

COMPETITIVE EDGE

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Back to basics

All plant species have evolved strategies to survive and take advantage of their environment and the grasses are no different. Some are quick to reproduce to cope with regular disturbance, while others become naturally hardy to be able to withstand environmental stress. Where stress and disturbance aren't too confining, the plant species may become competitive to enable them to flourish at the expense of others. The natural world is all about the survival of the fittest. This article is all about favouring a dominance of the bents and fescues by making the most of their natural competitive abilities.

Think positive

Let's all agree that a greater dominance of bents and fescues creates better quality putting surfaces for longer and with lower inputs. For the finer grasses to rule the golf green environment, we need to make them the fittest species of all. We achieve this by creating the environmental conditions that optimise their innate competitive abilities. Sustainable sward composition change is all about creating the conditions that gives the desired species a chance to establish a stronghold. To concentrate the management strategy solely on picking away at the weakness of an undesirable species is to miss the point. An unduly negative and stressful approach can be damaging to the desired grasses as well as the unwanted species. To get the finer grasses you need to appreciate and manage their strengths.

A battleground

For greater detail on plant strategies refer to the article "Changing the Nature of your Greens". To summarise, competition is the evolved tendency of plants to try to monopolise the resources of an environment at the expense of their neighbours. It describes the battle for light, nutrient, water or volume of space and it is the way a plant species attempts to assume dominance. A dense sward or thick canopy may be ways in which a plant out-competes other inhabitants. Competitive ability drives a plant species to take advantage and it should be seen as the forward momentum in sward composition change. The way in which a plant competes will depend on their growth strategy. As managers we just need to create the right battleground for the finer grasses to dominate.

Competitive ability

The various fine turf species have evolved different strategies to survive and develop. Annual meadow-grass is adapted to flourish in conditions of high disturbance. It is all about invading gaps and quick reproduction and has hardly evolved any true competitive edge. Annual meadow-grass does not dominate when given sustained settled conditions. Browntop bent and red fescues are quite similar in their nature and they have evolved to survive in situations characterised by only moderate levels of stress and disturbance. They both have greater competitive ability than the annual meadow grass given the opportunity. Pure bent/fescue swards do naturally develop to create an extremely dense and deep-rooted sward that looks after itself and is able to muscle out invaders. Given the chance.

Alleviate the pressure

Competition only develops when the wider environment is relatively settled and benign. Too much disturbance and stress either damages or confines the plant to kill their competitive edge. Managing the environment to favour the finer grasses is all about relieving the confining pressure to give licence to their innate competitive abilities.

The real world

Unfortunately, in the intensively managed and highly pressurised fine turf environment, competition is hardly allowed to exert itself at all. With the turf grass being constantly mown, scarified and played etc., there is very little opportunity for the finer grasses to impose themselves. Disturbance pressures are usually dominant, which is why annual meadow grass flourishes and the finer grasses fail. Constant physical damage selects the weed. To favour the finer grasses we need to *ease* the pressure to let competition take to the fore.

The greater good

To establish the finer grasses in the golf green environment we need to be big enough to let nature take over. We need to stop piling on the pressure with incessant and aggressive surface preparations. We have to be confident enough to step back from our controlling instincts to allow nature to take its course.

A competitive environment

So, you need to prepare your surfaces through non-aggressive means. Firm, fast, true and smooth surfaces may be achieved through brushing, top dressing, rolling and employing sensible heights of cut. Apply fertiliser just enough to maintain turf health so you don't have to resort to aggressive surface treatments. Soil acidity does have an influence on the competitive environment and should be managed appropriately. Irrigate to control productivity and give the hardy plants the edge. See the articles – "Do Not Disturb",

“Food For Thought” and “Irrigation – A Tool of Agronomic Change” for more detail on these subjects. Progressive greenkeeping is all about a better appreciation of the competitive environment.

Density

If competitive ability comes primarily with sward density, we must endeavour to maximise it. Fertiliser and irrigation inputs should be applied considerately. We must employ optimal heights of cut using sharp blades. Brushing or grooming prior to cutting should be undertaken to maintain quality of cut. Regular top dressing will certainly maintain and improve sward density. Dare I say that we should be considering the impact of growth regulators when trying to maximise sward density! Certainly, all turf thinning must be prevented with the careful management of undue stress and disturbance.

New improved

Overseeding is pivotal to the development of the finer grasses. Again, when overseeding think of maximising competitive ability. It is recommended that overseeding be undertaken at every opportunity but especially in late summer after the sward has been feathered with stress to slow down the existing sward and allow the new seedlings a better chance to take hold. You must then remember to manage the post emergent establishment considerately to give the new seedlings a fighting chance and this means keeping stress and disturbance to a minimum. Be alive to everything you do.

The future is...

At the NTF conference last year there was a very interesting talk entitled “Environmental Interactions On Species Composition” by Dr Altissimo, consultant with Agromoni Associati. The most interesting point of the lecture was the concept of the grasses “attitude to compete” and how it varies greatly between species and also between cultivars of the same species. He found that a highly rated cultivar (in terms of colour, fineness of leaf etc.) may not display a strong *attitude to compete* and would suffer if partnered with a more dominant species or cultivar. His hope was to develop a model to rate this attitude to compete. It would be great to know how the species and varieties *behave under pressure* to give us a better idea on how to handle them.

Not Stress

Most people think we attain the finer grasses by exerting stress as a dominant pressure. Stress *is* required but only as a controlled confine used against annual meadow-grass and only at certain times. Too much stress for too long will ultimately hold back the forward development of the sward rather than progress it. Stress should only be used as a short-term measure to pressurise the weaker annual meadow grass and give the finer grasses a

chance to take advantage. The period of controlled stress should be eased at the right time to release the competitive abilities of the desired species. Think of stress as a holding tool and competition as the progressive force.

Let it be

If you want to establish the finer grasses you need to appreciate their nature. The bents and fescues have competitive abilities that will enable them to take over the sward given the chance. All you have to do is set the correct environmental conditions and commit to overseeding. If you care about the finer grasses you must trust your greens naturally evolve towards their better nature. The finer grasses just need consent. Be the catalyst not the competition.

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