



## DETONATION FORMULA - BLUEGRASS

August - September 2016  
Hicksville, NY 11530

### PURPOSE OF TRIAL

The purpose of this experiment was to quantify the effect Detonation had on plant growth and soil biology. The parameters utilized to ascertain efficacy were growth promotion, nutrient uptake and soil biology.

### PROTOCOL & METHODOLOGY

TREATMENT	FERTILIZER RATE	APPLICATION 1	APPLICATION 2
<b>Detonation Plot 1</b>	8 lbs per 1000 sq ft 8-15-16	4 oz per 1000 sq ft 8-15-16	4 oz per 1000 sq ft 9-15-16
<b>Detonation Plot 2</b>	8 lbs per 1000 sq ft 8-15-16	6 oz per 1000 sq ft 8-15-16	6 oz per 1000 sq ft 9-15-16
<b>Control Plot 1</b>	10 lbs per 1000 sq ft 8-15-16	None	None
<b>Control Plot 2</b>	10 lbs per 1000 sq ft 8-15-16	None	None

- Test Plots were treated with Detonation and fertilized with 10-2-4 @ rate of 0.8 lbs N per 1000 sq ft
  - Detonation was applied twice during trial at 4 oz & 6 oz per 1000 sq ft 4 weeks apart
- Control Plots were fertilized with 10 – 2 – 4 @ rate of 1.0 lb N per 1000 sq ft, they did not receive any Detonation
  - Both plots were watered on an as needed basis throughout the trial
  - Two weeks after fertilizer application and initial Detonation application data collection began
  - Each week a 15” x 21” inch swath was randomly removed from each 1000 sq ft plot, analyzed and data was recorded as follows

### BLUEGRASS CLIPPING WEIGHT (grams)

TREATMENT	Fresh Weight 9-1-16	Fresh Weight 9-8-16	Fresh Weight 9-15-16	Fresh Weight 9-22-16	Fresh Weight 9-29-16	Fresh Weight 10-6-16	Cumulative Weight All Dates
<b>Detonation Plot 1</b>	9.33	9.67	11.89	12.85	13.56	13.33	11.77
<b>Detonation Plot 2</b>	9.87	9.88	11.99	12.97	13.87	13.56	12.02
<b>Control Plot 1</b>	9.23	9.67	9.78	10.12	10.87	10.55	10.04
<b>Control Plot 2</b>	9.45	9.55	9.89	10.23	10.89	10.97	10.16

\* Fresh clipping weight indicates that plots treated with Detonation stimulated 17.23 - 18.31 % more growth than the Control plots.

\* This despite the fact that the Detonation plots received 20 % less nitrogen than Control plots

### BLUEGRASS TISSUE ANALYSIS (ppm)

TREATMENT	Nitrate – Nitrogen (ppm) Taken 9-15-16	Nitrate – Nitrogen (ppm) Taken 9-29-16
<b>Detonation Plot 1</b>	388	512

<b>Detonation Plot 2</b>	395	522
<b>Control Plot 1</b>	389	423
<b>Control Plot 2</b>	391	434

\* Tissue analysis indicates that Detonation increased nitrate nitrogen levels in turf-grass blade as compared to Control Plot

#### MPN COUNTS (Microbial Counts)

<b>TREATMENT</b>	<b>CFU / gram of soil Taken 8-15-16</b>	<b>CFU / gram of soil Taken 9-15-16</b>	<b>CFU / gram of soil Taken 9-29-16</b>
<b>Detonation Plot 1</b>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>10</sup>
<b>Detonation Plot 2</b>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>10</sup>
<b>Control Plot 1</b>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>
<b>Control Plot 2</b>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>	1.0 x 10 <sup>0</sup>

\* Microbial analysis of the soil indicates that Detonation enhanced soil biology 4 logs (10,000 X). Control Plots (fertilizer only) had little effect on biological activity in soil profile (0 – 1 log)

#### RESULTS AND DISCUSSION

The data generated in this trial supports the assertion that Detonation enhances plant growth independent of supplemental fertilizer applications. All three parameters (turf growth, nutrient uptake & soil biology) were significantly enhanced by the addition of Detonation. This is despite the fact that the Detonation plots received

20 % less Nitrogen (0.8 lbs of N per 1000 sq ft) than the Control Plots (1.0 lb of N per 1000 sq ft)