

# TurfGrass TRENDS



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## Turfgrasses Have a High-Stress Occupation

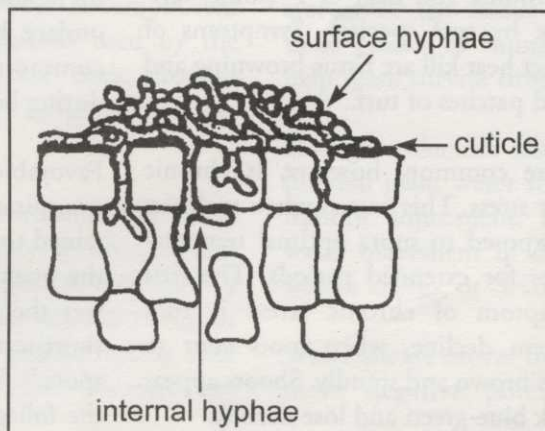
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Golf course superintendents have one of the most demanding and stressful occupations in the world. On the other hand, practitioners of this profession gain a tremendous amount of satisfaction from their position.

The grasses they manage are very much a reflection of their stressful occupation. A finely manicured turf produces an aesthetically pleasing landscape that also can provide many forms of recreation. As the major component of a demanding ecosystem where climate, poor soil, pollution, traffic, and hostile organisms produce stress, turfgrasses can be said to have a high-stress occupation.

Turfgrasses are exposed to a range of environmental stresses, which are divided into two classes. **Biotic** (biological) stresses are caused by organisms that attack grass plants, such as fungi or insects. **Abiotic** (not biological) stresses include factors such as drought, salinity, or temperature extremes. Although advances in breeding and management have improved the overall performance of most turfgrasses, the ability of specific grasses to survive and even thrive under extreme stress is fundamentally associated with the physiology of the grass. In the following pages, we will describe some of the basic

When a fungus infects a grass leaf, its mycelium will penetrate both the cuticle and the underlying leaf cells to form a continuous, moist channel from the leaf's interior to the atmosphere. This channel allows water to move freely from the leaf tissue to the atmosphere. As a result, a fungal-infected leaf can no longer prevent water loss by closing its stomates.



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