Fertilizer and soil amendment effects on bentgrass establishment, soil microbial activity, thatch and disease in a sand based rootzone. (C05-dernoeden123017-Oral)

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Abstract:

The performance of bio-organic fertilizers in newly constructed sand-based rootzones for establishment has not been well documented. A field study evaluated two fertilizers and two soil amendments for their effect on creeping bentgrass establishment in an 80:20 (sand:peat) rootzone. Four treatments consisting of surface applied non-bio-organic fertilizer (NBF); surface applied hydrolyzed poultry meal (PM); pre-plant incorporated granular humate (GH) with surface applied NBF; and pre-plant incorporated PM with surface applied PM. Turf cover 42 days after seeding (DAS) ranked NBF+GH incorporated=NBF surface applied > PM surface applied +PM incorporated > PM surface applied. Turf cover, however, was > 96% among all treatments 90 DAS. Root mass density was greater (18-29%) at 103 DAS in GH incorporated plots combined with NBF, but not thereafter. Soil microbial activity generally was highest in PM-treated plots only during the first 14 months following seeding. This study demonstrated the beneficial effects of readily available N from NBF for rapid establishment and that pre-plant incorporation of GH initially aids root development.

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Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 8:30 am

Keywords:

Turfgrass, Bio-organic fertilizers, Soil microbial activity, Turfgrass diseases