

RHUBARB AND CUSTARD

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The logo for STRI (Society for Turfgrass Research and Innovation) features the letters "STRI" in a bold, white, sans-serif font. The text is set against a dark green rectangular background. To the right of the text, there are several stylized, light green grass blades that appear to be growing upwards and to the right.

A dessert to finish

It is time for me to stop writing these perishing articles. I am happy to have had my say on the matter of sward progression. This is my final article in the Disturbance Theory series. In the articles we have tried to cover all aspects of the maintenance necessary to favour the development of the finer grasses in your greens. We have told you how to think about the problem in a new way that brings better insight. I hope it makes enough sense for you to carry it on. Because I know many of you have already started down this line I don't want to leave any gaps. I want to finish this off properly for you and then hope that the theory can take on a practical life of its own through you. This final article is about aeration and it should serve to confirm that you have attained the complete understanding. Call it the pudding and you can lean back when you've finished.

All good?

Aeration strategy is everything in greenkeeping and agronomy. If you know anything about either then it's *the one*. "Aeration, aeration, aeration" is the common call for correct devotion, but is real life that simple? No. Don't let an appealing sentiment stop you thinking properly. Aeration is beneficial when it's done right but it can also be damaging without thoughtful care. Don't be blinded to the truth when setting down your principles to work by. Aeration can be dangerous even in sincere hands.

Firm and dry

We aerate to maintain the correct soil conditions to enable us to create superior playing surfaces. We seek to create playing surfaces dominated by the finer grasses because they are naturally superior. Browntop bents and/or the fine fescues make better surfaces for longer in the year and with reduced vulnerabilities. A firm, fine, and dense sward with built-in hardiness. Fast, smooth, and true surfaces that are receptive to approach shots. The ideal species blend will depend on the style and nature of the course.

To achieve the finer grasses we need to maintain a surface that receives and transmits water quickly, we must produce a sand dominated upper soil profile with an open structure and also manufacture decent underlying drainage. A bad inheritance certainly needs a lot of hard work. A good situation also needs work to combat the pressures of play and to keep the soil ecosystem and drainage functioning properly. Slit tines, solid tines, chisel tines, hollow cores,

tine heave, offset rotating blades, compressed air injection, deep scarification, sarel rolling are all available to do the job. You just need to put your programme together to create the correct soil conditions but without damaging the desired species or laying the sward open to invasion from weeds. Basically, you will only need to get fussy with your aeration after you've done the majority of the hard work.

Banzai!!

For our standard annual meadow grass dominated soil-based greens we need to get rid of the thatch quickly, create a sand dominated upper soil profile, work the structure to depth and maintain adequate drainage rates. Don't waste time when removing thatch because you will loose the ground, it comes back. Stop creating the conditions for it to come back. Hollow tine to remove organic matter, integrate top dressing to replace it, solid tine to aerate, top dress to integrate, solid tine to aerate, top dress to integrate, solid tine to aerate, top dress to integrate, hollow tine to remove, integrate top dressing, deep scarify to remove, integrate top dressing, verti-drain, verti-drain, verti-drain, slit tine, solid tine, structure and drainage etc etc etc. You get the picture. Get the soil conditions right in your own way but be careful not to lose sight of playing quality with your eagerness. Only aerate when surface, soil and growing conditions are right and take real care with the top dressing and tidying up. Don't forget about the golfers for goodness sake. Overseed throughout this time because the finer grasses start to take hold as things improve. Seek to reduce fertiliser and irrigation inputs to manage healthy turf through the change. Don't go silly at this stage because stress is no good to seedlings.

Gung-ho!

Continue to aerate with a passion through the transition phase to create the ideal environment for early establishment. Disturbance is not an issue here if we fill the gaps with our own choice of quality seed. In addition to your aeration zeal, try to maintain healthy turf without imparting undue stress or producing too much growth. Just think of the seedlings as they come because they need your help. Stay on top of dry patch to maintain consistency. Reduce competition by keeping growth as quiet as possible. Plant growth regulation is achievable in a number of different ways. Try them, talk about them, *learn* about them.

