



during each of the winters of '94 and '95 the course had been closed for 57 days because it was so wet. The members were restless. They wanted to play golf but the course just wouldn't drain and nothing could be done...until the arrival of the VAT money that is.

"We got £84,000 and the club held a special AGM to discuss where the money should go. It was decided the club should keep it and use it for a drainage system and an irrigation system," recalls Gavin, of the time leading up to his private hell.

"We decided on Barry Cooper and he came in and took a bore hole to test how wet the ground was. Within half an hour of digging a hole it was full of water. We left it open for weeks and the water level did not drop at all. The drainage work was to cost £44,000.

A total of 15,000 yards of drainage had to be put into the course but because of the specific nature of the problems at Lingdale a technique never before employed on a playing golf course was required.

"We have clay silt and it causes compaction and is also built on a quarry so the amount of stone we have means a normal trenching machine couldn't go through the ground and the Moleplough was the quickest and easiest way of doing it. When the original plans were discussed we didn't know we were going to face this problem," said Gavin, who has been at Lingdale for eight years.

'I thought we would never get the ground back down to level again'

The disc on the Moleplough was eight feet long and went eight feet down and they had to pull the pipes into the ground and normally when the job is done on a new course it is done in sequence so the drainage goes in then the top soil is put down.

Which brings us to that fateful day – Wednesday June 21 – last year when Gavin watched the work begin.

"They arrived about 10 o'clock and after they set up all the machines I watched them pull the first drain in around 1.

What happened then will live with Gavin for the rest of his life as he saw his entire greenkeeping career flash before his eyes.

"I was devastated when I first saw the damage that was being done," explained Gavin as he thinks back.

"The heave was six feet across and two and a half feet high. I walked down the fairway and I thought we had two ditches at one stage it was so bad. My worst estimate was a heave of around seven to eight inches, perhaps a foot at most.

"It was heartbreaking to see the course being taken apart and knowing that there was 15,000 yards of drainage piping to go in," said Gavin (29).

"I thought we would never get the ground back down to level again," he explained. As situations for a Head Greenkeeper at a members' club to be in it was pretty bleak and Gavin would have been forgiven for barricading himself into his office until it was safe to come out and face the members again.

DAY OF THE MOLEPLOUGH



Now you can hardly see the join: After the work the heave has gone and the fairway is returning to normal

It says much for the way in which the job was tackled and the acceptance of the Ling-dale membership that you can't make an omelette without cracking eggs that the story does have a happy ending.

One of the major advantages Gavin had was that the club decided to appoint one of the members, Eric Taylor, as Project Manager and that he rather than Gavin and the then Chairman of Green, would liaise with the contractors and be the link between the members and the work.

"First thing in the morning we would have a site meeting and it would be agreed which holes were going to be worked on. Then we would put that information on a blackboard for the members and put down the necessary temporary tee mats and greens.

"The course was never closed during the work and it was all completed within four weeks and not the six weeks which was originally estimated. When the men were working we just let the members continue playing and no-one interfered with the golfers although there was a lot of disturbance," recalls Gavin.

"Barry Cooper had four men here constantly and they were very quick and Barry came up every Monday for a site meeting and to see the progress and again on the Friday to go over the work which had been done."

As soon as the drains went in the ground was rotavated and two weeks later it was rolled.

"The problem then was that all the stones began coming up to the surface from the heave and we had to get a stone picker in from Sisis. It picked all the fairways in a week and we seeded straight after," said Gavin.

To compound the problems the drought was causing major problems to the course.

"Barry lent me a bouser and we were pumping water on to the course but we were stopped by the National Rivers Authority in August – the hottest time of the year and we had no water for two weeks. There was nothing left of the tees and greens were burnt up and there were only a few green places to put the hole. We lost nine greens altogether but they have come back."

The week Barry Cooper finished, ILS Irrigation came in to install the Watermation irrigation system on the tees and greens on the clubhouse side of the course – a road splits the course into two and the other side is due to have the same work done when the money becomes available.

"I would do nothing differently the next time – the same system will be used but it won't be so much of a shock next time. Barry Cooper is a superb contractor, neat, tidy and his work was excellent.

"The members have put up with a hell of a lot but they should have 57 more days in the winter to play golf but it has been said to me that I can never shut the course again now that they've spent all this money!"

