GROWING GR
– THE IB

Fertilizer technology has made major strides in
made with slow release fert

Greenkeeping is very much about balance – fostering nature in a way to please the Greens, Committee while pandering to the naturalist notions of the club members. Standards must be uniformly high throughout the year, despite the fact that nature gives in the spring only to take away in the winter. For the majority of golfers their club is an oasis, a pinnacle of green perfection and, compared against their own domestic lawn, a veritable Kew Garden.

Such demands make greenkeeping the profession that it is – a permanent reach for perfection conjured up by names such as The Belfry and St. Andrews. Television too has played its part; why is it that the North American courses look so lusciously green? Could it be something to do with filters over the camera lens!

Colour, richness and texture are the goals, culminating in a green where the turf wills the winging golf ball to its desired target rather than fights it blade by blade.

To achieve this level of fine turf technology Britain's 10,000 or so greenkeepers have a vast choice of professional tools to choose from. Some are controversial – others are accepted as sound scientific fact.

Like any professional body, the greenkeeping fraternity has learnt by, and cherishes, tradition. From the experience of the past comes the wisdom of today and nowhere is that to be seen more than in the careful husbandry of the grass plant.

Fertilization – the correct feeding of fine turf – has long been held crucial to achieve a healthy, disease resistant sward. Indeed, it can be argued that a well balanced fertilization programme is the linchpin to all other operations, over-feeding leading to grass 'flushes' and intensive mowing requirements.

Conversely, the under supply of nutrients leaves turf open to disease, moss and weed attack and the need for lengthy and expensive pesticide spray operations.

The Grandfathers of yesterday's greens used their skills and devotion to produce fertilizers based on the tools of the time – notably dried blood and hoof and horn meal.

This tradition is still followed by a number of greenkeepers who formulate their own fertilizers by blending 'straights' to their own or recommended specifications. This practice is time consuming and messy and often produces an inferior mixture if carried out incorrectly.

It has now been largely superseded by the introduction of ready mixed semi-organic and organic powders and, more lately, by the advent of slow release fertilizers.

The product of modern biochemical technology, these new slow release fertilizers offer an exciting new option. One in particular – that based on IBDU – is especially outstanding.

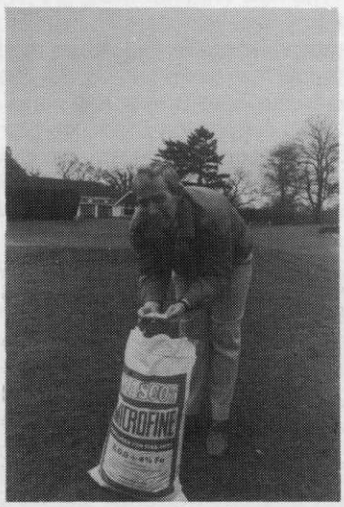
A synthetic organic compound – Isobutylidene Diurea – IBDU is the closest answer yet to the greenkeeper's dream – a product that releases nutrients proportionate to turf's growing requirement without suffering loss by leaching.

By far and away the greatest need for healthy grass is Nitrogen. It is here, in the unique Nitrogen release properties of IBDU, that makes it stand out from the other slow release fertilizers.

The chemical's two important characteristics are explained by Dr. David Lawson, Chemist to the Sports Turf Research Institute (STRI) at Bingley.

"In the first place, the release of nutrients from IBDU are dependent on the availability of moisture and soil temperature", he says.

Top Turf Team: Mascot Microfine and Mascot Spreader



Peter Marsh "The Granules are very consistent and easy to apply".

"When added to the soil the granules are broken down by micro-organisms to produce soluble urea-N which is further decomposed to ammonium and nitrate. While grass plants may absorb a certain amount of urea and ammonium, most of the Nitrogen is taken up as nitrate".

"As soil temperatures rise and with it moisture levels, so the activity of microbial breakdown of IBDU increases. Greater quantities of nutrients are released when the turf is actively growing and requires feeding", comments Dr. Lawson.

The result is that as Nitrogen generation is harmonised with plant absorption and production of green leaf tissue, little wastage occurs through leaching or excessive turf fertilization. Sudden growth 'flushes' and the need for higher mowing regimes are avoided.

The reverse action is true in the colder months. As grass growth diminishes through lower soil temperatures, so the brake is put on IBDU Nitrogen release by reduced microbial action.

"Plant growth is not completely dormant however and there is still a small release of soluble Nitrogen from IBDU over the winter months", says Dr. Lawson. "This is caused by a second action, a slow chemical breakdown of the compound".

"STRI trials have demonstrated this second release to be extremely beneficial in the more demanding months. It certainly gives rise to better turf colour, improved disease resistance and encouragement of earlier spring growth than that found with standard ammonium sulphate treatments. The use of IBDU also leads to less soil acidification than where the turf is treated with ammonium sulphate".

While priced higher than traditional products, IBDU fertilizers are applied less often and in smaller quantities. Not only is turf quality improved but significant time savings are made on an already over-stretched greenkeeper team.

