



Rutgers University

Maintaining Turf Quality and Nutrient Absorption Under Low Level Fertility Management With APEX-10

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BACKGROUND

Turfgrass requires intensive management, particularly with addressing plant fertility. Natural products such as **APEX-10** have been found to effectively promote plant growth and nutrient retention in soils. The objectives of this study were: (A) determine whether **APEX-10** helps maintain turf quality while reducing fertilizers inputs. (B) To investigate how **APEX-10** impacts nutrient uptake.

METHODS

Plots of Bentgrass, and Bluegrass were treated with **APEX-10** and selected levels of fertility. Bentgrass plots were mowed at .170" and Bluegrass at 2.50". All plots were properly irrigated and fertilized prior to testing.

All Bentgrass and Bluegrass plots were divided into four treatment rates.

- A Plots:** Full Fertility
- B Plots:** 25% Reduction
- C Plots:** 50% Reduction
- D Plots:** 66% Reduction

MATERIALS

Bentgrass was treated every 2-week with a liquid 34-0-0. Bluegrass was treated every 4-weeks with a liquid 16-4-8.

APEX-10 was applied to both species at the following rates.

- Bentgrass:** 1½ oz. per 1,000, 14-days
- Bluegrass:** 3 oz. per 1,000, 30-days

TESTING

- ◆ Plants were examined bi-weekly via clip count for chlorophyll and shoot growth.
- ◆ Turf density was measured weekly, via multispectral radiometer.
- ◆ leaf tissue was examined weekly for N.P.&K.

Cores were pulled at the conclusion of the study. They were washed then dried to evaluate root and shoot biomass.

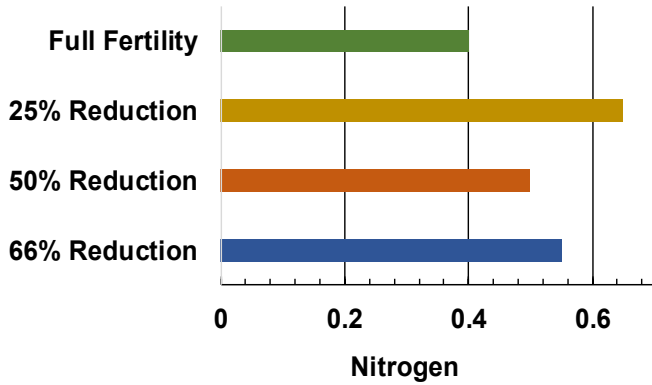
DISCUSSION

Normalized Difference Vegetation Index (NDVI), Leaf Area Index (LAI), Turf Quality (TQ), Shoot Growth, and Clip Count results show very little visible differences in Bluegrass and Bentgrass.

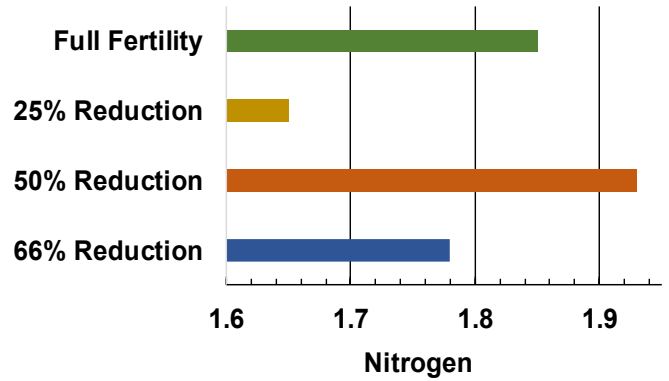
Results indicate **APEX-10**, plants will not be subject turf decline and will maintain root mass in the presence of less fertility.

Dr. Bingru Haung Ph D.

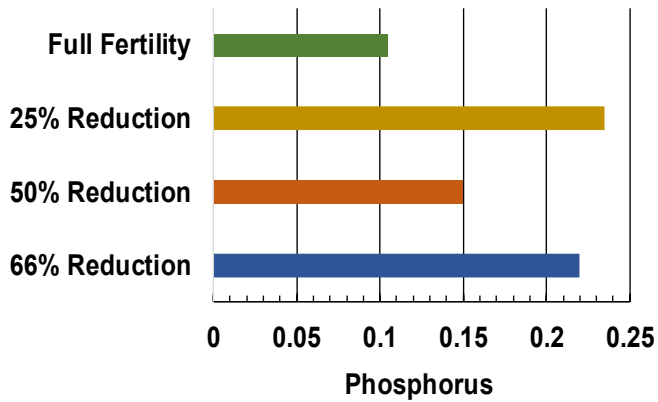
Bentgrass Leaf Tissue (N)



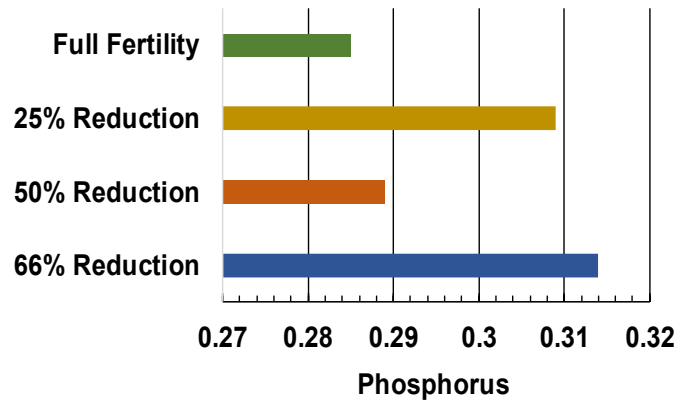
Bluegrass Leaf Tissue (N)



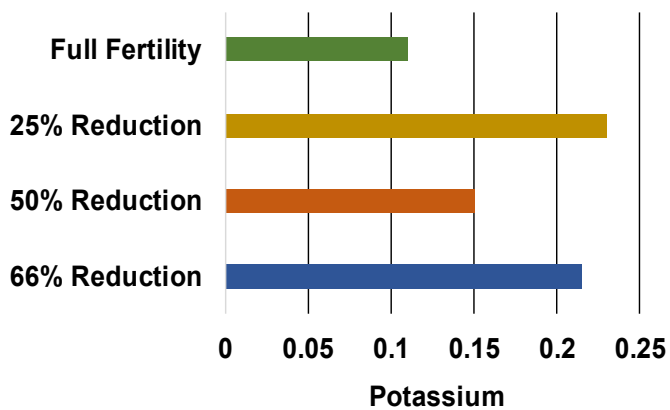
Bentgrass Leaf Tissue (P)



Bluegrass Leaf Tissue (P)



Bentgrass Leaf Tissue (K)



Bluegrass Leaf Tissue (K)