The good news is that the heave shrank and the fairways returned to their correct state, drainage is now working at 100% and the fairways are the driest they have ever been and the members can see they've got their money's worth

"It's definitely not a summer I would wish to repeat and I wouldn't wish what happened to me on any greenkeeper but the club was very supportive and I've now got a new Chairman of Green – Eric Taylor who was the Project Manager and we have the full backing of the management."

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- 1 Jacobsen Hydraulic Top Dresser







Supaturf success backed by a great

name

Scott MacCallum meets the Palmers who have guided Supaturf to the Top

n the world of golf there are few names which stir the blood in quite the way Palmer does. It is a name revered throughout the game, conjuring up images of spectacular, swashbuckling success to set beside last gasp and unexpected defeats. It is perhaps the most loved name in 20th century golf.

It is also the name shared by the family who, since the early 60s, has masterminded the success of Supaturf Sports & Amenity Products a company which like Arnie has enjoyed a great deal of success and, also like Arnie, has had to recover from the the odd disappointment.

Supaturf was bought by David Palmer, now

Chairman, in 1963, when it was no more than a one man company owned by Mervin Roost and his wife Dorothy and based near Stratford-upon-Avon, in Warwickshire.

"I was selling for our parent company, George A. Palmer Ltd," recalls David, "and asked if we could make the fertiliser for Supaturf and so we began making Supaturf fertiliser in 1957."

A couple of years later David asked Mervin Roost if he would sell the company and was given first refusal.

"He phoned me up one Sunday and asked if I still wanted to buy, adding that the deal would have to be done by the following Wednesday," said David.

"An accountant friend, Mr John Jee, and I went over the books and we bought Supaturf on the Tuesday.

"It was a very small business indeed. You could put the entire stock on the back of an eight



David, Marcus and Richard Palmer pose in front of a portrait of George A. Palmer

Supaturt

SPORTS & AMENITY PRODUCTS

tonne lorry and when we took the stock out of the garage where it was stored the back wall fell over because it had been supported by the stock," remembers David.

So Supaturf became a wholly owned subsidiary of George A. Palmer Ltd.

Marcus Palmer, the Managing Director of Supaturf, and the fourth generation of Palmers in the business fills in the details of George A. Palmer. "George A. Palmer lived about two miles from where Supaturf is now situated. He was a farmer with great interest in livestock and was a pioneer in agriculture. He then founded the company George A. Palmer Ltd."

His sons ran the company after the First World War and expanded the business. In 1940 the company bought four acres of land in Peterborough and manufacturing of all company products was carried out there, and the company continued to expand after the Second World War. David Palmer joined the company in 1947 after service in the army and was mainly involved in a sales capacity. He was always keen on sport, rugby union being the favourite and played for Coventry and Hinckley as a centre. All the Palmers were keen on

"I was keen on buying Supaturf because I felt calling on sports clubs was much more interesting than calling on farmers," joked David. The next move was to expand Supaturf and we increased our sales force to 14 by 1988 and became a major force in the industry. In 1988 things took a turn for the worse and much of the main business was sold, leaving Supaturf and its parent company, George A. Palmer Ltd. The decision was taken in the family kitchen as to which direction the company should now take and it was decided to reduce the product range and concentrate on the best products. Development of new products has been a major part of the policy of the company since 1988.

The new vibrant Supaturf in the 1990s is increasing its presence in the golf market – the most demanding element of the amenity turf business – and becoming a Golden Key member of BIGGA was a natural progression.

"We have always had a good



relationship with the Association – David has been on the Steering committee since it was formed – and over the years we have made several presentations to groups of the greenkeepers' association," said Marcus, who feels that Supaturf will benefit from the wealth of educational options there are open to greenkeepers.

"The more educated greenkeepers become they are more likely to use the new technology which we will be bringing in. The market as a whole is becoming more sophisticated and we are hopefully going to be at the forefront of bringing in this new technology."

"Our salesmen have to be very knowledgeable on the product range and they are trained significantly more than ever before. All our people calling at golf courses have been to the States for training with the companies with whom we work in close association. This has reaped dividends with regards to providing information for greenkeepers."

Marcus recounts the story of a Frenchman who has been involved in the Turf Industry for many years and who had visited BTME on several occasions in the early days and again this year.