Application is simple, the granules are not prone to drift and drop evenly between the grass blades to soil level whereas powder formulations tend to 'blow' and end up in unwanted

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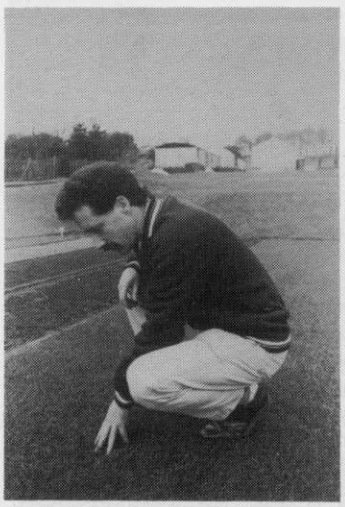
...the last few years. Notable advances have been ...ilizers. – David Lee Reports



Dr. David Lawson "IBDU releases nutrients as required".

"Long term IBDU Fertilizer is cheaper" says Peter Marsh.

areas, especially when applied by a spinner type distributor.

Where over application takes place by mistake, the turf is less likely to 'scorch' as the fertilizer is slow-acting. Since IBDU is decomposed by hydrolysis, its Nitrogen release may be controlled by irrigation if required.

A major factor regulating IBDU Nitrogen release is granule size. While a larger sample has better slow release properties an overall factor is uniform consistency for application purposes.

One concern voiced by the STRI over the new IBDU products is that manufacturers should disclose the comparative amounts of rapid release and IBDU slow release Nitrogen contained in their products. Ideally, the STRI would like to see an IBDU content of at least 50%.

This concern is shared by Rigby Taylor, one of the U.K.'s leading fertilizer suppliers who have endorsed the STRI's campaign and are intending for the current season to disclose the IBDU Nitrogen levels in its Mascot Microfine range of fine-turf fertilizers.

"Unless other manufacturers follow suit greenkeepers will be unable to make an effective comparison between the value of fertilizers", says Jon Ryan, Managing Director, Rigby Taylor (South).

"IBDU based products have rapidly gained in popularity in the last few years over traditional powder formulations for fine turf. The greenkeeper must be in a position to determine whether a slow release fertilizer is value for money when considering his course's needs.

"Consideration should also be given to particle size range", says Mr. Ryan. "It is essential to ensure that IBDU of too large a particle size is avoided as this will remain on the surface and much of it lost through being mown off. On the other hand too fine a particle will result in a reduction of the product's slow release properties".

In all cases the current Rigby Taylor range has at least 50% Nitrogen derived from IBDU, rising to 80% in its Mascot Microfine 18.0.0. + 6% Iron.

One of Rigby Taylor's customers who has used Mascot Microfine since its launch three years ago is Peter Marsh, Head Greenkeeper to Stoneham Golf Club, Southampton.

Managing the 130 acre 18 hole course with the assistance of four greenkeepers, Peter Marsh is well aware of tradition – he is only the third Head Greenkeeper since Stoneham was established in 1909.

His 30 years' experience with fertilizers at the course, 20 as Head Greenkeeper, takes in the blending of 'straights' in the early years and more recently the use of powders.

"The trouble with powder fertilizers was that you had to be very careful with them, otherwise they were prone to burn a lot", says Mr. Marsh. "This meant you invariably had to water them in as soon as they were applied, an arduous task. Then, as soon as they were in the soil you got sudden grass growth and the mower had to come out. They were also difficult to apply, often sticking together and making for an unpleasant job. Application was also heavily dependent on the weather – especially wind or rain".

Stoneham Golf Club currently uses two fertilizers from the Rigby Taylor range; 18.0.0. + 6% Iron for the greens and 8.0.0. + 4% Iron on the tees and approaches. These are applied twice yearly in April/May and June/July.

"These two applications see us right through the year", comments Peter Marsh. "The effect of the summer application is still noticeable in February, firming the greens up nicely with the added bonus of colour and no disease. In fact the Greens' Committee has commented that over the past two years we haven't used anything like as much fungicide – with considerable savings.

"We used to have to spray for disease regularly through the autumn and spring but that's now been cut down to one or two sprays around Christmas time as a preventative measure. That's better all round, no one really likes spraying and its less inconvenient to the golfers as we are not in their way.

"There's also just enough iron to knock back whatever moss we may get. That saves us spraying for moss in the spring and the iron enables the grass to keep its colour.

"The IBDU slow release Nitrogen works like a dream, stimulating the turf just right. With the powders the grass would grow like blazes for two weeks, necessitating heavy cutting every day. We still cut the greens daily but the grass is not long – its just easy!"

