

EXECUTIVE SUMMARY

Project Title: Bacterial Populations and Diversity within New USGA Putting Greens.

Principal Investigators: Horace D. Skipper, Landon C. Miller, A. Robert Mazur, and N. Dwight Camper, Clemson University.

Objectives: The overall objective is to develop baseline data concerning bacterial composition (population and diversity) of new USGA putting greens. Specific objectives for this project include:

1. Determine bacterial populations associated with putting green root-zone media.
2. Compare rhizosphere bacterial populations of bentgrass in Alabama and South Carolina with rhizosphere bacterial populations of bermudagrass in Florida.
3. Document rhizosphere bacterial population dynamics on bentgrass over a four year time period.
4. Monitor ammonium and nitrate nitrogen in new bentgrass putting greens.

Progress Report: Mr. Mark S. Stoddard, CGCS, Superintendent of the Charlotte Country Club Golf Course, has agreed to be a cooperator for this project. These greens were rebuilt to USGA specifications in the spring and summer of 1996 and seeded with bentgrass in early September 1996. We will collect soil/root samples from four bentgrass putting greens at his club during the months of November, February, May, and August. Samples will be subjected to dilution plating using standardized techniques and media. From these plates, we will select rhizobacterial isolates to be identified using the GC FAME analysis. Concentration of $\text{NO}_3\text{-N}$ and $\text{NH}_4\text{-N}$ will be determined by extracting soil samples with 2M KCl and analyzing the extracts using standard colorimetric techniques. Assessments of turfgrass quality will be made by the superintendent. Ms. Chelle Tucker has joined the project and will be working on her M.S. degree. She completed her B.S. degree at Virginia State University.