GOOD TO KNOW!

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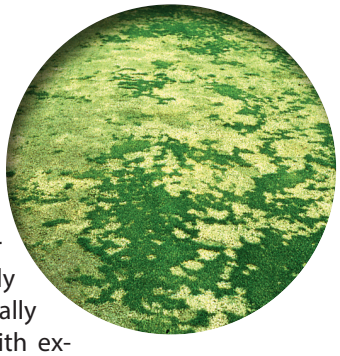
LAWN DISEASES

Symptoms, causes, and what can be done.



SNOW MOULD (FUSARIUM PATCH)

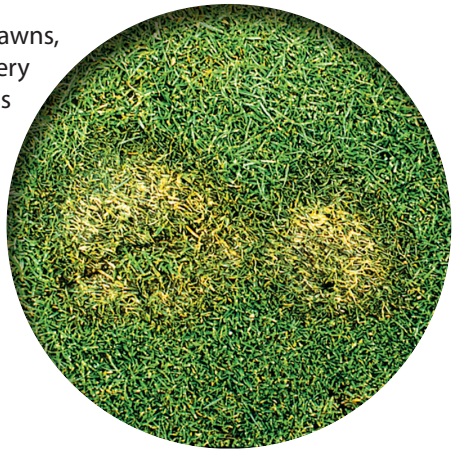
Microdochium nivale (syn.: Fusarium nivale)

Importance: The most widespread lawn disease, causes significant damage.

Season: Any season under unfavourable conditions, generally in spring and autumn.

Symptoms: Initial appearance of small, dark-brown or orange circular points, which quickly increase in both size and number. Patches of dead grass appear. Affected grass can become wet and slimy. The patches tend to have a dark-brown ring and a lighter centre. The fungal mycelia (white to pink) is sometimes visible around the patches; the dead leaves often stick together.

Where? On very fine and thick lawns, sometimes ones that receive very intensive maintenance. All grass species are affected, though partially variety-dependent.



Causes: The disease is exacerbated by wet weather and wet surfaces; extremely high nitrogen levels, especially in autumn; topdressing with excessively high doses; and alkaline conditions.

Preventative measures: Measures to reduce long-lasting surface moisture, e.g. drainage; increasing air circulation by not placing trees, hedges, fences and walls too close on the lawn; aerification and sanding; eliminating water-retaining lawn thatch; limiting irrigation; not applying nitrogen or lime in periods that favour disease emergence; always removing clippings.

RED THREAD DISEASE

Laetisaria fuciformis
(syn.: Corticium fuciformis)

Importance: Extremely widespread; in severe cases the grass can die off entirely. Affected lawns generally recover.

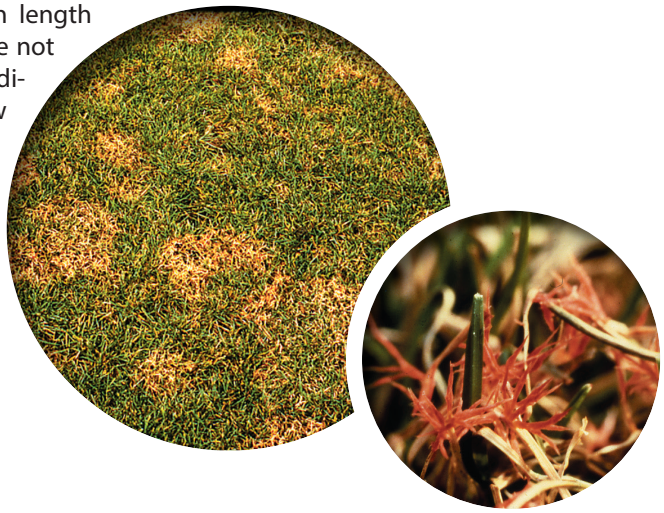
Season: In summer and autumn, up to winter under mild conditions.

Symptoms: Spot-like damage on grass, often with a pink or reddish appearance (caused by needle-like fungal hyphae protruding from diseased leaves, which can grow up to 25 mm in length and are often branched). Spots are not clearly delimited and can vary in diameter from 20-50 mm on the low end up to 350 mm. In mild cases, necrosis only occurs in leaf tips.

Where? All turf grasses can be affected. Most common in Lolium perenne and Festuca rubra, especially in slow-growing varieties that require significant care.

Causes: Insufficient supply of nutrients, especially nitrogen.