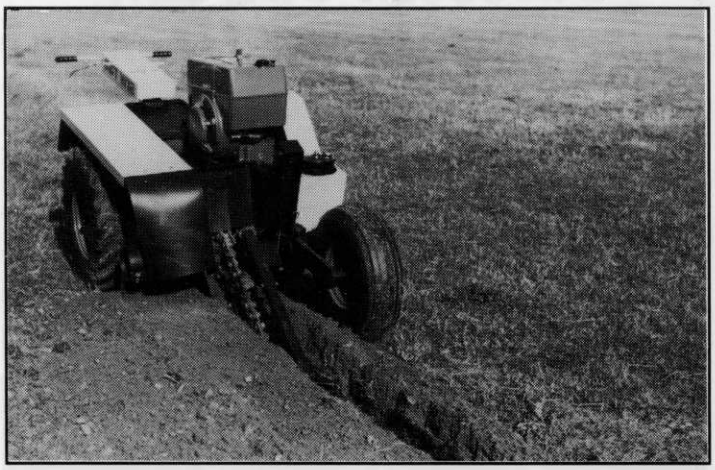
Long term Peter Marsh considers that slow release fertilizer is cheaper than powdered formulations or mixing 'straights'.

"We now use less than half the amount of fertilizer we used to so it must be cheaper in the long run. There is also far less maintenance whereas with the powder fertilizer we used to put it on at least three times through the season. The granules are very consistent and easy to apply, two lads going one way with a Mascot distributor and two the other and they are back at the sheds within two hours. It definitely saves time and spares inconvenience to us and the golfers". **•End**

Jon Ryan "Manufacturers must disclose IBDU levels".

DRAINAGE

The extremely wet conditions of 1987 and so far in 1988 have caused many Golf Clubs to experience serious drainage and water-logging problems. For many it has resulted in closure of the course. For those clubs who wish, or who are being pressed, to solve these problems, there is a ready solution to hand.



A.F.T. W12 Wheeled Trencher excavating for water pipe

A. F. Trenchers, established manufacturers of 20 years' experience, produce a range of trenchers ideal for solving drainage problems on Golf Courses using the available time of existing grounds staff.

The smallest in the range is the AFT 6/39 trencher which is a self winching pedestrian controlled model powered by 12 h.p. petrol or 10 h.p. diesel engines. Maximum size of trench is 150 mm wide up to 1.00 metres deep and the winch ensures that trenching can be carried out in extremely wet surface conditions with the minimum of surface damage. This is particularly important if work is carried out in the popular Autumn/Winter period.

A slightly heavier duty model of this type, the AFT 8/45, is also manufactured for cutting 200mm wide trenches. This machine also has the advantage of rear wheel drive for site mobility but retains the winch system for trenching. These small winch drawn models have been so successful with Golf Clubs and other customers who drain turfed areas that they have now been in production for 20 years virtually unchanged.

For those requiring a more sophisticated small trencher, the W12 wheel driven trencher has many advantages including hydraulically operated digging boom depth control and trenching speeds with reversible digging chain drive. Powered by petrol or diesel engines of 12 h.p. full electric starting is offered as an optional extra. Trench sizes are similar to the winch drawn models and trench speeds for these small trenches at 600 mm deep vary from 40-80 metres/hour depending upon conditions.

For those with a tractor of 60-80 h.p. a unique tractor mounted trencher is available. No special gearbox for trenching is required since the AFT 65 has its own fully patented wheel drive system which pushes the tractor along in neutral gear.

With the greater power available the AFT 65 will give a maximum trench size of 300 mm wide x 1.45 metres deep. Originally developed for the agricultural market a full range of attachments including pipe reel carriers, pipe laying chutes and laser assisted grading are available. No spoil collection is available on this model so it is used more for the deeper mains and lateral drains requiring higher accuracy of grading. The AFT 65 takes only half an hour to fit to the tractor and less than 10 minutes to demount.

Another tractor mounted trencher requiring at least 60 h.p. and only introduced last year is the Wizz Wheel. Using a revolving cutting wheel instead of a boom and chain much greater speeds can be achieved. (In excess of 1200 metres/hour for sand slits).

As well as narrow slits only 50 mm wide other trench sizes offered are 70 mm, 95 mm and 125 mm wide with maximum depth of 550 mm. A total above ground guarding system is employed and all the excavated soil is collected and dumped by a high level conveyor straight onto trailers. A tractor gear box reduction of at least 4:1 is required for this machine.

The largest self contained trencher in the range is the AFT 38 tracked trencher which is powered by a 46 h.p. air cooled diesel engine. Trench sizes available are 70 mm, 125 mm, 150 mm, 200 mm, 250 mm and 300 mm wide with a maximum depth of 1.2 metres.

Laser assisted grading is also available on this model together with soil collection system with high level discharge soil conveyor.

As well as marketing their own new machines, AFT offer reconditioned trenchers when available and operate a self-drive hire fleet complete with a countrywide delivery and collection service.

Full details of the range and further information should be obtained direct from A. F. Trenchers Ltd., Gosbecks Road, Colchester, CO2 9JS. Tel: 0206 44411.

A.F.T. 38 Tracked Trencher excavating sand slit trenches in a paddock

A.F.T. Wizz Wheel Trencher excavating for sand slits