

ON THE COURSE



Jack Moore (centre) with his team in the machinery sheds.



Apprentice greenkeeper Danny Spencer aerates the 18th fairway. Jack Moore is trying fairway aeration for the first time this year in an attempt to open up the extremely hard top surface. Exmouth can be seen in the distance.

the neighbouring higher ground. From these channels, pipes have been laid to carry water beneath the fairways.

"The sub-surface drainage can be

peculiar because of the nature of the soil structure," said Jack Moore. "Although the water can permeate the four inches of top soil, it is not always able to get through the sub-

sequent flinty layer. It then reappears like a spring, without warning."

The poor nature of the soil, while keeping Jack and his staff permanently on their toes, does help in one area - the club has very few problems with weeds.

"We apply sprays preventively," said Jack. "Fusarium patch is our biggest enemy, appearing mainly in spring and autumn when there's low cloud about creating damp, humid conditions."

Unfortunately, this cloud, which drifts in from the sea or the moors, rarely helps in keeping the greens watered. That's down to the automatic irrigation system - installed 20 years ago, updated in 1984 and now applying up to 200 gallons of spring water through four sprinkler heads per green during each irrigation session.

"It's a fine balancing act between the course's summer and winter water requirements," commented Jack Moore. "The secret during the summer is never to let the greens dry out, and by keeping a close eye on the weather we've been able to maintain good putting surfaces, even when drought threatens elsewhere."

Jack Moore said that he had been lucky in his timing.

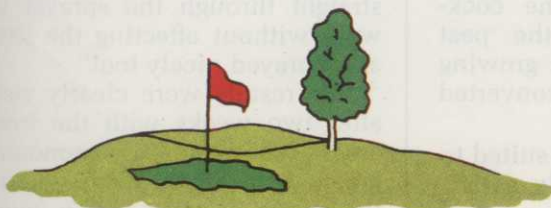
Anyone watching him, and his staff at work, will appreciate that luck has a small part to play compared with the skill, time and dedication that goes into looking after a course that is a delight to golfers, yet provides a constant challenge to those responsible for its year-round care and maintenance.

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PRODUCTS IN GREENKEEPING

The Dynamics of Organics

David Lee describes some new products from Rigby Taylor

The concept of 'organics' is nothing new to greenkeepers, who have been practising the art of natural nurturing of the soil for generations.

Scottish greenkeepers have utilised seaweed in their top-dressings for more than a century. Whether it is animal manure, seaweed, hoof and horn, dried blood or even soil itself, the principles of revitalising the ground for improved turf culture is accepted, as an important management procedure.

What is new however, is that some researchers now feel that organics have a positive biological value in the management of a healthy ecologically balanced soil system.

"The general trend of late has been a definite increase toward greater usage of organic products as a basis of sound grass husbandry programmes, especially in environmentally sensitive areas", comments Geoff Yelland, technical services manager at Rigby Taylor Ltd.

Aware of the demand for such products, the company recently introduced a comprehensive range of organic liquid feeds under its Mascot label. Market research strongly suggested the need for a more sophisticated approach toward soil conditioners, says Yelland. Customers indicated that a single, all purpose product was not enough to accommodate the complexity of soils, soil related problems and standards required for their turf regimes.

The Mascot organic range has three products. The first, Organic Liquid Fertiliser, is a general soil conditioner. It contains anaerobically fermented cow manure with essential trace elements for use on all sports turf - from fine swards to outfield grass.

The product differs from other liquid feeds on the market in two respects. First the source of manure ensures a known composition of nutrients and second the Nitrogen content.

While soil conditioners/feeds must not be confused with the

stronger elements of inorganic fertilisers, the Organic Liquid Fertiliser does contain 0.12% Nitrogen and 0.24% Potash.

Applied at the recommended rate, three times a year, it rapidly encourages microbial activity, leading to improved soil structure and increased nutrient availability from both existing 'locked in' nutrients and subsequent fertiliser applications.

The addition of iron has produced the next product in the range - Mascot Organic Green. It is designed for fine turf areas where an improvement of soil structure is required plus a rapid 'green up' effect without producing excessive foliar growth while 'hardening off' the turf, making it less susceptible to fungal diseases.

