

Nutrient Leaching From USGA Specification Rootzones During The Grow-In Phase. (C05-shearman161954-Poster)

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Abstract:

Accelerated grow-in procedures are often used on high sand content golf green rootzones. Turfgrass managers use this approach to stabilize the rootzone and develop a rapid turfgrass cover. The accelerated procedure raises concern over potential nutrient leaching. This study was conducted to assess the potential leaching of nitrogen, phosphorus and potassium from USGA specification rootzones receiving accelerated and controlled grow-in procedures. The studies were repeated in time and were conducted in the field in a rhizotron facility. Nitrate nitrogen leachate was greatest from accelerated treatments, ranging from a low of 0.1 to a high of 154 mg/L over 17 weeks in 2001. The control treatment ranged from 0.1 to 80 mg/L during the same period. Phosphorus movement from the accelerated treatment ranged from a low of 3.0 to a high of 57 mg/L, and in the sand-peat rootzone mixture from 2.3 to 49.3 mg/L. Potassium movement was greatest in the sand-peat rootzone mixture compared to the sand-soil-peat mixture, and was higher for accelerated treatments compared to controlled. These results indicate the potential for developing BMPs to reduce nutrient leaching during grow-in of high sand content rootzones.

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