

 **BARENBRUG**

## DOLLAR SPOT

*(Clariireedia homoeocarpa)*

### Disease Background

Dollar Spot is a fungal disease caused by the fungus *Clariireedia homoeocarpa* (previously *Sclerotinia homoeocarpa*), which affects most cool season grasses, but there is higher susceptibility to red fescues (*Festuca rubra* spp.), annual meadow grass (*Poa annua*) and bentgrasses (*Agrostis* spp.). Dollar Spot is most prevalent during warm, humid conditions with prolonged wet foliage, particularly following on from a period of hot, dry conditions. Dollar Spot incidence has also been recorded with night temperatures as low as 7°C. The severity of the infection will depend upon the virulence of the fungus and the susceptibility of the grass plant (stress factors or improved tolerance).

### Disease Tolerance in Grass Breeding

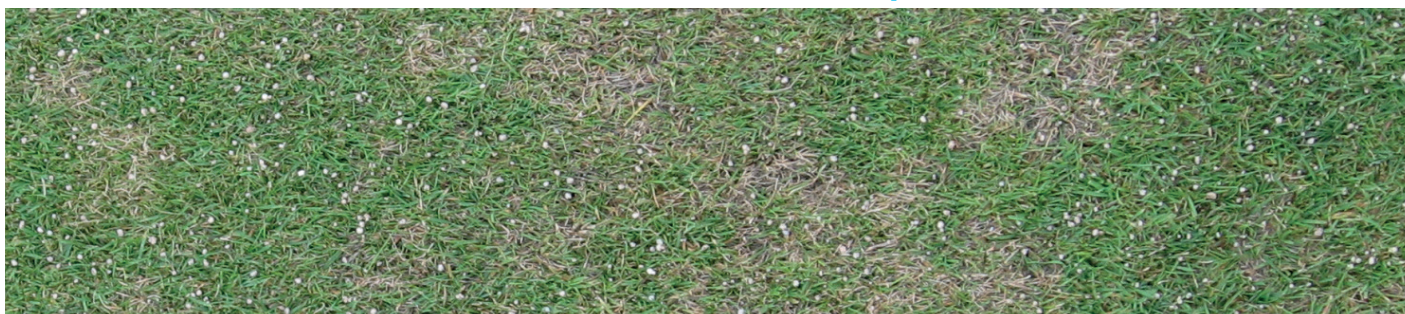
There are significant differences in tolerance to Dollar Spot between grass species and even individual cultivars within a species.

Variety selections from the Barenbrug breeding programme are deliberately infected with Dollar Spot, both in the laboratory climate rooms and in field trials. In addition, Dollar Spot 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 disease tolerance as well as other benefits such as drought tolerance.



# DOLLAR SPOT (*Clairreedia homoeocarpa*)



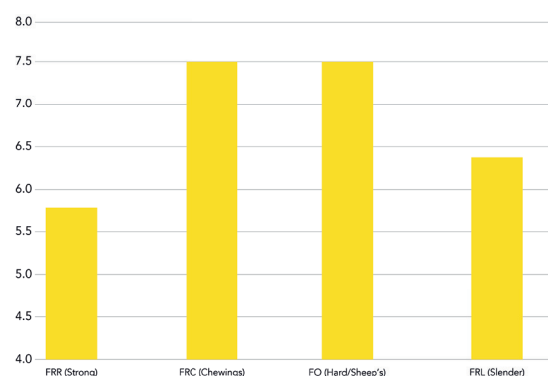
## Situations of High Risk

- High levels of surface moisture
- Low levels of soil moisture
- Low soil fertility
- High thatch level (as this can retain moisture at the soil surface)
- Continuous daytime temperatures above 20°C
- Excessively low cutting heights
- High turf stress
- Certain *Festuca* and *Poa annua* dominated swards - there are big differences between *Festuca* spp. species and varieties (see graphs 1 and 2)

## Reducing Risk of Dollar Spot – Integrated Turf Management

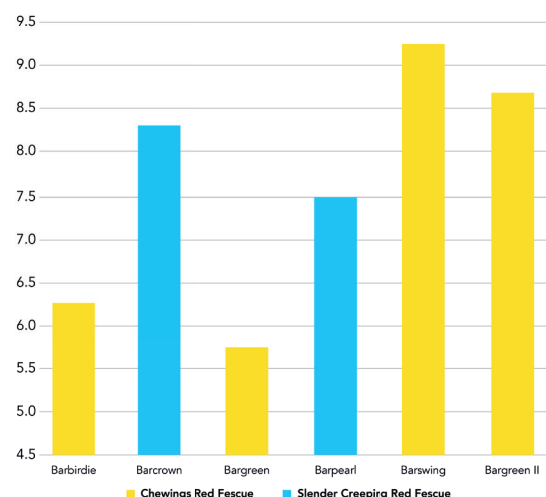
- Ensure water movement through the soil profile
- Regularly remove moisture from the turf surface
- Keep thatch layers to minimal levels
- Reduce soil compaction
- Ensure adequate nutrition is applied to the turf
- Overseed with and encourage the growth of more tolerant grass species or varieties. There can be some big differences between varieties of a single species so ensure you select the correct variety for your requirements

**Graph 1 - Mean Dollar Spot Tolerance Across NTEP Trials 2015-2019**



Graph 1 shows the differences between fine fescue species in mean Dollar Spot tolerance across the 2015-2019 NTEP trials. Hard fescue (*Festuca brevipila*) and Chewings red fescue (*Festuca rubra commutata*) appear to offer the best tolerance at a species level.

**Graph 2 - Dollar Spot Tolerance *Festuca rubra* spp. (Internal Barenbrug Research trials)**



Graph 2 shows the survival and recovery of cultivars of slender creeping red fescue (*Festuca rubra litoralis*; shown in blue) and Chewings red fescue (*Festuca rubra commutata*; shown in yellow) recorded in trials at Barenbrug Research, showing high tolerance of Chewings cultivars *Barswing* and *Bargreen II*. However, *Barcrown* consistently appears to also have superior tolerance (better than other slenders), while *Barpearl* is also better than some Chewings varieties.

Mixture formulation is based on a range of traits, such as visual merit, shoot density, colour and certain levels of disease tolerance. This graph is highlighting Dollar Spot tolerance levels only. However, each variety may perform differently with other diseases.