In this first month, Martin Ward, Managing Director of Symbio, explains the basics of good greenkeeping practices and how the company is intent on helping these managers and greenkeepers understand what happens below the surface. There is also a series of workshoaps planned...

The good news is that there are four natural methods that greenkeepers can employ to manage disease. All require a healthy population of bacteria and fungi around the root system. When the microbial population is in place:

1) The beneficial microbes form a protective barrier around the roots and leaf lesions.
2) Some produce natural antibiotics to kill pathogens.
3) Pathogens become a food source for the beneficial microbes.
4) Some microbes and bio- stimulants encourage the plant to produce hormones called phytoalexins that help it fight off disease.

Fertilizer requirements are also reduced, microbes are made from the carbon, nitrate and phosphorus so less fertilizer is required for more consistent surfaces and you do not need to starve greens to reintroduce bent and fescue.

Percolation rates are also a function of the biological activity in the rootzone. Practically all beneficial microbial activity is undertaken by aerobic microbes but it is perfectly possible to manage many golf greens without large tine hollow coring, because bacteria, fungi and beneficial nematodes all maintain friable, fast draining, aerated soil.

Regular monitoring and occasional vertidraining should be all that is required for all but the most compacted, thatchy greens.

Disease management is now high on most people’s agenda with the cost and gradual reduction in available fungicides.

The basic premise is that healthy grass is less susceptible to disease but the stresses put upon greens, tees and fairways means that the grass is always susceptible to pathogen attack.

In 20 years have passed since the first products containing soil microbes became available for turf managers. In the early years they were designed to solve specific problems like black layer, nutrient retention and thatch degradation, based on easily observed actions of common soil bacteria.

The early results sparked off a wave of research initially by professors interested in microbial reactions on turf with Professor Alan Gane at Royal Holloway Col- lege, University of London at the forefront. Latterly colleges offering degrees in turf science have played a practical role guiding students through research into a range of topics for their degree theses.

Dr Andy Owen and his colleagues at Myerscough College, a leading GTC Quality Assured Centre, have played a leading role in this respect.

Specific turf management practices in the UK and the USA has increased our understanding about the myriad of relationships between the grass plant and the chemistry, biology and physical properties of sports turf rootzones. So how does all this information affect the daily management practices of the course manager?

The main areas where healthy soil allows management practices to improve to help produce fast, even, low thatch greens are:

Reduced Physical Aeration (it is still needed but in less disruptive form)
Reduced Fungicide Use
Reduced poa annua - improved perennial grass growth
Reduced fertiliser input

The main change is the treatment of organic matter. Organic matter comprises of dead grass i.e. thatch which is generally considered bad and roots, organic nutrients, soil biomass (bacteria, fungi, protozoa, nematodes, arthropods and worms), humic compounds and organic acids which are essential for healthy plant growth.

Thatch is also the primary food for fungi. Traditionally thatch has had to be physically removed with costly invasive practices, deep scarification and hollow coring, however aeration provided by micro tines into the thatch layer is sufficient if it is to be degraded by fungi and bacteria.

Thatch is converted to plant food and humic compounds which increase cation exchange capacity (CEC) and enhance fertilizer inputs but more importantly, the rootzone develops a fungal biomass which we now know is needed if perennial grass is to be grown instead of poa annua.

This means that less top dressing is required to maintain a fast surface, less fertiliser is required for more consistent surfaces and you do not need to starve greens to reintroduce bent and fescue.

Quick ‘Nine Hole’ Quiz.

1) Which player scored the first goal of the Premier League season?
2) Who was the first player to be sent off?
3) Three players missed penalties on the opening weekend – name them.
4) Which manager was charged by the FA for comments made against a decision – days after vowing to be more subdued in interviews this season?
5) Name the scorer of Norwich’s second goal on the opening day.
6) Which Everton scorer was on loan from Leeds last season only to be largely ignored by their then manager Neil Warnock?
7) Which 40-year-old striker made a substitute appearance in his side’s first game?
8) Who scored Arsenal’s goal before it all went wrong against Aston Villa?
9) Name the four players who started Mourinho’s first match back in charge of Chelsea who also started his final game in his first spell in 2007.

Quick ‘Nine Hole’ Quiz. Nine questions all about the opening weekend of the Premier League season...

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Greenkeepers Training Committee

In a new series, the GTC has invited representatives from its Quality Assured Centres and Training Providers to discuss their particular specialism within the sports turf sector.

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