



WHY OVERSEEDING DRAMATICALLY IMPROVES COURSE CONDITIONS

Managing turf areas will always be challenging and overseeding plays a key role in improving turfgrass conditions. Stephen Denton reports...

Overseeding is a subject which is often discussed but not always understood. So why do we need to overseed? The main reasons are to maintain the balance of cultivars, to introduce new cultivars, to ensure grass can cope with heavy wear and to maintain consistency throughout the course.

Conditions can deteriorate if you do not overseed, which seriously affects playing conditions and the presentation of the course.

So how does grass grow? Following a natural cycle, during June, July and August the growth pattern of the grass plants slows as the grasses attempt to produce flowers and seed.

In an amenity situation these botanical changes restrict both the crown and root establishment of the individual grass plants. This can cause stress leading to a reduction in plant cells, which then significantly impacts on establishment of the turf surface the following spring. Higher stress levels within the grass plants seriously affect the important autumn growth.

During a wet summer it is likely a high percentage of the leaf density will consist of weak lush leaves and shoots susceptible to stress, winter wear and weed invasion.

Weather patterns during any year – whether

wet as during 2007 and 2008 or hot and dry as in 2006 - amplify the problems that are likely to occur going into this vital autumn and winter period.

Seed sowing

In theory, grass seed can be sown at anytime of year, even during the winter. However, the potential for failure is higher during this period as conditions are often less favourable.

As a guide as long as light, air, water and appropriate temperatures are available, turfgrass seed will germinate.

One of the benefits of autumn overseeding is it increases the percentage of healthy desirable species within the sward. For best results seed should be sown on two or three occasions at half rates.

Considerable benefits in adopting this programme include improved wear, density, disease resistance and a more rapid establishment during the following spring when the next growth pattern commences.

New cultivars have been bred and varieties are continually being improved to meet the increasing pressures placed on the sward by climatic changes and increased usage of the golf course.

Management regimes

Different grass species have varying demands in terms of maintenance inputs. Those demanding intensive management, notably annual meadow grass (*Poa annua*), fail in terms of producing a truly sustainable sward.

Annual meadow grass can be categorised as a ruderal plant, one that will inhabit environments where low stress, high disturbance and reduced competition exists. It has adapted through time to be able to germinate, grow and produce seed very quickly thus colonising weaker areas. This rapid production continually adds new material to the seed bank within the soil. Copying this successful method of establishment by regular light over sowing of other desirable grasses will create competition by increasing density and uniformity. This then limits the availability of resources for the undesirable species.

Trials carried out on one-metre plots over a two-year period which received six separate overseeding operations exhibited a 12% increase in density but more importantly a reduction by 10 to 15% was noted in annual meadow grass ingress. By adding new material to the sward system on a regular basis, a balance of developing vigorous and mature plants can be achieved helping to



Striking seed on West Cornish golf course

At the picturesque West Cornwall Golf Club where Keith Kemp is Head Greenkeeper the sea forms a dramatic backdrop to this testing 18-hole links course. Developed out of 100 acres of dune land and established in 1889 this is thought to be one of the oldest clubs in Cornwall.

On taking over his current role Keith's principal aims were to bring back fescues to dominate the greens and address green speeds.

David Rhodes was taken on as consultant agronomist to help provide advice on the best way forward and Keith says: "He certainly got the ball rolling to improve the management of the greens. This looked at a more sustainable approach and encouraged a return to the links-style course in line with the original design.

"Regular overseeding was recommended as part of this programme and this has already paid significant dividends. Currently we are getting through one of the coldest winters I can remember and the greens have been holding out well."

Initially overseeding took place using Mascot R101 from Rigby Taylor and now R117 is applied as it contains 25 per cent chewings fescues Calliope and Greensleeves together with slender creeping red fescues Helena and Cezanne.

Aeration has also increased dramatically together with top dressing. The club has

purchased an Aircore 800 pedestrian aerator and Keith and his team Sorrel roll at least once a week to keep the surface open.

Overseeding programme

Overseeding takes place three times a year, firstly in spring and summer at a rate of 12gms/sqmetre with further overseeding in the autumn at a rate of 20gms/sqmetre.

"We need to treat each green differently to get them up to the same level," says Keith. "Some greens are very high in fescue content others low due to different micro-climates."

Overlooking St Ives Bay one part of the course is 6.59metres above sea level with the 16th green the highest point at 64metres

Top dressing has increased to fortnightly throughout the growing season using a 90/10 Roffeys mix. In the first year 130 tonnes of top dressing was used and applied by a Dakota spinner dresser which allows fine applications.

Keith says: "As a result we have been able to raise the height of cut and still produce a good putting surface. This has helped to encourage the fescues."

Brushing takes place on a regular basis as this stands the grass up before cutting it to reduce any lateral growth.

Seaweed products such as Maxicrop have also been showing good results.

Keith says: "Now there is greater uniformity across the whole course and vital improvements have been made to playing conditions."

create the desired surface.

Management practices undertaken also directly influence the grass species composition, especially on putting surfaces.

In northern Europe, the fescue grasses (*Festuca* species) and browntop bents (*Agrostis tenuis* and *A. capillaris*) indigenous to links and heathland produce the best turf for golf from playing, economic and environmental viewpoints. These species benefit from minimal intervention.

Browntop bent has a wider range in terms of habitat than the fine-leaved fescues. It tolerates wetter and more fertile environments and is equally at home on dry and infertile terrain. The fact that it is naturally found in the former explains why it is often seen in greens along with annual meadow grass. Its ability to thrive in dry and infertile soils provides the key to its competitive edge over this relatively unsustainable species.

Successful management of fescues and browntop bents is only achievable if certain conditions that favour these grasses in their natural environment are replicated on the golf course. Notably they require low fertiliser and water inputs, but maintenance needs to compensate for the wear caused by golf and greenkeeping traffic.

August and September provide the most suitable conditions for overseeding browntop bent.

However experience has shown that halving the seeding rate and making regular overseeding operations dramatically increases the percentage of seed that establishes.

Spring fescue overseeding should take place when a temperature of six to eight degrees centigrade or above is achieved and air temperatures reach similar values. Seed should be sown with a disc or dimple-type machine to a depth of no more than 7mm. Alternatively micro tine aeration or scarification to create a seedbed followed by light top dressing is another method of application.

Height of cut should be maintained at no less than 5mm to aid establishment of the new seedling plants. Initially this will affect the pace of the surface but this can be improved by regular very light applications of a suitable top dressing material. Once the new plants reach the two true leaf stage (approximately three to four weeks in ideal conditions) mowing heights can then be reduced.

It is important to be aware however, that reducing mowing heights is not the best way to create pace, as increased stress is placed upon the sward. Regular light V-mowing to stimulate vertical growth and regular top dressing is by far the most beneficial approach. The use of potassium based amino acid products has been shown to

increase the turgidity of the plant cell structure creating a more upright leaf. This creates lower resistance to the golf ball running across the leaf tip, whereas a flat leaf blade will impart greater resistance on the ball, slowing it's progress.

There are various methods of overseeding with browntop bent. The most effective is to aerate using 7mm micro solid or hollow tines in a very close-set pattern, applying a light top dressing and matting to partially fill the holes. The seed should then be applied either through a drop spreader or dimple seeder followed by top dressing again and drag matting into the surface. Light firming of the surface helps to achieve good seed to soil contact. This method ensures that the bent seed is in contact with the soil rather than any organic thatchy material. The application of seaweed type products will also have beneficial effects.

Investing in your seed bank is probably the best investment a golf club can make to improve course conditions, certainly paying a better dividend than any other "bank" currently available.

About the Author

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