Ultimately, we don't want to have to resort to too much aggressive verticutting and mowing to maintain playing qualities because it places too much pressure on the finer grasses. Spike, top dress and seed, brush around, prick, roll, roll, roll. Spike, top dress and seed, brush around, prick, roll, roll, roll. Spike, top dress and seed, brush around, prick, roll, roll, roll. Good surfaces. Nice method. Undertake light verticutting if needed but hear the seedlings wince.

Karma

When the finer grasses have assumed dominance (or if they started with it) you need to ease back on the throttle. Now is the time to learn to live again. Well done and relax or good luck and start panicking, depending on how you got here. Suddenly annual meadow grass invasion is your primary concern. Take care not to damage the finer grasses or leave the surface open to annual meadow grass seed invasion. See the impact of everything you do. If you're here because you've managed to make the change then well done and keep doing what you are doing but gradually turn the volume down as the need for intensive treatments naturally declines. Keeping up the intensity at this stage might prevent you from kicking forward by keeping the surface too open. If you are managing a completely new establishment or have inherited some kind of fine turf heaven then it is time to start getting super protective.

Nature and nurture

New bent/fescue greens are a problem because they are so young and they react against the increased intensity of maintenance and the pressure of play. They can weaken quickly if allowed and rip to pieces under play without proper care. We have all seen the ensuing rout and find it easy to blame the method of construction or establishment. Maintain strong growth in the early days and don't take liberties with your cutting heights. Don't create the gaps for annual meadow grass seed invasion, concentrate on closing them down. Dust down with top dressing, brush lightly, roll, roll, roll. Repair pitch marks and manage marginal play properly. Take the greens out of play if you need to. Put your arms around them. Resilience comes with time and only after patient early care. Prepare the playing surfaces in an aggressive way and use them regardless if you want annual meadow grass invasion.

Back on track

Certainly don't go berserk with the spiking on bent/fescue greens. Don't do any if you don't need to. Constantly observe the situation to determine exactly what is needed to maintain the ideal soil profile. Take advice if you need to get your eye in. Understand exactly what it is the various aeration treatments actually do. Minimise sward damage and the creation of gaps during high-risk periods. Sarel roll to prick the surface open if you need to keep the upper soil profile receptive to effective water infiltration during the *Poa* seeding seasons. Quickly fill open micro solid tine holes with top dressing and seed to improve the turf base without inviting disaster. Choose a most effective but damaging method only when the risk is minimal and the pay-off essential. Hollow tine, top dress and overseed if needed when quick recovery is available, when *our* seed germination and establishment is optimal and when there aren't too many annual meadow grass seed heads around. It always depends on the weather so think on your feet and be alive to all opportunities. Good greenkeeping requires foresight.

And now the end is near...

All these things you know. Now is the time for you to do what is needed. You know that this way of thinking holds the answer you need because the answer comes from you. The Disturbance Theory has only been about giving enough of an understanding and also the confidence for you to take up sward progression for yourself. Now you just need to persevere, listen and learn as you go, know when to work hard and when to take it easy and be sure to strike cleanly. I look forward to seeing the results and hearing of the journey.

At the end of all this you must promise to tell of your success to help those that want to learn and follow. The Danish success comes from good communication and their real sense of brotherhood. They help each other. British greenkeeping needs to wake up to itself in this regard and stop holding the secrets of success as personal treasure. Fools gold. The Danish model was also driven by legislation. At the moment we are largely doing this because we want to but, imagine ever-hotter and drier summers coupled with water restrictions and you might start to think that you have to make the change. I applaud The R & A for their movement into this area (www.bestcourseforgolf.co.uk) and hope that we are all happy enough to see the sense and join in. Working groups, seminars, articles, Internet forums, classrooms and lecture theatres are all to the good and should be used by the good for the common good. We are all going to need to help each other if we are to carry everyone along to a successful and more easily sustainable future. Rhubarb? We'll see.

Until tomorrow my friends.

There will be further Disturbance Theory articles from other contributors and a number of seminar days are being arranged for the autumn so keep in touch with the website. We also conduct advisory visits if you need any further help or support.

...and finally.

The prize for the "Is verticutting necessary?" caption competition goes to Mr. K Singleton from Colne in Lancashire for his most concise answer..."Yes it bleedin' well is, now get on with some work...I mean, for crying out loud!" Thanks Kevin, will do and well done, your report is in the post.

Coffee anyone?

Henry is a turfgrass agronomist at STRI (Sports Turf Research Institute) in the UK.