



## 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* spp.), fescues (*Festuca* spp.), ryegrasses (*Lolium* spp.), and bentgrasses (*Agrostis* spp.) can be affected. Fine-leaved fescues and some ryegrasses are particularly susceptible.



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

### Symptoms and Signs

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. Infected leaf blades 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.

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".



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

### 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. Actual fertilization rates will depend upon the types of grass(es) grown, soil texture, and the specific rates recommended in your area for your soil type. 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. Use resistant varieties of Kentucky bluegrass (Ascot, Classic, Dawn, Eclipse, Princeton, Trenton), perennial ryegrass (Lowgrow, Lynx, Navajo,

Passport, Precision, Riviera II, Shining Star, Target), and fine fescue (Biljart, Bighorn, Reliant, SR 3000, Waldina).

Where disease is severe, fungicide applications may be necessary. Although Red Thread is not often a problem on lawns, if it does become troublesome, a spring or fall fungicide application may be used to manage this disease. For homeowners in New York, several fungicides may be registered to aid in disease management. For a list of some products that may help to manage this issue please see our [turf fungicide table](#).

Be certain any formulation of pesticide you purchase is registered for the intended use, and follow the label instructions. The label also contains information on how to apply the fungicide as well as any precautions. Additional products may be available for use in commercial plant production. Commercial applicators should refer to the appropriate pest management guidelines for more information.

### Reference:

*Compendium of Turfgrass Diseases*, Third Edition, 2005. R.W. Smiley, P.H. Dernoeden and B.B. Clarke. APS Press.

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**READ THE LABEL BEFORE APPLYING ANY PESTICIDE!** Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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