

# DETONATION<sup>®</sup>

## TURF QUALITY STARTS WITH MICROBIAL SOIL HEALTH



**REDUCE AGRONOMIC  
STRESS ISSUES**

**PROMOTE MICROBIAL  
& SOIL HEALTH**

**ENHANCE TURF  
RECOVERY & ROOTING**



### THE SCIENCE IS SIMPLE

Detonation increase the soil microbial populations that promote a natural sustainable approach. This reduces the amount of nutrients and water required without jeopardizing the turf health nor negatively impacting the environment.

Detonation supports sustainable turf management practices. This approach translates into increased turf quality and improves soil health.

### PROGRAM RECOMMENDATIONS

The programs are designed to build beneficial microbial populations to enhance fertilizer efficiencies and reduce agronomic issues. Detonation repairs microbial populations damaged by pest control products.

#### GOLF

**Green & Tees Program** – Apply 32 oz/A of Detonation initially in the spring with monthly application of 16 oz/A applications throughout the growing season.

**Fairways & Roughs** – Apply 32 oz/A of Detonation on a 3-month frequency Spring, Summer and Fall to maximize soil microbial health.



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# DETONATION+

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## EFFECTS OF DETONATION MICROBIAL INOCULANT ON TURF QUALITY, PHYSIOLOGICAL FITNESS, AND ROOT GROWTH IN CREEPING BENTGRASS WHEN SUBJECTED TO INDUCED DROUGHT AND HEAT STRESS

### RESEARCH REPORT

Xunzhong Zhang - School of Plant and Environmental Sciences - Virginia Tech, Blacksburg, VA - July 9, 2024

### OBJECTIVE

The main objective of this study was to evaluate effects of Detonation microbial inoculant on turf quality, physiological fitness, and root growth of creeping bentgrass under induced heat and drought.

### RESULTS AND DISCUSSION

#### TURF QUALITY

The Detonation microbial inoculant treatments improved turf quality relative to the control. On average, the product applied once or twice consistently improved turf quality (Table 1, Fig. 1).

#### LEAF COLOR

Foliar application of the Detonation microbial inoculant improved leaf color ratings when compared to the control as measured at day 42 and 56. On average, the product applied once improved the leaf color when compared to the control. No differences in leaf color between the treatment#2 (single application) and #3 (two applications) (Table 1).

#### LEAF CHLOROPHYLL CONTENT

Foliar application of the Detonation microbial inoculant once or twice improved leaf chlorophyll content when compared to the control as measured at day 42 and 56 (Table 1).

#### LEAF PHOTOCHEMICAL EFFICIENCY (PE)

The Detonation microbial inoculant improved PE relative to the control. On average, all 7 products improved leaf PE as measured at day 42 and day 56 (Table 1). On average, the product applied once or twice had a similar positive effects on leaf PE (Table 1).

#### ROOT GROWTH CHARACTERISTICS & VIABILITY

Application of Detonation microbial inoculant increased root biomass and viability when compared to the control (Table 2, Fig. 2).

In summary, Detonation microbial inoculant applied once or twice improved turf quality, leaf color, photochemical efficiency, chlorophyll, root biomass, and viability of creeping bentgrass under heat and mild drought stress conditions. No difference in these measurements was observed between the product applied once at initiation of the trial and the that applied twice.

