

DISEASE FACT FILE

BARENBURG RED THREAD

(Laetisaria fuciformis)

Disease Background

Red thread is a common turf disease caused by the fungus *Laetisaria fuciformis*. This fungal infection primarily affects many cool-season species. Infections in perennial ryegrass and fine fescue species are particularly common.

There are two distinct stages of the disease; the stage that gives the infection its name is characterised by very thin, red, needle-like strands extending from the grass blade. These are stromata, which can remain viable in soil for two years. After germinating, the stromata infect grass leaf blades through their stomata. Generally, cool and wet conditions when grass growth is weak will favour the fungus – typical is spring or autumn. The second stage is visible as small, pink, cotton wool-like mycelium, and is more common when at higher temperature and humidity.

Although unsightly, Red Thread will rarely kill grass, although disease severity can vary greatly.

Disease Tolerance In Grass Breeding

There are significant differences in tolerance to Red Thread between grass species and even individual cultivars within a species. Variety selections from the Barenbrug breeding programme are deliberately infected with Red Thread, both in the laboratory climate rooms and in field trials. In addition, Red Thread is also allowed to occur naturally in field trials in order to have a comprehensive picture of a particular variety's tolerance. As well as breeding varieties with specific disease tolerance, Barenbrug also regularly tests and reviews and refines other species to potentially add into mixtures to offer further protection from stresses and diseases. An example of this is Barenbrug's SGT mixtures which includes hard fescue varieties which offer higher tolerance to Red Thread and other diseases as well as other benefits such as drought tolerance. Red Thread tolerance is also tested and reported on in BSPB Turfgrass Seed trials, and therefore there is comprehensive independent data to show levels of tolerance within most species.



Situations of High Risk

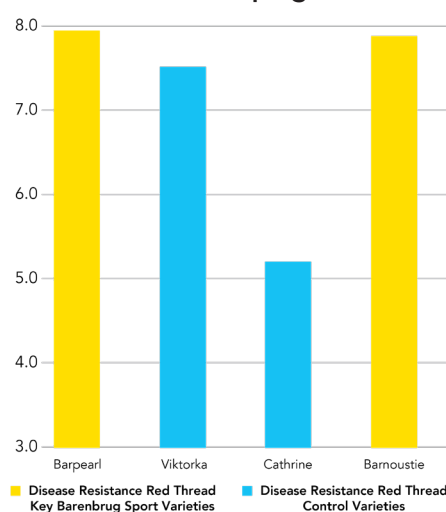
- **High moisture:** Heavy rainfall or prolonged periods of high humidity can encourage fungal growth. Turf that remains damp for extended periods is more susceptible.
- **Cool temperatures:** Red Thread is more common in the spring and autumn when temperatures can range from 15°C to 24°C.
- **Nitrogen deficiency:** Grasses that lack proper nutrition, particularly nitrogen, are more susceptible to Red Thread infection. Adequate fertilisation can help prevent this. This is also the main reason turf is susceptible after heavy rainfall as nutrients can be washed through the profile.

Reducing Risk of Red Thread

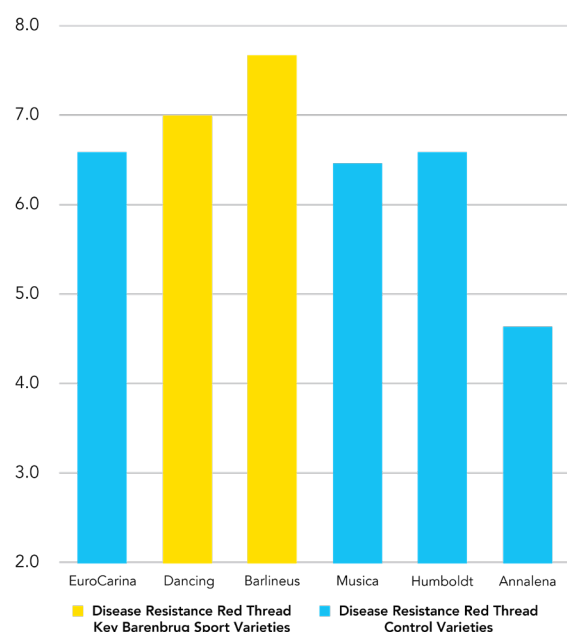
- **Adequate Nitrogen:** Fertilise your turf as recommended for your grass type and region. Adequate nitrogen levels help strengthen grass and make it more resistant to disease.
- **Removing moisture:** Ensure your turf has proper drainage to prevent water from pooling and creating excessively moist conditions that promote fungal growth. Increase air flow to turf areas and remove heavy dew as needed.
- **Correct grass seed selection:** Overseed your turf with species or varieties that are less susceptible to Red Thread.

Graph 1 (Slender creeping red fescue), Graph 2 (Chewings fescue), and Graph 3 (Strong creeping red fescue) show Red Thread tolerance of key Barenbrug red fescue varieties against controls in BSPB Turfgrass Seed Lawns Tables L3, L4 & L5.

Graph 1 - Red Thread Tolerance 2024 BSPB/STRI L4
Table Slender Creeping Red Fescue



Graph 2 - Red Thread Tolerance 2024 BSPB/STRI L3
Table Chewings Fescue



Graph 3 - Red Thread Tolerance 2024 BSPB/STRI L5
Table Strong Creeping Red Fescue