Preventative measures: Nitrogen fertiliser should also be applied in the summer months in order to promote growth. Caution is necessary in the event of excessive nitrogen additions, which can lead to outbreaks of snow mould.



TAKE-ALL

Ophiobolus graminis

Importance: Not a widespread disease, though under unfavourable conditions it can cause significant damage.

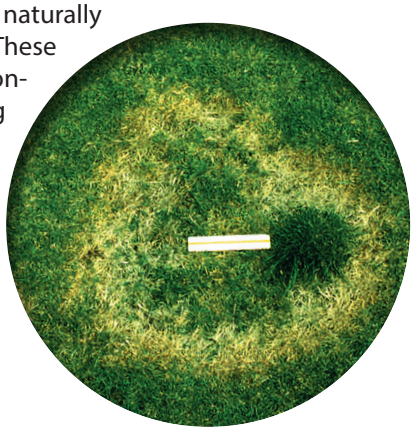
Season: Summer or autumn; affected areas can, however, persist through the entire year.

Symptoms: Rings of yellow or orange-coloured grass emerge with a diameter of 0.1-1.0 m, followed by a ring of about 0.1 m of dead grass. The change in colour is a result of the fungus attacking the roots. Inside the ring, the only species that remain are those not susceptible to the disease and weeds.

Where? Take-all can emerge in any type of turf grass, but is especially prevalent in Agrostis-dominated stands.

Causes: Standing water and alkaline soil pH strengthen the infection. The disease emerges when wet, acidic soils are treated with lime, for example on fairways. It can also emerge in new plantings, when the soil was previously disinfected or when foreign material such as sand or lava rocks are applied to the plant layer (in these cases, the lack of antagonistic fungi is probably the cause).

Preventative measures: Once the disease has become established, it is difficult to bring it under control. Preventing it though proper care is much more advantageous. Standing water can be avoided through a well-functioning drainage system. Under an ideal lawn care scenario, no lime needs to be applied. However, if lime is applied in the autumn, it should be followed by a spring application of acidifying fertiliser, such as ammonium sulphate nitrate. The soil reaction can also be improved through the use of alkaline sand for topdressing and irrigation water which often contains a naturally high amount of lime. These factors should be considered when planning lawn care measures.



HELMINTHOSPORIUM LEAF SPOT

Helminthosporium vagans

Importance: Very widespread, but rarely causes notable damage.

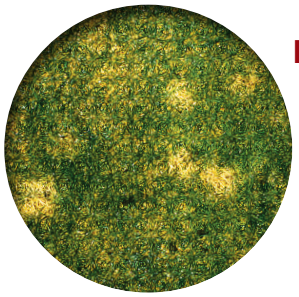
Season: Can occur at any time of the year.

Symptoms: Spots on the leaf with varying colours, though they can be brown, black, olive-green or purple.

Where? Affects almost all grass species and lawn types.

Causes: The spread of leaf spots spread increases under warm and humid conditions. Stressed plants or old tissue is most vulnerable.

Preventative measures: Remove cuttings and old, dead plant matter; avoid creating unnecessary moisture (through overwatering); increase air circulation by removing obstacles (hedges, walls, fences, trees).



DOLLAR SPOT

Sclerotinia homoeocarpa

Importance: Widespread in certain regions, especially on intensively maintained lawn types. Otherwise seldom observed.

Season: Summer and autumn.

Symptoms: Forms small, well-defined circular patches around 50 mm in diameter. Inside the patches, the grass is mostly dead, with a straw colour and dry. In severe infections, individual patches can combine into larger damaged areas. The disease can also co-occur with red thread disease.

Where? All turf grasses can be affected. Most common in Lolium perenne and Festuca rubra, especially in slow-growing varieties that require significant care.

Causes: The disease is favoured by the presence of susceptible grass species and varieties, and by a lack of nutrients, particularly nitrogen.

Preventative measures: Using resistant varieties of Festuca rubra trichophylla and balanced nutrient additions with nitrogen.

BROWN PATCH

Rhizoctonia solani

Importance: Infections are rare, but severe when they occur.

Season: During the entire growing season.

Symptoms: The fungus most commonly affects young grass seedlings following a new planting, thus causing seedlings to die and resulting in uneven emergence.

Where? All turf grasses are affected, especially Agrostis and Festuca species.

