

FOOD FOR THOUGHT

- How to approach fertilising for the finer grasses.

by

HENRY C BECHELET B.Sc. (Hons) MBPR

STRI Turfgrass Agronomist

It's not what you think

In these times of healthy debate, chew on this thought...

...You don't have to starve your turf to favour the development of the finer grasses.

Fertilising to favour the finer grasses is more about not over-fertilising than adopting a starvation strategy. The aim of this article is to get you formulating your fertiliser programme with the needs of the finer grasses in mind. With a predominance of the bents and fescues we achieve better quality surfaces throughout the year.

The downward spiral

The problem is that too much fertiliser forces you to rely on intensive verticutting and aggressive mowing to prepare firm, fast and true playing surfaces. Hollow tining and deep scarification become necessary to get rid of the deeper thatch. It is this incessant damage that the finer grasses can't stand. Such an aggressive method of preparing putting surfaces will inevitably require additional fertiliser applications to ensure that the turf recovers from the onslaught. It is constant disturbance coupled with high productivity that brings annual meadow grass dominance.

This is it

We try to minimize fertiliser inputs to reduce the need for disturbance. A more settled and less intensively managed environment will give the bents and fescues a fighting chance. A less disturbed environment will also take some stress to allow you to weaken the annual meadow grass. Let me tell you about fertilising golf greens to favour the finer grasses.

Step back and think

When greenkeeping, our single objective is to create playing surfaces of the highest possible quality. If that means we want to favour a predominance of the finer grasses we will have to set the correct environment. Ultimately, this should involve minimising the level of disturbance, which is why we reduce fertiliser inputs. We then impart controlled beneficial stress at some point during the summer to pressurise the annual meadow grass at a time of overseeding to let the finer grasses take advantage. We impart this stress with judicious irrigation rather than fertiliser because it is easier to control. We generally try to keep irrigation inputs to a minimum to prevent thatch accumulation but we only use it to actually lever stress for a short period. This will serve to weaken the annual meadow grass before the new seedlings emerge. Too much stress for too long weakens all the grass species and golf greens are too busy to be weak. See “Changing The Nature of Your Greens” on www.stri.co.uk for more detail.

Just enough

So, we want to minimise fertiliser inputs to reduce the need for incessant aggressive treatments. Minimal (some would say “optimal”) means producing just enough growth for the surface to be prepared and be able to withstand play without deteriorating. The desired level of growth will vary depending on what we need to achieve at different times of the year. For example, during spring we will need to generate a certain level of growth to bring recovery from winter wear and to allow the early season preparations to take place. During the summer, once we have set-up our surfaces, we would want to keep growth quiet to reduce the need for any further aggressive treatments. Into autumn we must ensure that the turf is strong enough to withstand and recover from the end of

season renovations prior to the onset winter dormancy. When minimising your fertiliser inputs concentrate on finesse and timing. The old boys used to feed by hand to allow localised areas to be missed-out or receive extra nutrient depending on the turf condition – now that *is* finesse! Essentially, you should only apply what is necessary and no more.

Nitrogen

In terms of nitrogen input, for soil-based greens the Danish experience finds 5 – 7 g/m² N per annum to be sufficient. You should aim to apply as little as necessary so you don't have to verticut too often through the summer. Be careful when weaning greens off a high-N approach because there may be an adverse reaction in the form of disease attack. Just take it steady and trust your judgement, that's all.

In most cases the main source of nitrogen should be ammonium sulphate for its acidifying effect. The finer grasses can tolerate a pH below 5.5 whereas the annual meadow-grass cannot. Nutrient availability and microbial activity are factors here but not in this article. Generally, lowering the pH is a way of selecting-out annual meadow-grass. Sulphate of ammonia should represent roughly 75% of the total nitrogen.

