

# FRAZE MOWING IMPACT ON SPRING DEAD SPOT SEVERITY



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## INTRODUCTION

- Spring dead spot, caused by *Ophiosphaerella* spp., is the most severe disease problem on bermudagrass used on athletic fields in climates that induce winter dormancy.
- Current control recommendations rely almost exclusively on fungicide use, but even with fall applications recovery from an existing epidemic may be a multi-year process.
- Previous research indicates hollow-tine aerification can reduce disease severity and increase fungicide efficacy.
- A new method, termed “frazze mowing”, is aggressive and removes more thatch and leaf tissue than previous cultivation practices.

## OBJECTIVE

- Investigate the impact of fraze mowing on spring dead spot severity, and determine if the practice can be implemented into an integrated management plan.

## RESULTS

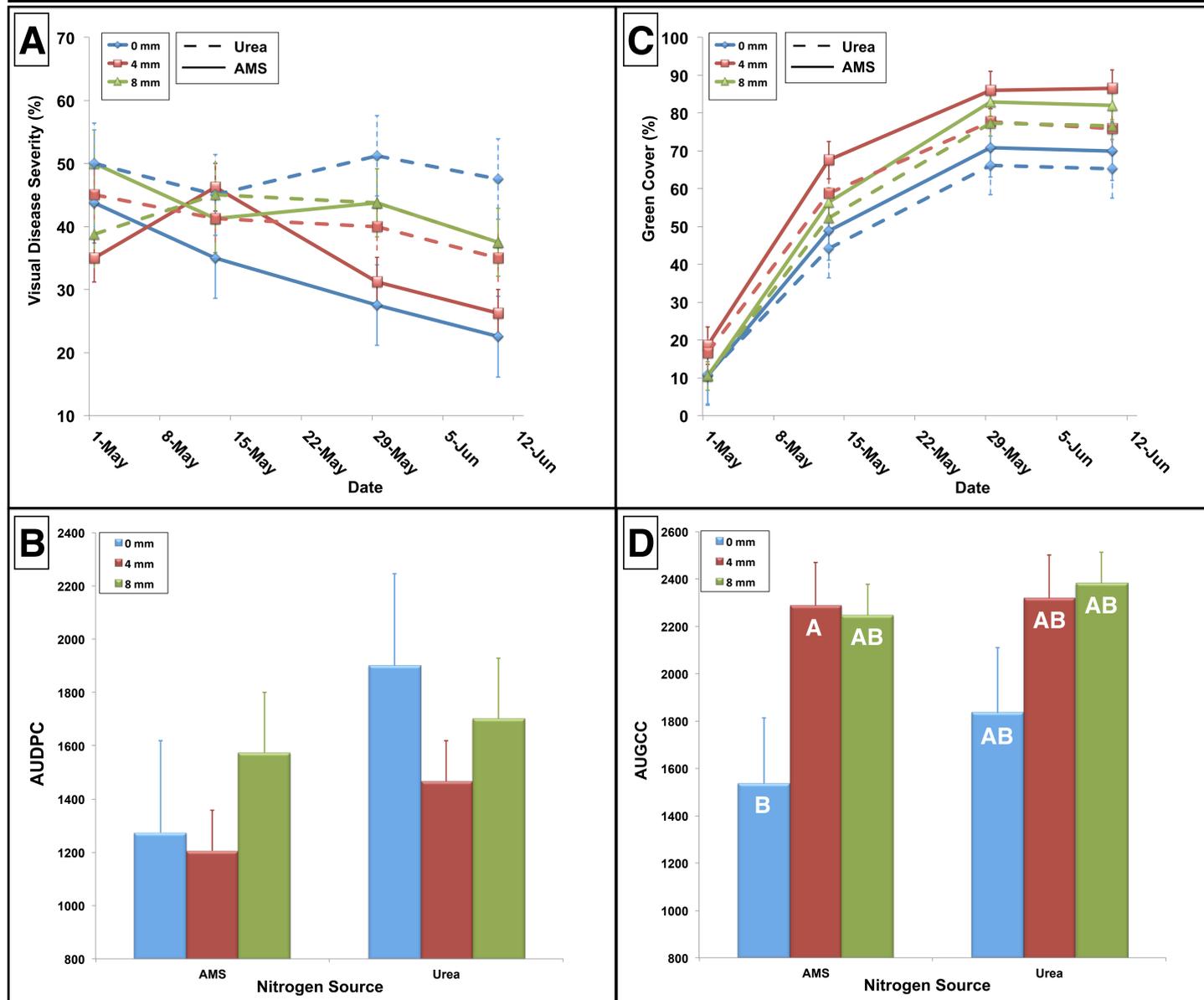


Figure 1: Impact of fraze mowing and nitrogen source.

Visual Estimation of Spring Dead Spot Severity

(A) Disease progress of spring dead spot severity and (B) area under the disease progress curve (AUDPC).

% Green Cover Estimated w/Image Analysis

(C) Green cover by rating date and (D) area under the green cover curve (AUGCC).

\* Bars with the same letter are not different according to Fisher's Protected LSD ( $P = 0.05$ ). Error bars indicate standard error of the mean.

## CONCLUSIONS

- Over a single season, fraze mowing at 4 and 8 mm did not reduce disease severity (AUDPC). Frazze mowing did increase percent green cover (AUGCC) compared to a non-frazze mowed plot ( $P < 0.05$ ).
- No statistical difference was observed among nitrogen sources.

## FUTURE RESEARCH

- Plots were fraze mowed again on June 30, 2015 to document effects over a 2nd year of study.
- A second field study integrating fungicide, manganese, and nitrogen source with fraze mowing was initiated in 2015 on a 'Patriot' bermudagrass research block.

## ACKNOWLEDGEMENTS

The authors thank Mark Ellersieck for statistical advice, and Max Gilley, John Koehler, Kyle Robertson, and Clayton Robertson for technical assistance with this project.

## MATERIALS & METHODS



- Trial initiated on July 22, 2014 on a 'Riviera' bermudagrass plot naturally infested with spring dead spot.
- Plots (1.5 × 3 m) arranged in a split plot, RCBD design with four replications.



- Plots were fraze mowed at 4 and 8 mm or left uncultivated (main plot).
- For recovery, plots were fertilized with 24.5 kg N ha<sup>-1</sup> with either urea or ammonium sulfate for every week for six weeks (subplot).



- Disease severity estimated visually as the % symptomatic area per plot.
- Green cover was estimated by digital image analysis with Sigma Scan software.
- Data subjected to ANOVA; means separated by LSD ( $P = 0.05$ ) and contrast statements.