Causes: Seeds are most commonly infected prior to planting. Imbalanced nutrient additions, however, can favour fungal growth, especially when there is an excess of nitrogen and phosphorous with a lack of calcium and magnesium.

Preventative measures: Balanced nutrient provision, seed coating (e.g. use of Coated Seed).

TYPHULA BLIGHT
Typhula incarnata

Importance: Depending on weather patterns, severe damage can occur in some years.

Season: Infection often occurs in autumn or winter in damp and cool weather, though damage generally becomes apparent in early spring.

Symptoms: Circular spots of dead grass with a diameter of up to 40 cm, pale pink to white mycelia visible on leaves. The fungus causes root decay, leading to the death of the grass plant.

Where? In all turf grasses, especially in Lolium perenne (certain varieties), less commonly in Festuca rubra. More common on sandy soils.

Causes: Surface compaction with excessive moisture, grass allowed to grow too high.

Preventative measures: Limit nitrogen fertilisation in autumn; maintain a mowing height of 3-3.5 cm prior to winter; aerate, sand and dethatch the upper surface.

RUST
Puccina ssp.

Importance: Minor infections are common, severe ones are very rare.

Season: Summer and autumn.

Symptoms: Orange or brown pustules are formed on the leaf surface, which can be irregularly distributed or arranged in lines.

Where? Almost all grass species can be affected. Among turf grasses, infections are most likely to occur in Lolium perenne and Poa pratensis.

Causes: Warm weather; most frequently occurs on long, unmown lawns. Regular cutting can prevent infections.

Preventative measures: The risk can be minimised by selecting resistant varieties.

FAIRY RING (TYPE 1)

Marasmius oreades

Importance: Relatively common on fairways and similar areas, where they can cause significant damage. Less frequently observed on golf greens or tees.

Season: Rings can last for several years, but the symptoms are most clearly visible during dry summer weather conditions.

Symptoms: Type 1 fairy rings kill or severely damage the grass. Two rings are visible, in the shape of an arc or circle, and consisting of grass with vigorous growth and dark green colouration. Between these rings is a ring of bare ground with dead grass. The fungi create extremely hydrophobic soil conditions, which lead to the turf drying up. Underneath the ring, there is a thick, white net of mycelia that gives off a typical mouldy smell. Between summer and autumn, small yellow-brown mushrooms can be seen in the outer ring.

Where? All turf grasses.

Causes: The conditions are not yet completely understood, but surface waterlogging may play a role. Fairy rings are found in all soil types, but are most common on light, sandy soils.

Preventative measures: It is hard to fully eliminate fairy rings; often the most that can be done is to prevent further spreading. Rings rarely grow through obstacles that surround the soil, such as lawn edges or borders. Cutting across the infected zones is also frequently effective, as it allows antagonistic fungi to enter the ring area and prevent further expansion. Removal of the affected soil is also highly effective, though very costly. Prior to the use of fungicides, the hydrophobic zone must first be softened through aerification and the administration of a wetting agent.

FAIRY RING (TYPE 2)

Scleroderma ssp.

Importance: Commonly occurs on very fine lawns (ornamental lawns, greens); however, serious damage only rarely occurs.

Season: Symptoms are most commonly visible in summer and autumn, but the fungi are present all year round.

Symptoms: Rings, bands or arcs are visible, around which grass grows more quickly and has a darker green colour. Significant damage does not occur. As a side effect, the fruiting bodies of the fungi are occasionally visible (standing or gill fungi).

Where? Nearly all turf grasses can be affected. Type 2 fairy rings are most commonly observed on golf greens.

Causes: Unknown; the symptoms are clearest under conditions of low nitrogen.

Preventative measures: When grass is not damaged, the symptoms are often tolerated. However, it can become unsightly. Fairy rings can be hidden by administering extra nitrogen during the growing season or by using ferrous sulphate on the surrounding area to give it a darker green appearance.

FAIRY RING (TYPE 3)

Scleroderma ssp.

Importance: Very widespread, generally no damage to the grass.

Season: The fungus is present year-round, but the ring is only visible for a short period, generally in autumn.

Symptoms: Fungal activity is apparent due to the formation of a ring with grass showing vigorous growth and dark green colouration, as well as the irregular emergence of fruiting bodies.

Where? Observed on most types of lawns, though less frequently on hard-wearing lawns.

Causes: Unknown.

Preventative measures: Not necessary, since no real damage is caused. In order to prevent additional spread, the fruiting bodies can be removed before they release their spores.