"His comment was that the difference he noticed between the British greenkeeper now and then was that previously the greenkeeper came, looked at the stand, didn't say much or ask many questions and moved to the next stand. This year he felt they came up, asked questions and were very inquisitive about what was on show," said Marcus.

"People want more information nowadays. They want to know what they are paying for and what they are getting."

It is a situation which Marcus feels can only benefit the golf clubs.

"The products we are introducing will bring commercial benefits to the clubs and if the greenkeepers have an appreciation of what benefit they can bring, they are more likely to welcome them."

Supaturf is working closely with partners in America on new products and will be introducing these to the British and European markets.

Among them and just about to be launched is Clean Carbon, an activated carbon which cleans greens by deactivating the chemicals in them and, what's more, doesn't dust.

Supaturf is also developing a line marker which is adapted to a sprayer.

"The company has come a long way and we see new technology as our assistant to a bright future. A measure of this is the fact that in the mid 80s we had one PC between 140 staff now everyone working in the company has one."

The company is therefore better placed to move into the year 2000 than it was to go into the 1990s and with the Palmer name behind it... who knows!

 Pictured above, staff at work and below, the well-stocked warehouse.





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experience Aeration: Making a case for further Aeration: Making education



Ground under repair. Returfed areas must be protected from golfers, trollies and course machinery. Note alternative routes from the green to the next tee



Reduce turf compaction and wear by guiding golfers along different pathways with the help of white lines, hoops and ropes

urf aeration is one of the most misunderstood maintenance practices undertaken on golf courses the length and breadth of the British Isles.

It is, however, rarely misunderstood by those who do the work but rather by those for whose benefit it is being carried out.

How often have greenkeepers heard golfers complain: "Why have they messed up a perfectly good putting surface? The greens were in excellent condition and now they've gone and made holes all over them."

The answer to this question lies not in argument or in heated discussion but in education. It is important that the golf club and the people who run it, maintain it, and use its facilities understand why aeration is needed, why it is carried out at a specific time of the year and why a particular aeration method has been used.

The most important message to get across is that if there were no golfers there would be little need for aeration. The human foot creates considerable downforce, compressing turf and its underlying soil structure to restrict the downward passage of water, air and nutrients needed for healthy root and plant growth.

This damage is most prevalent in the wetter months when the soil particles are better able to slide over one another before sticking together to form a dense, impermeable layer. The result is a build-up of moisture at the surface with its associated puddling, waterlogged turf and muddy patches. Beneath the surface, growing conditions are far from

Course machinery, although greatly improved through the fitting of flotation tyres, is another major cause of compaction. Yet, ever-increasing mechanisation is essential if the job is to be done quickly, efficiently and with minimal disruption to turf preparation and to those playing a round of

So, it appears that we are trapped in a "tails you win, heads I lose" situation. No golfers means no compaction, but no golfers also means no course maintenance.

The basic answer has to be preventive maintenance. In other words, maintenance which is carried out on a planned and regular basis to keep the problem of compaction at bay. Above all, maintenance which prevents turf and soil conditions from ever reaching the situation where major remedial work is needed - bringing with it costly disruption to everyday turf-care operations and the playing of golf.

"Aeration is essential to maintain the soil in a healthy condition," points out Neil Squires, agronomist with the STRI. "Apart from improving its physical structure to promote strong root growth, aeration encourages drainage, the movement of air and the function of micro-organisms. It is important to understand that compaction can affect all soil types at a range of depths, so treatment must be targeted accordingly."

That age-old saying, "prevention is always better than the cure", could have been coined specifically with aeration in mind. If all golfers were made aware of the alternatives to timely course management practices, many of the complaints and bad feeling which arise due to seasonal aeration work could be avoided.

Why not display in the clubhouse or locker room photographs of soft, sickly greens, churned-up pathways and worn tees, greens surrounds and standing areas? Point out that such conditions will be commonplace on any course unprepared to suffer the minor inconvenience of regular aeration, the use of winter tees and greens and the adoption of alternative routes between

There should be very few who will be unwilling or unable to grasp the importance of the measures being taken and the reason for them - that they are being carried out for the benefit of those who want to play golf all year round in virtually all weathers. All it takes is education and understanding.

