

Nitrogen Fate in a 10 Year-Old Turf Stand

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Extensive research has been conducted on nitrate-nitrogen leaching in turfgrass systems and the majority of this research has indicated that nitrogen applications to turfgrass pose minimal risk to the environment with respect to nitrate leaching. However, many of these studies were conducted over short time frames or on newly established turfgrass areas. Initial research from 1991-1993 on Kentucky bluegrass at Michigan State University revealed very small amounts of nitrate-nitrogen leaching through a 1.2 m deep sandy loam soil. Now, after 10 years of continual fertilization and management, research to determine if the amount of nitrate-nitrogen leaching through the profile has changed is underway. Initial results from leachate collected from 1998-2001 indicate changes in the amount of nitrate-nitrogen leaching from the soil profile. Leachate will continue to be monitored and nitrogen allocation among turfgrass and soil components will be determined from soil cores harvested through autumn of 2002. The results of this research should provide definitive answers on how nitrogen dynamics change over time in turfgrass systems. This research is funded by grants from the USGA and Michigan Turfgrass Foundation.