KLAUS D. SCHMITT
course support

Turf-Monitoring with de PCR-method

Fungal infections of turf are one of the biggest problems on golf courses and other sports pitches. Because the performance and appearance of the grass is important, the health of the grass, has a high priority in the turf management.

The daily mechanical treatment and climatic influences are very stressful for the plants and can promote the spread of fungal infections.

Often, grass diseases (for example, fungal infections) are not recognized until the grass is discolored, death or even has disappeared.

Unfortunately the symptoms at this time are often very similar and difficult to distinguish, but an accurate identification is essential for effective control of the pathogens.

Current methods for detection of fungal infections based on symptoms are usually only in the late stages of infection possible, not quantitative and unable to correctly identify simultaneously multiple infections.

The Austrian Institute of Technology (AIT) began in 2003 with the development of a method for the detection of pathogens of grass diseases based on DNA analysis.
In the year 2017 a project for regular monitoring of grass started on golf courses and in a soccer stadium in Germany.

This project is currently being developed on a larger scale, with a higher bandwidth of the investigated pathogens (30) and improved quantification.

Het doel van het monitoren van gras is om de infectie snel en veilig te identificeren en bovendien te kwantificeren voordat de symptomen zich voordoen. Zo krijgen de greenkeepers een gedetailleerde overzicht van de staat van hun terrein en de mogelijkheid preventief te handelen tegen de grasziektes.

The purpose of the monitoring is to identify the infection quickly and safely and as well to quantify before symptoms occur. With this method the green keepers get a detailed overview of the state of their grounds and the ability to act preventive.

In the future, a combination of pre-symptomatic detection of pathogens and climate model analysis will allow a more efficient management of the lawns. Infection risks, as well as the use of pesticides can therefore be reduced.

Klaus Schmitt
Klaus D. Schmitt course support e.K.
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[nordstrasse 4] [d-63549 ronneburg]
[phone: +49 (0) 60 48 – 9 53 89 00] [fax: +49 (0) 60 48 – 9 53 89 01]
[dialog@klaus-schmitt.net] [www.klaus-schmitt.net]
[hanau hra 5152] [ust-id-nr. de112830920]