

RED THREAD ON TURFGRASS

Laetisaria fuciformis

Introduction

Red thread occurs in the spring and fall during humid periods when the air temperatures are between 16°C and 24°C (60°F and 75°F). The disease is especially severe on slow-growing nitrogen-deficient turf. Bluegrasses (*Poa* sp.), fescues (*Festuca* sp.), ryegrasses (*Lolium* sp.), and bentgrasses (*Agrostis* sp.) can be affected. Fine-leaved fescues and some ryegrasses are particularly susceptible.

Symptoms

The first noticeable symptoms are water-soaked patches of grass in the spring. Infected grass blades soon die and fade to a bleach-tan color when dry. When infected leaf blades, they are often interspersed with healthy unaffected leaf blades giving the grass a ragged appearance (**Fig. 1**). In severe cases, most leaf blades may be killed and diseased grass looks scorched or yellowed in irregularly-shaped or circular patches from 5 to 50 cm in diameter. The patches may be widely scattered or, if close together, may coalesce into larger spots.



Figure 1: Early symptoms on infected turfgrass. (provided by Dr. Eric B. Nelson, Cornell University)

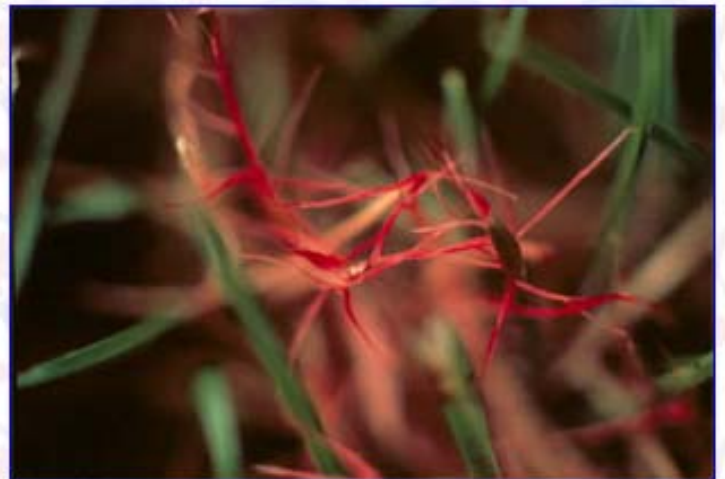


Figure 2: A close-up of the "Red Threads". (provided by Dr. Eric B. Nelson, Cornell University)

In humid weather, the fungus *Laetisaria fuciformis* grows visibly on the infected grass blades and leaf sheaths. The fungus produces thread-like strands or web-like areas of coral-pink to blood-red hyphae on the tips of brown grass blades (**Fig. 2**). The strands can protrude up to 2 cm upward from the blade tips and are easily seen, hence the name "red thread disease".

Disease Cycle

Laetisaria fuciformis may produce spores for dispersal, however, the primary means of dispersal is the spread of infected tissue and bits of the "red thread" (sclerotia) to healthy areas of grass. This type of spread depends upon mowing, foot traffic, and other activities which occur on the diseased turf. Invasion by the fungus is quick, and leaves may begin to die 2 days after becoming infected. Fungal hyphae and dried pieces of the fragmented "red thread" enable the fungus to survive when conditions are not favorable for disease development (winter, mid-summer, etc.). During dry conditions, the "threads" may be viable for up to 2 years.

Management Strategies

Maintain adequate soil fertility. The actual fertilization rates will depend upon the types of grass(es) grown, soil texture, and the specific rates recommended in your area. Where red thread has been a problem in the past, maintain a soil pH of 6.5 to 7.0.

Avoid overwatering. Do not water the lawn in the late afternoon or evening. Provide good soil drainage. Plant trees and shrubs far enough apart so that large areas of grass do not remain shaded for long periods during the day and so that dew and other moisture on the grass will readily evaporate. Selective pruning of established trees and shrubs may also help.

Do not allow thatch levels to accumulate. Where disease is severe, fungicide applications may be necessary.