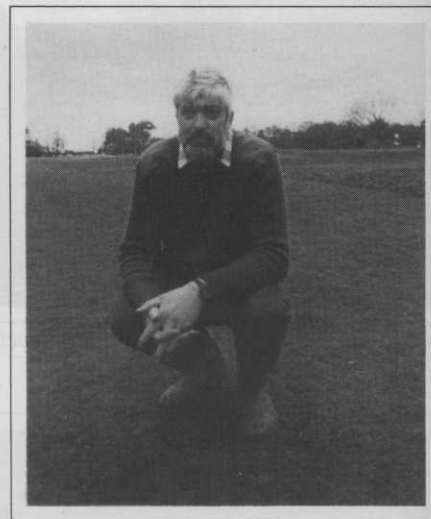
Organic feeds have traditionally featured either liquid cow manure or seaweed. Rigby Taylor has now integrated the benefits of both manures in their Organic Liquid Cocktail. A 70:30 mixture of liquid cow manure to seaweed extract it also contains 'Hydro-Wet', an inbuilt wetting agent to enhance soil penetration.

The immediate function of the cocktail is to stimulate growth of microbes in the soil through the supply of polysaccharides in the seaweed extract. These digest and convert available dead organic matter such as peat, dead roots, leaves and grasses into humus, allowing development of an improved soil structure.

The product also enhances a soil's moisture retention capacity through the presence of sodium alginate. This can carry water up to 2,000 times its own molecular weight to prevent top soil drying out.

Conversely, where peat is a problem, acting as a sponge and causing water-logging, the cocktail will break down the peat strata which, as a sterile growing medium, is not easily converted into humus.

"The product is ideally suited to heavy clay or light, sandy soils", says Geoff Yelland.



Peter Jordan, Head Greenkeeper at Coombe Wood Golf Course gets better root development.

Peter Jordan, Head Greenkeeper at the 18 hole Coombe Wood golf course, Kingston upon Thames, was one of the first to use the new Mascot Organic Cocktail after its launch at the 1988 IOG exhibition.

Having previously used seaweed feeds he was attracted to the cow manure/seaweed combination. "I was keen to try it to stimulate greater micro-organism activity within my soil structure", he said.

The cocktail was applied in late September to the fairways on the top 10 holes along with all the tees and greens at the recommended rate of one pint water to one pint product, a low dilution rate which he liked.

"One of the things I noticed was that it didn't block the spray nozzles unlike other liquid feed products I've used. It was very easy to use and apply. Although we put it through our filters to make sure there was no slurry build-up and inspected those filters during application to make sure they were clean, it went straight through the sprayer very well, without affecting the jets. It also sprayed nicely too!"

The results were clearly visible after two weeks with the treated areas showing a pronounced greened up effect. Examination of the greens in early March found a

PRODUCTS IN GREENKEEPING

further improvement to the turf.

"Its thickened the roots up very well even in this short space of time. You can see that when you change the hole. Although the actual length of the roots have not extended they have become much thicker, illustrating a healthier plant. And that's just in 4 months over the winter. Root development is what its all about."

Another factor Peter Jordan has discovered is that organic feeds help build up grass resistance to disease. "The amount of times we have sprayed in the last 12 months is very low. We have had disease but the number of fungicide treatments on the course has been minimal in a year when disease has been quite rife".

Thatch has been a major problem on the course which is primarily clay although the greens are constructed of a light, textured imported soil. This he partially puts down to the age of the greens (Coombe Wood was opened in 1904-) and the over application of sulphate of Ammonia in the past.

"The old policy of continuous,

heavy feeds of Nitrogen to get a quick grass flush has encouraged the thatch, but we are getting over the problem by a concerted policy over the last three years by verti-draining, hollow tining to 6 ins and slitting as frequently as play will allow. The organic feed has undoubtedly assisted with the thatch breakdown, which is now at a decaying stage."

An additional area where he sees the value of organic feeds is in seeding. "Where we have seeded the tees and over-seeded the greens the feed has retained moisture, stimulating grass seed germination. Similarly, where we have sprayed onto re-turned areas the feed has helped bind in those turves with added moisture retention, but without the spongy effect associated with thatch build-up".

His programme of organic feeds with slow release granular fertiliser is now starting to encourage the finer grasses, and help reduce the poa. "Before the treatment we found water tended to hold on the greens with the thatch. The greens are now drawing well".

This year he aims to apply two light applications of BASF based granular fertiliser in Spring and early August/September in conjunction with earlier treatments of two or three sprays of the Mascot Organic Cocktail and Iron to harden up the grasses.

As a firm believer in organic fertiliser Peter Jordan says he would like to mix his own feed but its just not practical. "I like the convenience of the cocktail. I have the confidence that, as its pre-mixed, the content amounts are correct for immediate application without the worry of whether its the right mix of nutrients".

The need for liquid organic feeds to be used in conjunction with an inorganic fertilisation programme is stressed by Rigby Taylor's Geoff Yelland.

"While liquid organics do contain small proportions of the major nutrients and trace elements, they are essentially soil conditioners", he says. "As such, it is imperative that they are considered as an adjunct to standard fertiliser programmes.



