

DISEASE FACT FILE



LEAF SPOT

(Drechslera spp.)

Disease Background

Leaf Spot (also known as Melting Out) diseases in the UK are primarily caused by *Drechslera* spp. Leaf Spot is a fungal disease, which affects many cool season grasses, but particularly perennial ryegrass (*Lolium perenne*) here in UK and Ireland. Leaf Spot is most prevalent during warm, humid conditions. The spores are dispersed through rainfall/irrigation and the extent of the severity of infection will depend upon the virulence of the fungus and the susceptibility of the grass plant. Leaf Spot in the UK must not be confused with Grey Leaf Spot (*Pyricularia grisea*), a disease which is found on both warm and cool season grasses, particularly in USA, and has become more prevalent in the UK over the last 3 - 4 years.

Leaf Spot Tolerance in Grass Breeding

There are significant differences in tolerance to Leaf Spot between individual varieties within a species.

Variety selections from the breeding programme are inoculated with Leaf Spot, both in the laboratory climate rooms and in field trials. In addition, Leaf Spot is allowed to occur naturally in field trials in order to achieve a comprehensive picture of a particular variety's tolerance. With more and more chemistry being unavailable to turf professionals in the UK, it is becoming essential that the appropriate varieties are selected and used in high-risk situations. Graphs 1 and 2 show the differences between various Perennial ryegrasses and why it can be important to select the correct varieties or mixtures. Each variety has qualities for many different aspects so make sure you select the correct one for your requirements.

It is important to note that the trials shown in the graphs below also assessed many other diseases and qualities, for this Fact File they only show the overall score and Leaf Spot tolerance.



LEAF SPOT (Drechslera spp.)



Situations of High Risk

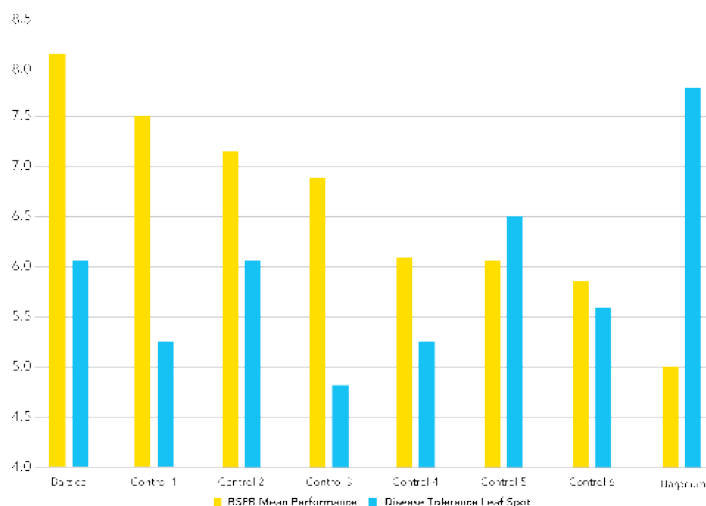
- Warm temperatures
- High humidity
- Prolonged leaf wetness
- Lack of direct sunlight
- Low air circulation
- High nitrogen levels

Reducing Risk of Leaf Spot – Integrated Turf Management

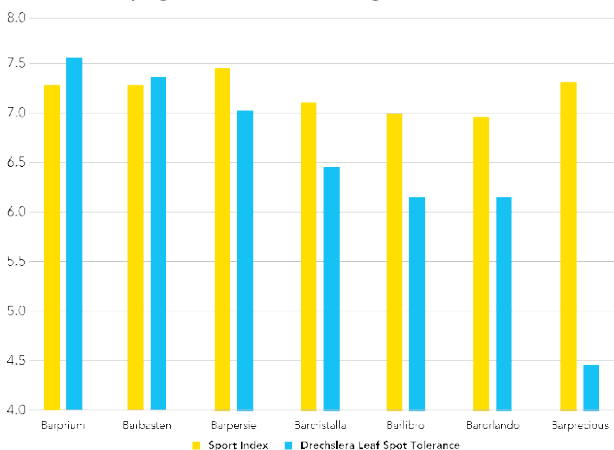
- Enhance air circulation: Prune overhanging branches or thin out nearby vegetation to promote better airflow and reduce humidity levels around the turfgrass.
- Avoid excessive nitrogen inputs: Apply fertilizers based on soil tests and turfgrass requirements to maintain a balanced nutrient level. Avoid excessive nitrogen fertilization, as it can make the turfgrass more susceptible to leaf spot.
- Keep the leaf dry: allow airflow and sunlight onto your turf. Also, switching or brushing your turf will help to keep it dry. Dew dispersal products are also available to help with reducing leaf moisture.
- Reduce shade: If possible, trim or remove trees and shrubs that cast shade on the turfgrass. Increasing sunlight penetration and improving air circulation will help to keep the leaf dry.
- Avoid overcrowding: Avoid planting seeds too densely, as overcrowding can create a humid microenvironment that favours Leaf Spot development. Follow recommended sowing guidelines for the specific mixture.
- Disease-tolerant varieties: Select and plant turfgrass species or varieties known for their tolerance to Leaf Spot diseases. These can vary dramatically between species and varieties and have to be taken into account with other seed qualities when choosing your seed.

Graph 1 shows the differences in numerous varieties and highlights the differences between high overall scores and high Leaf Spot tolerance. Barzico is the top performing perennial ryegrass in the S1 trials with a score of 8.2 but has a Leaf spot tolerance score of 6.1. However, at the other end of the graph you can see Barprrium has a lower overall score of 5.0 but has a very good Leaf Spot tolerance score of 7.8. This shows it is essential to pick the correct variety for your specific scenario.

Graph 1 - 2016 S1 BSPB/STRI Trial Scores of Leaf Spot Tolerance



Graph 2 - Comparison of Score Index & Leaf Spot in Perennial Ryegrasses French Turfgrass List 2023



Graph 2 also shows the differences between Barenbrug varieties in the 2023 French Turfgrass List, and shows the importance of selecting the correct varieties or mixtures for each specific requirement.