# **Root Mass Relationships with Physical Properties of Sand Root Zones. (C05murphy130729-Poster)**

Authors:

- J.A.Murphy\* New Jersey Agric. Exp. Stn.
- H.Samaranayake New Jersey Agric. Exp. Stn.
- J.A.Honig New Jersey Agric. Exp. Stn.
- T.J.Lawson New Jersey Agric. Exp. Stn.

• D.Gimenez - New Jersey Agric. Exp. Stn.

## Abstract:

Physical property criteria are used to select construction materials for golf course putting greens; however, relationships between physical properties and root mass are not well known especially across microenvironments. The objective of this field study was to investigate the relationship between root mass and physical properties of root zones over several years in two microenvironments. Root zones with different sand particle size distribution were arranged in a randomized incomplete block design nested over two microenvironments. All root zones were amended with sphagnum peat at 9:1 (v/v) and established to a creeping bentgrass (Agrostis stolonifera L. 'L-93') putting green turf in 1998. Cultural management of plots was typical for putting green turf in the northeastern United States. Irrigation was applied as needed to avoid severe drought stress on an individual plot basis. Plots were sampled in the fall of 1999, 2000, and 2001 for soil physical properties and root mass at the 0- to 76-mm depth zone.

Relationships between root zone physical properties and root mass were assessed using regression and principle component analysis. Data will be discussed.

#### Corresponding Author Information:

James Murphy phone: 732-932-9711 ext 129 New Jersey Agric. Exp. Stn. Dept. of Plant Bio/Path, 59 e-mail: Dudley Road murphy@aesop.rutgers.edu New Brunswick, NJ 08901-8520

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