
Total Carbon, % C	1.00
Total N, ppm N	1198



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Soil Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY NE 68845

Invoice No. : 1041067  
Date Received : 10/30/2008  
Date Reported : 11/03/2008

Results For : BIO GREEN  
Location : SOYBEAN

Lab No. : 74512	Depth : 0 - 10
ID : BIO GREEN -2	
1:1 Soil pH	7.9
Soluble Salts 1:1, mmho/cm	0.25
Excess Lime Rating	NONE
Organic Matter LOI, %	1.7
Nitrate-N Ca-P, ppm N	1.5
Nitrate-N, lbs N / Acre	5
Phosphorus Mehlich P3, ppm P	8
Potassium NH <sub>4</sub> OAc, ppm K	495
Total Carbon, % C	0.93
Total N, ppm N	1152



Ag Testing - Consulting

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Soil Analysis Report

PETERSEN, CHAD  
BIO GREEN  
1514 16TH AVE  
KEARNEY

NE 68845

Invoice No. : 1049952  
Date Received : 04/22/2009  
Date Reported : 04/24/2009

Results For : ORTHMAN  
Location : 08 BEANS

Lab No. : 67962	Depth : 0 - 12
ID : 1	
1:1 Soil pH	7.8
Soluble Salts 1:1, mmho/cm	0.26
Excess Lime Rating	NONE
Organic Matter LOI, %	1.8
Nitrate-N Ca-P, ppm N	7.0
Nitrate-N, lbs N / Acre	25
Phosphorus Mehlich P3, ppm P	16
Potassium NH <sub>4</sub> OAc, ppm K	582
Total Carbon, % C	0.97
Total N, ppm N	1231

## SOY BEAN

Foliar mass is greater on Bio Green and nodules are greater in number than the control resulting from the in-furrow application of Bio Green at planting.



Bio Green  
June 28, 2008

Control  
June 28, 2008

## SOY BEAN

Tap root on Bio Green is straight into the soil which Promotes better drought tolerance and a stronger plant for greater yield.



Bio Green  
June 28, 2008

Control  
June 28, 2008

# Orthman's Soybean Test

## 9-19-2008

### Root Dig at 82 Days

On September 19, 2008 I was in the presence of Mike Petersen, who is Orthman Manufacturing's soil research scientist. His objective is to determine the quality of the soil environment in which crops grow. By studying the root structure of the plant it can be determined how, when and where to place fertilizers with less input and more uptake for the plant, this enables the grower to maximize yield potential.

The test field is located in the Platte River Valley near Lexington, Nebraska. The beans were planted using conservation tillage practices. Meaning they were planted between the old rows of corn, leaving last years corn stalks standing. This area of the valley had excess rainfall during the planting season which is why the planting was late. They had one rainfall of over 8 inches and multiple 1 ½ inch rains and at one time the field was under 6 inches of water.

Being able to see how our product works in the root zone of row crops is a first for BioGreen Ag. We used a 2 gallon to the acre rate, applied in furrow, on a 3.1 medium season bean on June 28th. Because we are able to fertilize in the seed bed as it is planted cuts down on the number of trips a grower has to go through a field, thus saving time and fuel. At 82 days after planting we dug a hole about 40" deep and 40" wide in the BGAg beans and the check beans. The BGAg bean root depth was about 31" while the check bean was about 24". Nodulization on both beans were healthy with the bulk of nodules in the range of 1"- 3" below the surface. We did encounter some nodules at 4"- 6" in both beans, which is common, but found nodules at 13" and 17" on the BGAg beans, which is not common. Nodules are rhizobia bacteria that grow together to form a colony. The soil dwelling bacteria fix nitrogen in association or symbiosis with the soybean root.

I noticed more worm activity in the BGAg bean root excavation than in the check bean excavation, which is what we want to see. This was only an observation and not scientific. That maybe a future experiment to see how much more biological activity we will create.

The over all health of the plants were great. With signs of new growth showing in the BGAg beans this late in the season means the plants still has enough nutrient uptake to continue growing. The final test will come at harvest when oil and protein levels, along with yield, will be determined. Harvest will be near the end of October. Test results will follow.

Chad Petersen  
BioGreen  
308-708-1747





Bio Green 3-0-1 at 2.0 Gallons per acre application yeilds 146 pods from five test plants.



Control Group with no fertilizer applied yeilds 114 pods from five test plants.