The remaining nitrogen can be balanced up with lesser amounts of dried blood for prolonged release or urea-based liquids during the summer months. Don't use too much organic nitrogen as this will promote disease prone lush growth and don't be fooled into using nitrates for the same reason. Disease equals disturbance and plays into the hands of annual meadow-grass. Just try to minimise nitrogen inputs to reduce the need for disturbance.

Fescues will flourish in a high pH but annual meadow grass dominance can only be avoided with the influence of an overriding environmental stress such as raised salinity or droughting. Liming generally plays into the hands of the weeds, worms and diseases.

Phosphate

The results of research on the effect of phosphate applications on fine turf quality have actually been inconsistent. Incessant phosphate fertiliser applications undoubtedly encourage the development of annual meadow-grass but at lower levels the relationship is not so clear-cut. Regular phosphate applications will create an ideal turf base for seed germination to the advantage of the annual meadow grass. Just don't lose your head about phosphates and remember that they are not usually necessary to favour the bents and fescues. It is my feeling that the famous rabbit urine scorch tale should have been interpreted as scorch disturbance laced with urea fertiliser to encourage annual meadow-grass invasion rather than as being the direct effect of high phosphate levels.

Potassium

Potassium is more mobile and might well need supplementing on sandier soils. Potassium certainly has benefits in terms of drought and disease tolerance but don't hang all your hopes on it. Monitor potash levels on an annual basis if there is any doubt. Just remember that favouring the finer grasses is all about managing minimal disturbance.

Keep it simple

So, what does this mean in terms of your fertiliser programme? As an example you could kick off growth in spring with an application of lawn sand. This should be applied with the onset of spring growth and will generate recovery from winter wear. An application of 8:0:0 or 8:0:6 fertiliser could then be made when strong spring growth is established. This growth will allow the early season preparations to take place. Using sulphate of ammonia based feeds during the spring will discourage annual meadow grass from invading gaps within the sward by lowering the surface pH. Liquid feeds can then be applied occasionally during the summer months to sustain healthy rather than lush growth. Seaweed soil conditioners may be tank mixed in with liquid feeds if it is felt that they have a beneficial effect. Finish off in the autumn with an application of a turf hardener type product (2-0-2 or 3-0-3 plus Fe or similar) to strengthen growth and harden the sward against disease attack. The rate of applications should be as little as necessary.

Your fertiliser programme should be focused on *controlling* growth so you don't need to employ consistently aggressive surface preparation techniques.

Surface preparations

So, how do we prepare surfaces without incessant verticutting or employing ever-lower heights of cut? Apply heavy top dressings with spring growth to firm and true-up the surfaces. A certain amount of verticutting will be necessary at this time but don't be unduly aggressive or too frequent. Once the surfaces are prepared we should then be aiming to let them be. We maintain our firm, true and smooth surfaces without undue growth by brushing, with light in-season top dressings, rolling, maintaining sensible heights of cut and employing isolated light verticutting if necessary.

Regular top dressing has the added benefit of keeping the turf base sandy and unattractive for annual meadow-grass seed germination.

Less is more

If you want to fertilise for the finer grasses you should be thinking in terms of minimising the need for aggressive surface treatments. You will need strong growth to prepare your surfaces in spring but from then on try to let them go to nature. Your job is to find the minimum growth level possible for you to be able to sustain quality surfaces without incessant verticutting. Ask your fertiliser supplier to concentrate on this when making recommendations based on soil analysis results.

The finer grasses are tender souls that don't like incessant rough treatment but they can withstand stress. Remember, at no point do we withhold fertiliser to exert stress. We exert stress on the annual meadow grass for a limited period in summer by controlled droughting in conjunction with overseeding to give new seedlings a chance to take hold. Be patient and stick to your principles and the finer grasses will come.

Get this thought into your head...

...aggressive greenkeeping is the
death of the finer grasses.

Kapeesh? (*sic.*)

Henry Bechelet is the STRI Turfgrass Agronomist covering North and Eastern England.

Henry may be contacted by email at henry.bechelet@stri.co.uk or via
<http://www.stri.co.uk/>