"There is a host of equipment available to treat compaction successfully, but it is better and less costly to minimise the problem in the first place by spreading the traffic load over as wide an area as possible," comments Neil.

"Human nature makes us take the shortest route between two points. That is why alternative pathways must be clearly signed and marked, why different tee and flag positions are needed and why parts of the course need to be roped off from time to time. All measures designed to minimise the load on the turf and the soil structure beneath."

Neil commented that the STRI has a major role to play in the



education of those who manage, maintain and use golfing facilities. "We have been called in by clubs who are looking for professional backing for their criticism of a greenkeeper and the way the course is being maintained," he explained. "In most cases, we end up supporting the greenkeeper who we find is doing the job to the best of his or her abilities and giving the club the optimum playing surfaces for the maximum number of months of the year."

Many courses built during the past 20 years have been designed from the outset to cope with large numbers of rounds, often having sufficient land to provide alternative summer and winter tees on every hole, hard-surfaced walkways and even additional fairways and greens to allow parts of the course to be

rested in critical periods.

Long established courses were never designed to withstand upwards of 40,000 rounds of golf a year. Agricultural-type drainage was the norm and timed, measured irrigation was unheard of. Many greens, fairways and even tees employed the natural lie of the land to trap and hold water rather than looking for its fast dispersal and rapid turf recovery.

"There is a simple message that golf clubs need to understand if they are to get the best out of their course and the people who look after it," points out Neil. "Most golf greenkeepers and their staff are qualified, well trained people who understand sports turf and the demands imposed on it by the modern lifestyle.

"My advice to clubs and their members is to let greenkeepers get on with their work and to



Minimise wear and damage to greens with forward hole positioning in wet or difficult playing conditions

support them fully in the decisions and actions they take. The days when the greenkeeper was seen as someone who just cuts the grass and rakes the bunkers should be long gone. These are professional people trying to do a professional job and I can think of very few golfers who would tolerate being told how to do their job

by an unqualified person."

- Many thanks go to Goring and Streatley Golf Club for assistance with all of the photographs used to illustrate this article.
- Next month, the Learning Experience takes a closer look at aeration techniques, with special emphasis on minimising disruption to play.

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GRUNDFOS



Roland Taylor examines the role of the pump and how to get the most out of one.

ention pumps and very likely your first thoughts are of a unit for moving water, but there are a few other applications around the average golf course where some form of pump is used.

For example most courses have equipment that has a hydrostatic drive, a pump (motor) is an integral part of this system. Then there is the engine with its fuel and oil pumps and the sprayer includes one as does the irrigation system. Somewhere tucked away in the machinery shed is probably a portable unit that is hauled out for those emergencies. Each of these has it own specific requirements and maintenance.

Water pumps

The choice is enormous so unless you know exactly what you are looking for, technical advice needs to be sought. This is usually available at most outdoor specialist dealers or hire outlets, but before making contact it is worth putting together some details as to exactly what is required.

Type of fluids

One of the first questions that needs addressing is the type of fluids that are going to be moved. If it's only water then it's straight forward, but there may be some solids involved and this fact has to be taken into consideration. It is necessary to be specific at this stage otherwise you could finish up with a problem, considerable frustration and loss of time.

Flow rate

Having arrived at the answer it is time to determine how much water is needed to be moved – the flow rate. Where a pump is feeding an irrigation system or ornamental pools the figure for the required rate of flow should be fairly easy to determine. In situations where it is for use as a standby to take excess water out, it could be more difficult to determine the capacity required. For this type of situation it is better to go for a higher flow rate than is necessary.

Total head

You will need to know what the head conditions are. This is the vertical distance that liquid is to be drawn from to the point where it flows out. Say, you were lifting water from a well with a 10ft suction head and delivering it to a 20ft outlet head the total head would be 30ft. This figure would also have to include an allowance for pipe friction.

Siting

Siting of the pump is important. In the case of a portable unit there are a number of factors that require taking into account. How easy is the unit to transport, what is the overall weight and dimensions and can one person handle it? Where it will be sited will determine the lengths of hose required and also suction lift and head delivery distances.

If the pump is to be a permanent fixture then it will require some form of housing. A purpose-built, well ventilated and dry chamber is recommended. In the case of a petrol or diesel powered unit considerations need to be given as to the removal of the exhaust gases.

