

## Water management

**Managing any kind of plant whether it is a food crop, plants in your garden or sports turf, water is critical to sustain plant health.**

**The objective is to supply the plant with enough water, when it needs it, to ensure healthy growth.**

**This perhaps becomes more critical in managed turf, as frequent mowing and usage of the surface can lead to increased water loss.**

When we consider sports turf, we also have to take into account that the amount of water in the soil or rootzone will directly influence surface performance and playability.

Too much water and we are left with surfaces that are too soft.

Too little water not only results in significant plant stress, but also the risk that the playing surface can become too firm.

Additionally, the excessive softening playing surfaces often leads to playability issues, in terms of increased wear damage as result of play.

This might be in the form of reduced grass cover due to foot traffic and to larger and more damaging pitch marks.

Yet another aspect of getting the water management in golf greens right is the impact that excessive water retention can have on agronomic characteristics.

The relationship between the invasion of annual meadow-grass and rate of soil organic matter accumulation with high levels of water retention has been well documented.

A vast body of research exists that has focussed on the management of water in the soil.

This varies from studies looking at different construction profiles and materials, through to the type and quantity of water retentive amendment mixed with sand to create sand-based rootzones.

All of this data is critical, as we need to understand the relationship between how greens are constructed and how they perform, in terms of water drainage and retention.

Less research exists on water inputs into golf greens.

Irrigation systems exist so that greenkeepers can have some degree of control over water inputs.

To be able to effectively manage playing surfaces, there has to be a balance between water draining through a soil and being able to add water to the turf to ensure optimum playing quality and healthy grass growth.

How the input of water is achieved is open to some debate, with regard to the little and often approach versus more heavy water inputs applied less frequently.

What I have tried to highlight so far is the importance of managing water inputs and output from the playing surfaces around golf courses.

A large portion of what greenkeepers do is to manage the soil water balance.

Of course the other factor that cannot be overlooked is the good old British weather.

This year has been, at least for some parts of the country, one of contrasting conditions.

The start of the year was significantly drier in some areas than usual.

What has then followed has been almost biblical in proportion! Rain, rain and even more rain.

However, what this variable weather has highlighted is the need to build in a degree of resilience into golf courses.

By this I mean creating and maintaining surfaces that can deal with heavy rainfall, whilst on the other hand ensure greenkeepers have the ability to apply water when they need to.

One of the challenges that we all face in the near future is trying to get the water balance right.



The technology is there to help produce better draining greens, but what is more problematic is securing a reliable source of water to be able to irrigate when the grass needs it.

We have to accept that the future regarding climate change is uncertain and that one of the likely outcomes is that our weather may become more unpredictable and extreme.

In this scenario, serious thought needs to be given as to how we can better utilise the resources available to us.

This means looking more closely at how water can be captured and stored on the course ready for use when drier periods occur.

It would also be interesting to look at how we can recycle more water, especially water already captured by drainage systems.

This is where further research could be focussed.

I believe there is a real need to look at how we can provide more water sources on courses themselves.

Of course these options are not cheap, but if we can study the practicalities and the associated costs perhaps we can develop a reasonably efficient and cost effective system for those occasions when you know you want to be applying water but are severely restricted as to how much you can apply.

### about the author



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