

# SPORTS TURF MANAGER

... for safe, natural sports turf

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CITY OF GUELPH

## Managing for Healthy Root Systems

DR. ERIC LYONS, UNIVERSITY OF GUELPH, FIELD DAY COVERAGE

**R**oots provide many important functions for plants. They acquire water and nutrients from the soil. In fact, everything plants need to grow, with the exception of light and carbon dioxide, are absorbed through the roots. One of the most important functions of plant roots to athletic field managers is that roots provide anchorage for the plant. In the case of turfgrasses, the dense fibrous root system provides the soil stability needed for a high quality playing surface.

In order to manage for a healthy root system, it is important to look at what defines a healthy root-zone. An ecologist may define a healthy root-zone as a heterogeneous soil environment that provides for the maximum amount of biodiversity. At the same time, an agronomist may define a healthy root-zone as a sustainable soil environment that provides the maximum crop yield, year

in and year out, with limited inputs. The determination of health in the case of a root-zone is dependent on what it must provide the plants to maintain the desired outcome. A healthy root-zone in turfgrass systems is one that provides a dense, consistent turf canopy with the associated dense, fibrous root system. The goal of turf managers is to create this system within the confines of their monetary and temporal limitations. The following is a prioritized list of management considerations that affect the ability of turfgrass to form the dense fibrous root system that is desired.

### Mowing

Hey, I thought this was an article about root-zones? Well, it is, but we still cannot get too far removed from the basics of turf management and plant biology. There are two things to consider: mowing height and mowing frequency. Decreasing mowing height often increases tiller... → page 7



### 2005 TURFGRASS SYMPOSIUM

**February 21-22, 2005.** Mark your calendar now! This year's premier turfgrass educational event will be held at the University of Guelph. It will feature a wide range of seminars on topics such as irrigation, IPM, sod production and best practices for turf management. See page 4 for details.