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Fertility Programs for Sand-Based Rootzones

Turfgrass managers today have a wide array of fertilizer products to choose from when making nutrient management decisions. The development of an appropriate fertility program for sand-based rootzones is of paramount importance. Recent regulations in Minneapolis barring the use of phosphorus fertilizers on home lawns, and obligatory nutrient management plans for farms in Maryland, foreshadow increasing scrutiny of golf course fertilizer usage and nutrient fate. Turf managers must obtain knowledge of their site, assimilate information on available fertilizer formulations, and apply the selected products in a manner that optimizes turfgrass performance.

This paper will address a few of the issues crucial to an understanding of nutrient management in sand-based rootzones. First, knowledge of chemical properties in sand root zones is essential. Next, turfgrass managers must assess nutrient status in the root zone, and determine fertility requirements. Products and application methods that meet identified fertility needs must be selected. Finally, products can be applied and effects of the treatments can be monitored.

An important example of sand-based rootzones are golf course greens constructed to specifications published by the United States Golf Association. This construction method provides aeration, resistance to compaction, and excellent drainage. However, the specifications are for soil physical properties, and do not take into consideration chemical properties of the soil such as nutrient holding capacity.

Soil amendments are often added during construction to modify the physical and chemical properties of the root zone. Addition of organic amendments can increase water and nutrient holding capacity of sands. Inorganic

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