Power source is another important factor. An electric model may be ideal on paper, but if

Plump for DUMPS

the mains supply has to be put in to run it then the installation could become too expensive. In the case of petrol or diesel engine an ample supply of fuel and oil needs to be readily on hand and easily accessible.

Fittings

The correct diameter hoses should be used and kept as short as possible with no sharp bends.

Where a pump is sited above the inlet water level a foot valve and strainer will be required on the suction hose – this is to retain the prime. In the case where it is below the intake water level only a strainer will be required gravity will do the rest.

Maintenance

Once operational the pump should be checked each day. In the case of an engine powered unit the fuel will require replenishing. An inspection of the engine's oil level and its air filter will also be necessary. Engines are now available with a system that automatically switches the unit off when the oil level drops to a critical point. These are an ideal safety feature where a pump is being run for long periods out on the course. The priming of water levels in the pump might also need attention.

If there is any doubt especially regarding an installation then expert advice should be sought.

Hydrostatic transmissions

A pump is an integral part of this system and to keep the unit running satisfactorily requires some care and attention.

Hydraulic oil works at a high temperature so it requires cooling as do the components that come in direct contact with it. The surface area of the motor (pump) in the system has been increased by the introduction of fins. Cooling air is drawn through these by a fan. It is therefore important that the channels between these fins are kept clean and clear of any debris such as dried grass clipping. Any restriction to the air flow will cause the unit to start to heat up and become less effective. If this situation is allowed to continue

unchecked then the system will finally breakdown and expensive damage will occur. It is also important to recognise that these hydrostatic units are built to very fine tolerances so they should only be repaired under very clean conditions, by a specialist. Care should also be taken to ensure that no impurities such as dirt or water are allowed to enter the system and contaminate it this will result in serious damage.

Oil and fuel pumps

These will require very little attention. In the case of oil the correct level must be maintained so the pump works efficiently and lubricates all the components. A daily check should be carried out and fresh oil added if necessary.

Sprayers

Roller vane pumps have been fitted for a long time and are usually found on less expensive sprayers. With the advent of the use of iron compounds and changes in chemicals roller vane and rotary pumps should be avoided if possible. The main reason is that these types of pumps work on very fine tolerances and the abrasive nature of iron can damage the rollers. It also gets into the walls of the chamber and rust sets in very quickly. An application of vegetable oil after every use will help to prolong the life of the pump.

While a diaphragm pump is more expensive it is a better proposition. If you decide to go for one of these or a piston model, then make sure it will deliver at least 1000 litres of spray per hectare.

There is plenty of advice available from sprayer manufacturers and suppliers so it is worth consulting them to ensure a unit you buy does all you require.

A pump is one of those items often taken for granted until it goes wrong. This often happens at a most inconvenient time so to reduce the possibility of this occurring it makes sense to carry out regular checks to ensure everything is maintained correctly and operating satisfactorily. You should then have many years of trouble free liquid movement around your course.

Horticulture Industries

orticulture Industries Show at the National Agricultural Centre, at Stoneleigh, Warwickshire, on June 5 and 6, includes many exhibitors from the amenity turf industry and gives greenkeepers an opportunity to catch up with the latest developments.

The Show will be opened by Margaret Beckett MP, the Shadow Secretary of State for Trade and Industry. Joining Mrs Beckett will be the President of the Chinese National Parks Association who will be leading a delegation of eight managers on a 15 day fact finding mission to Britain.

Among the seminars being held in conjunction with the show is a Golf Course Managers Seminar in association with Charterhouse Turf Machinery on Wednesday June 5 and another on Sports Ground Maintenance by Martyn Jones, Senior Lecturer in Turf Grass Science at Myerscough College, also in association with Charterhouse.



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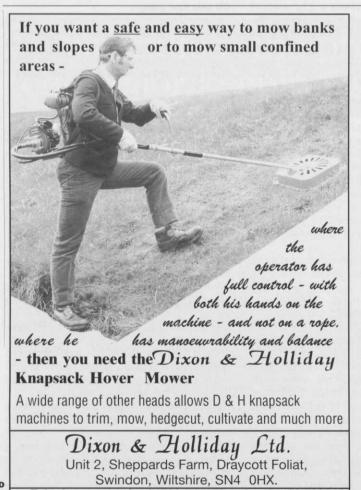
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