Spatial correlation of environmental factors to green kyllinga in golf course fairways. (C05-mcelroy191130-Oral)

Authors:

- J.S.McElroy NC State University
- F.H.Yelverton NC State University
- M.G.Burton NC State University
- L.S.Warren NC State University

Abstract:

Green kyllinga (Kyllinga brevifolia) is a rhizomatous perennial sedge that has been previously observed in areas with elevated soil moisture in bermudagrass turf. However, it is not limited to these areas. Studies were initiated to evaluate the correlation of green kyllinga population distribution in bermudagrass fairways to topographic, soil fertility, and moisture characteristics. Three golf courses were selected in the costal region of North Carolina. One hundred twenty grid samples (0.90 m² quadrats) were evaluated at each site (~300 m² area). Kyllinga percent cover, volumetric water content, and soil nutrient levels (6 cm depth) were measured at each quadrat. Kyllinga consistently was observed at lower elevations with greater volumetric soil moisture at each location. Kyllinga percent cover was also positively correlated with high soil Na at two of the three sites. Low pH, potassium, and phosphorus levels were positively correlated with high populations at only one location. Among environmental variables at all three sites, humic matter increased with increasing elevation at each location, while Mg, Na, and soil water decreased with increasing elevation.

Corresponding Author Information:

Joseph McElroy NC State University 4401 Williams Hall Raleigh, NC 27695-7620 phone: 919/515-5654 e-mail: scott_mcelroy@ncsu.edu

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