Why the golf business needs healthy soil

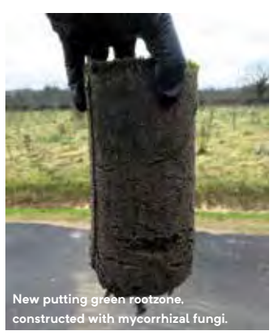
18th hole - JCB Golf & Country Club

With sustainability and climate change key considerations in both course and club management, Symbio's philosophy of managing soils and turf as nature intended has never been more relevant. Here's why soil health should be on every golf venue's agenda.

Problems associated with poor soil biology

The life beneath your feet

Healthy soil is carbon rich, full of biological organisms and capable of holding nutrients, air and water. It should be full of life that forms a complex soil food web. It is part of your workforce, working 24 hours a day, every single day of the year to maintain golf courses without the need for aggressive disruption to play. Every week is 'Maintenance Week' when your soil biology is working well. Course closures due to maintenance are limited and revenue optimised.



New putting green rootzone, constructed with mycorrhizal fungi.

Soil biology and its role in golf course management

We know that golf courses experience issues with thatch build-up, outbreaks of disease, dry patch, waterlogging, fairy rings, and poor growth. If soil microbes are responsible for preventing such problems, why do we have them? The answer lies with what we've being doing to soils in a quest for healthy turf.

Inorganic fertilisers, pesticides and heavy metals, such as iron to control moss, can damage soil microbial populations. Because of increased synthetic chemical usage, to enhance playing conditions, presentation and reduce pathogen attacks, we have diminished the natural processes responsible for creating healthy plants. Healthy soil has fewer disease attacks to begin with, because of a balanced soil food web. Increased prevalence of disease on the golf course is a sign that the food web is off-balance, and further treatments lock soil in that unhelpful cycle. Restoring the soil food web can break that chain, resulting in healthy plants less susceptible to disease.

The impact on turf isn't just from products applied to it. When the thatch layer in turf thickens, it holds more water and harbours disease, so invasive, disruptive physical work takes place to remove it. This impacts playability, endured for the long-term good, a process is repeated year-on-year. This is a consequence of the chemistry used to produce lush green growth the golf industry has come to expect.

There are pros and cons of sand usage in sports turf. Issues are present from the point of construction. Greens are dry and free-draining but immediately lack natural biology and require greater maintenance. Physical work to remove thatch build-up and chemical applications are required to provide necessary nutrients, all because sand cannot hold onto elements due to its neutral charge. Grass grown in inert sand is also weaker because it has a greater nutrient requirement, and as a result is more susceptible to disease, so more fertiliser is applied to sustain play. Furthermore, even more sand is applied to playing surfaces to smooth, dry and firm them, and round we go again.

A world of benefits from a natural approach

By breaking the chemical and physical dependent cycle and adding and nurturing biology, we observe beneficial results and improved turf quality. A microbial rich and biodiverse rootzone fed with organic compounds will eventually have fewer issues with thatch, disease, fairy rings and annual meadow grass.

Turf managers can restore healthy soils by adding appropriate microbial species lost due to over use of chemicals and synthetic inputs, and by using biostimulants and organics to help nourish those microbes, allowing them to flourish. Reducing disruption from maintenance practices provides access to better playing surfaces for longer in the season. Aggressive, disruptive aeration can be substituted for regular micro-tining and mini-aerating, delivering air and oxygen to soil microbes but also keeping golfers happy. Maintenance tasks are necessary in order to deliver high-quality golf courses that are in use all year round, but we need to strike a balance.

Adopting a natural approach is sustainable and cost-effective. The R&A's Golf Course 2030 initiative highlights the challenges you face maintaining playability while minimising the use of resources and managing the effects of climate change. The creation and maintenance of healthy rootzones is pivotal to meeting these challenges and preparing golf for a sustainable future, and it works well for the golf business because it results in a better experience for members and guests.

Working with nature as a starting point is true sustainability. With that approach at the heart of a course management strategy, collectively we'll deliver a cleaner, greener future for our courses, clubs, and the game of golf.

Working in partnership with

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