ONE STEP BACK

By Henry Bechelet

Our Holy Grail

The Disturbance Theory articles all aim to give you a greater understanding of the management required to favour the development of the finer grasses in golf greens. By understanding the growing environment you should be able to manage it better. A greater dominance of the finer fescues and/or browntop bents will produce better putting surfaces for longer in the year and with reduced vulnerabilities. Fine grass dominated surfaces also greatly enhance the thrill of the game for the golfers. The finer grasses have always been at the heart of British greenkeeping for these reasons.

An Ecology Insight

The theory comes from an ecological perspective and gives an insight into the differing nature of the various fine turf grass species. It explains how to set the environmental conditions necessary to encourage the development of the desired species and to cause the unwanted to decline. The Disturbance Theory method encourages the preparation of fast and true surfaces through top dressing and rolling rather than through aggressive verticutting and mowing. The finer grasses don't like too much rough treatment and aggressive management only plays into the hands of the annual meadow grass. Stress is also used in a controlled fashion to remove annual meadow grass but not to the extent of loosing playing quality or damaging the desired species as well. This controlled stress is dovetailed with overseeding in the late summer to establish the finer grasses as the annual meadow grass dies back.

Hold your Horses!

All this is fine and dandy, but you can forget about minimising disturbance and applying controlled stress if you haven't got the correct soil conditions. The fine fescues and browntop bents won't establish if the turf base is either water retentive or prone to droughting. The starting point for any good greenkeeping plan must be with proper soil profile management.

Avoid Extremes

Essentially, to favour the finer grasses we are looking to steer clear of the extremes of wet and dry, as they can both be damaging and damage brings annual meadow grass (this is The Disturbance Theory after all!). We should aim to create a turf base that drains well through a soil/rootzone and has the ability to retain sufficient moisture to sustain healthy growth without the need for incessant watering. This might be a well-drained soil based green with a decent thickness of sandy top dressing accumulated at the turf base and without too much organic matter accumulation (don't think that the finer grasses only apply to the links).

So, before embarking upon a programme that aims to favour the development of the finer grasses you will need to sort out the drainage and get rid of the thatch. You can minimise disturbance and overseed to your hearts content once you have the correct foundations in place.

Drainage is Everything

If too much surface water retention is a problem then drainage (or maybe even reconstruction) might be required. Poor drainage compromises playing quality, it can adversely affect turf health and it stifles the natural breakdown of organic matter. All bad. The decline in turf health magnifies the damage inflicted by play (and inconsiderate maintenance) and this leads to a thinning of the sward especially through the winter. This thinning provides gaps for the annual meadow grass to invade in the spring. Poor drainage favours the development of annual meadow grass through heightened winter disturbance damage. For the finer grasses to establish you need to improve the drainage and so reduce the potential for decline. A dry turf base improves wear tolerance not to mention playability and playing quality. Annual meadow grass coupled with poor drainage just brings thatch and disease misery.

Go by the book

Methods for draining golf greens can be found in numerous other articles and reference books. Consult recognised drainage experts if you are unsure, because this is an area where the specialists do shine and they can save you a great deal of time and money. The drainage system should capture and move water away from the green through pipe carriers. The design should serve to intercept water flow and take into account the influence of the green surrounds. In the end, reconstruction may be the only answer. Once again, reconstruct according to industry guidelines and choose your materials carefully. The drainage of golf greens really isn't that complicated or demanding it just needs a structured approach and proper resourcing.

Soil profile management

Many perceived drainage problems are due to poor soil profile management. Thatch holds water like a sponge and can give the impression of a deeper drainage problem. Soil compaction can impede drainage as well as stifle the growing environment. Thatch control and aeration of the soil have always been fundamental to good greenkeeping.

Thatch Removal

Thatch removal is a straightforward task and the key is simply to get on with it! Don't worry about disturbance damage at this stage because while thatch is dominant the finer grasses won't establish anyway. A thick layer of organic matter tends to be either too wet or too dry and it is never suitable for the finer grasses to flourish. Just get rid of the thatch to bring immediate improvements in playing quality as well as giving the finer grasses a chance to come at a later date. The golfers will thank you well before the finer grasses take hold with the best yet to come. Hollow core, deep scarify, aerate and top dress as much as is required to reduce the influence of the thatch. Only when you have created a sand dominated turf base and a soil profile that drains, will the finer grasses stand a chance of taking over. Disturb to get the soil profile into shape then start setting the correct environment.

Thatch prevention

You should also ask yourself why the thatch was there in the first place! You will not make progress with the finer grasses until you truly change all your ways. Too much fertiliser builds thatch and too much watering prevents it from breaking down.

Roll your sleeves up

Don't compromise when hollow coring to remove thatch from the turf base. It is my experience that micro-hollow coring and top dressing just doesn't work well enough to make inroads into a thatch accumulation on its own. Significant thatch removal cannot be achieved without causing some sort of surface disruption. You should use big tines (12 to 16 mm) to remove a large volume of cores and leave a hole big enough to incorporate top dressing down. The smaller micro-tine holes just don't allow the incorporation of top dressing into the turf base, rather it tends to bridge over the top of the narrow hole instead of working itself down. Hollow tine and top dress as necessary to get through the pain as quickly as possible. Use the full year to get to grips with thatch rather than employing isolated, out of season treatments. Compromise will get you nowhere, the golfers will see the improvements soon enough and appreciate the necessity to keep going. This is all about creating firmer and drier surfaces for longer in the year, so who is going to object?

Deep scarification isn't a bad way of removing organic matter and it is probably just about perfect for overseeding, but the integration of top dressing into the narrow tracks is an issue. Innovations such as the Graden Sand Injector may resolve this problem.

Aeration is the key

The integration of top dressing is all-important when reducing the influence of thatch. Filling the core hole with sandy top dressing will promote further thatch breakdown. Dressing into tine holes also produces channels for more effective watering. The more effective the irrigation, the less you need to do it and less thatch will accumulate as a result. Believe me, the finer grasses will prefer a drier environment. Choose consistent medium/course top dressings and concentrate on incorporating it down the tine holes rather than just into the turf base. Top dresser and brush technology has never been better. Regular additional in-season aeration is also necessary (in addition to intensive coring) to get the upper soil profile functioning correctly. Keep top dressing to maintain surface playing qualities.

Commit yourself

To achieve the finer grasses you simply need to want better greens. This is about producing firm, fast, true and smooth surfaces for longer in the year. What else could you want? The bents and fescues can establish within golf greens but they do require a well-managed soil. If your soil profile isn't quite right then start making plans. You may need better drainage or more intensive maintenance and this will need proper budgeting. Aeration, core removal, top dressing and brushing all need to be carried out quickly and effectively to reduce the level of disruption. Thankfully, the machinery available these days is absolutely terrific and a credit to our industry but they still need to be paid for. Aerators are better than ever, core harvesters are available for purchase or hire, spinning disc bulk top dressers are heaven sent and brushing technology is at a peak but hard work is the key ingredient. You can do what you need to with commitment and with proper resourcing. Just remember that the finer grasses require far less work in the long run and the results will be better in the end. Hard work is necessary initially, to set the correct foundations but things will get easier with time. It might feel that you are going backwards to begin with, but the progress in the longer term will be worth it. One step back for a better way forward can't be a bad thing.


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