

Sod Establishment/Maintenance Procedures Study for Athletic Turf in Sand Based Rootzones.

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OBJECTIVES

Public and athlete attitudes are shifting the use of artificial turf surfaces for athletic fields back towards the use of natural turfgrass (Cockerham 1989, Canaway 1990). Following two years of research at M.S.U.'s Hancock Turfgrass Research Center (HTRC) data indicated that sod establishment was superior compared to seeding for sand based athletic fields. Color, density, quality, and shear-vane measurements collected fall 1993 were significantly higher for sod establishment plots. The purpose of this study is to evaluate and determine the most efficient sodding strategy for establishing a high quality sports turf in a sand based rootzone.

EXPERIMENTAL DESIGN

The design has three factors: sod types, coring, and plant growth regulator (PGR) application. The sod types factor is a randomized complete block with the coring and PGR factors split on the first factor. The plot area illustrating the design and its factors is shown in Figure 1.

MATERIALS & METHODS

Starter fertilizer was applied just prior to the laying of sod this summer. Scott's 16-25-12 was the starter fertilizer used and was applied at a rate of 3 lbs P/M. Sod treatments D and E were laid 6, July 1994 and those treatments grown on plastic were laid 2, August 1994. All sod treatments were rolled using a Jacobsen Greens King unit along with hand watering to ensure rooting and prevent desiccation. The PGR application was applied within a week of the last sod treatment being laid. Trinexapac-ethyl (Primo) was applied at labeled rates (0.75 oz/M). The use of the growth regulator may improve the establishment phase of sand based athletic fields. Approximately two weeks after the last sod treatment was laid core cultivation was performed. We will investigate whether there is an increase in root biomass for the cored treatments versus non-cored treatments.

Traffic simulation will begin in late August and continue through early November using the Brinkman Traffic Simulator. Data to be collected will include quality, root biomass, density, and shear-vane measurements.

Figure 1: Experimental design and treatment factors of Sod Establishment/Maintenance Procedure for Sand based Rootzone Athletic Fields study, HTRC, Michigan State University.

NORTH

<u>1,4</u> 1,3 ---A--- <u>2,3</u> 2,4	D	E	B	C	F	Rep I
<u>2,3</u> 2,4 ---F--- <u>1,4</u> 1,3	D	B	C	A	E	Rep II
<u>1,4</u> 1,3 ---B--- <u>2,3</u> 2,4	D	E	F	A	C	Rep III

CORING AND PGR TREATMENTS:

1. No Coring
2. Coring
3. PGR applied
4. PGR applied

SOD TREATMENTS:

- A) KBG/Rye mix grown on plastic
- B) Ryegrass grown on plastic
- C) KBG grown on plastic
- D) KBG blend washed
- E) KBG blend grown on mineral soil
- F) Poa supina grown on plastic