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Golf Irrigation A La Francaise

How a British company is developing its French connections

Whereas the majority of golfers in Britain play on courses at least one hundred years old, the average Frenchman (and occasionally Frenchwomen) have come much more recently to enjoy the game; and enjoy it they now do in ever increasing numbers. To accommodate them, therefore, the growth in golf courses has increased phenomenally over the last decade, to the extent that there are at present around 150 golf courses under construction throughout France. Many of these new courses are situated in popular holiday areas such as Normandy and Brittany, which are easily accessible to the British week-end golfer.

One of the greatest problems facing golf developers in France is the relative lack of experience in all aspects of golf course design and construction. For this reason many British and American architects and golf course constructors are playing

a major role in this development. This is equally true of irrigation and the British company Watermation, one of the world's most experienced golf course irrigation companies, with its' head office at Woking, three years ago set up a French company (Watermation S.A.R.L.) located in Bry-sur-Marne on the outskirts of Paris to take advantage of the opportunities now open to British companies. Watermation had already been working in France for a number of years previous to this and had undertaken several large and important contracts. However, they felt that being "on the spot" would not only build more confidence into their French customers, but also enable them to more easily control and maintain their work to the highest standards. The office staff and the construction team are so far all British and have been chosen both for their experience in the Company and their ability to communicate well in French.

With the normally reliable summer weather in France, irrigation is not an option but an essential for all new golf courses, the majority of which opt to install automatic irrigation on their fairways as well as their tees and greens. These large systems require the latest in modern control technology such as the Watermation TW2 computer control system, already well known and proven in the United Kingdom and elsewhere in Europe.

Examples of current Watermation projects include the new 36 hole course at Léry Poses (near Rouen). This has been planned like many new French golf courses as part of a large sports and leisure complex, often built around a lake in order to accommodate water skiing and other water sports.

At Béthemont, 30 miles west of Paris, the 18 hole championship course, designed by American

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IRRIGATION



architect Jim Engh of Langer Buckley, will also benefit from a fully automatic Watermation irrigation system on greens, tees and fairways, ensuring year round playability for

the expected international clientele. Larger, more established golf courses such as prestigious Fontainebleau Golf Course to the south of Paris have also invested in a Water-

mation irrigation system.

Many French golf course developments, such as Golf de Haut Poitou, situated in western France, have been financed largely by public money, enabling opportunities for public access to golf at prices considered affordable by French standards, if a trifle more expensive than the casual, non-club British golfer would expect to pay. This magnificent 27 hole course near Poitiers, designed by Paris-based British golf architect Bill Baker, took years to build and includes a Watermation designed and installed fully automatic irrigation system on the greens, tees and fairways.

The British golf course industry is therefore well placed to compete in France with 1992 looming. France's first golf course at Pau was, after all, built by the British in the last Century!

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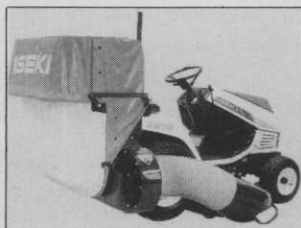
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DEVELOPMENT

Essex refuse tip transformed

Anglian Sportsturf has overcome formidable drainage problems to successfully construct a public golf course on the fringes of East London.



Fairlop Waters Golf Course where formidable drainage problems had to be overcome before construction could begin.

Derelict land, which has been the site of a fairground, a wartime fighter airfield, a gravel pit and a refuse tip, has been transformed into an 18 hole golf course. Fairlop Plain, as this 120 acre site was once called, now features a landscaped amenity with sailing, angling, country park, adventure playground and horse-riding alongside the golf course.

Owned by Redbridge Borough Council, Fairlop Plain needed extensive drainage and irrigation before the golf course could be built. Subject to settlement and flooding, a further difficulty was caused by the generation of methane gas as is found on all refuse tip sites. This killed the grass and it was essential that the percolation of methane through the grass sward was controlled.

First enquiries by the Council

suggested that it would be impossible to drain the site which is flat, having only an 11 foot fall in about 1,100 yards. Anglian Sportsturf suggested otherwise.

"In order to install the pipe drains with sufficient falls to overcome shifting levels in the ground, it was first necessary to design a drainage scheme that would take account of any natural drainage fall already existing," explained Harry Bird of Anglian Sportsturf. "In fact, the natural ground gave little help. However, a scheme was designed that would take what advantage it could from the existing levels. Even so, it is difficult to install pipes with a very shallow fall, and the design demanded the use of special laser controller trenchers.

"Considerable difficulties were encountered during the course of installation due to the debris –

– everything, including the kitchen sink, had been buried in the tip.

"Following the installation of the pipe drainage scheme an interconnecting matrix of sand/gravel drainage channels were installed. These pick up the surface water and carry it to the pipe drains. This enables the intensity of the drainage to be dramatically improved to an acceptable level for year round use," explained Harry Bird.

Anglian Sportsturf's work has been so successful that the drainage system has proved an effective safety valve, allowing the gas to be vented in a controlled manner so that it has little or no effect on the grass.

Anglian Sportsturf were also responsible for the construction of tees and greens and maintained the course until its opening.



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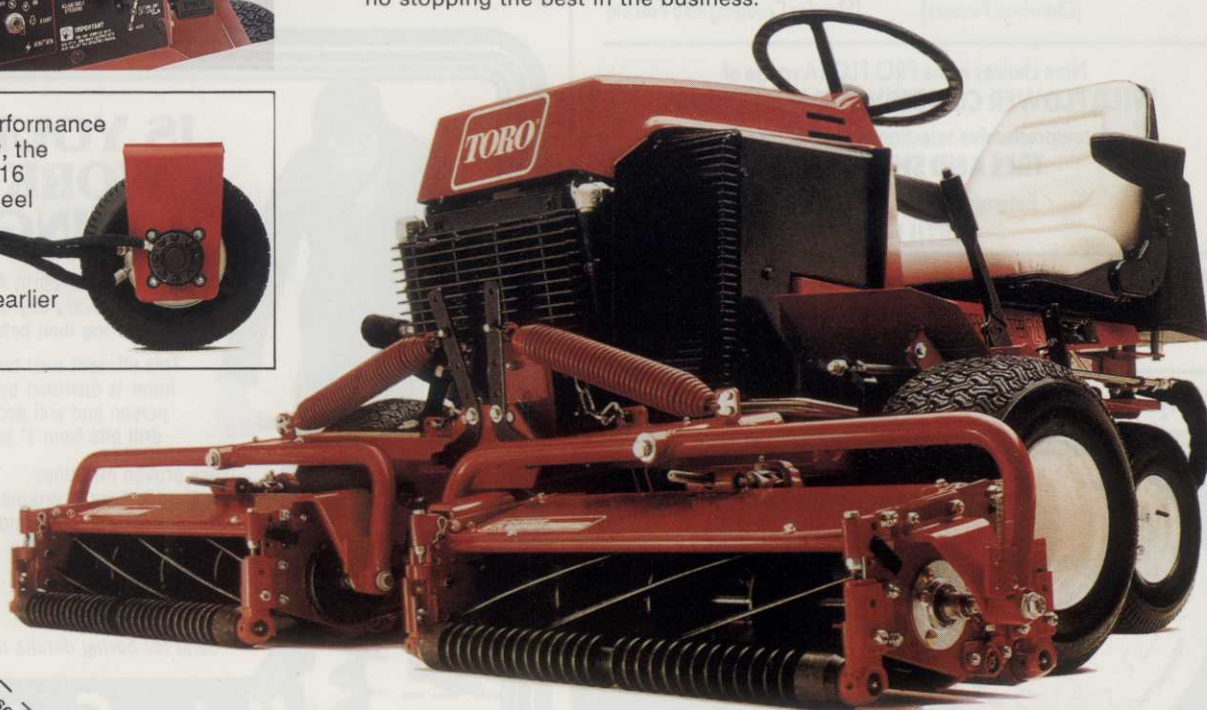
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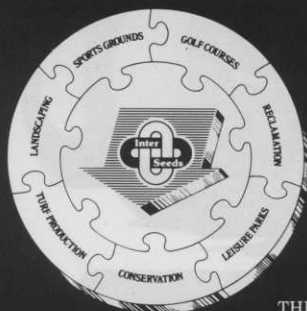
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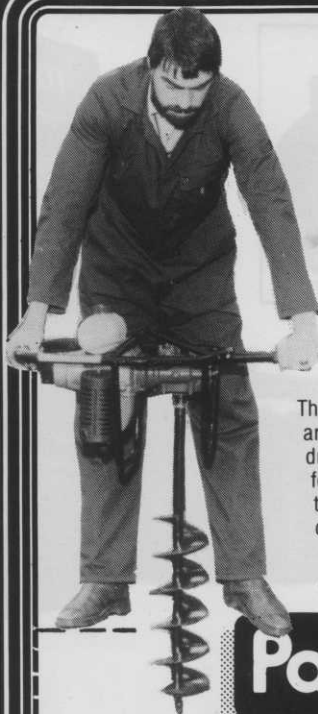
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