

everyone informed to avoid confusion. I also deal with all the ordering and buying, again this means the Head Greenkeepers can focus on their courses, while it also means we can share different products between the clubs and not over spend. We are a business after all."

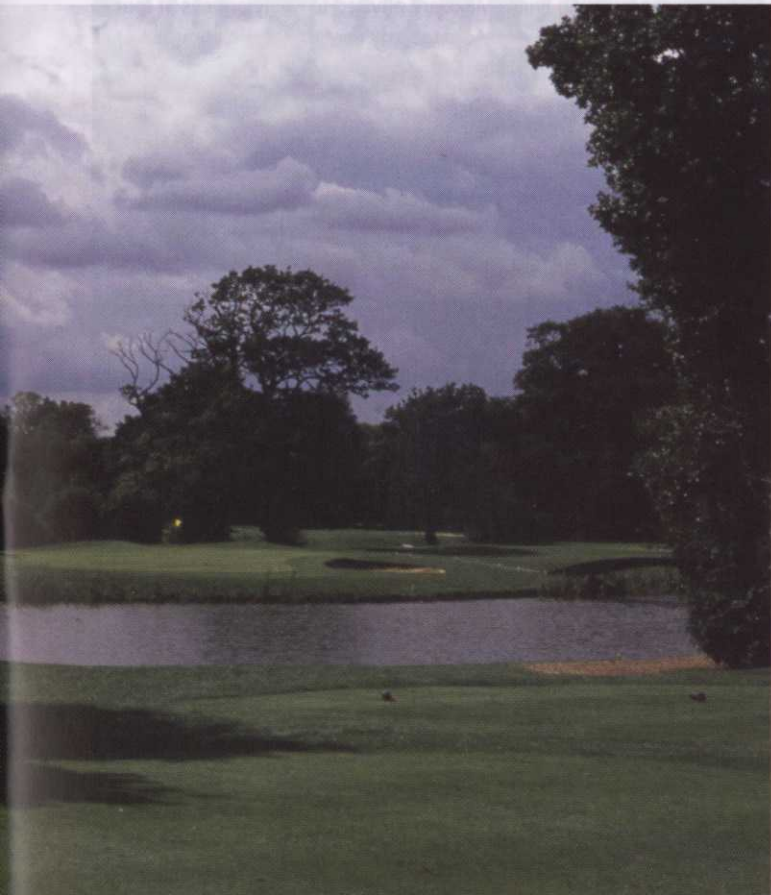
A business it certainly is. Stock Brook claims over 4,000 members in all and hosts over 300 wedding a year, while you can add to that plenty of corporate days and the PGA East Region Final Order of Merit competition. The course itself often entertains famed names such as Gary Lineker, Graham Gooch, Nasser Hussain and Steve Davis, while the late Dennis Thatcher also enjoyed the Stock Brook test.

It's providing that pleasurable examination of golfing skill that is the aim of the superb greenkeeping team. Designed by Martin Gillett, the course has now significantly matured since its inception 15 years ago, and the majority of the team's work is just tweaking little things, such as levelling tees and replanting tress. The goal of both Adrian and Arnold is to keep the course developing naturally rather than forcing it with man made hazards.

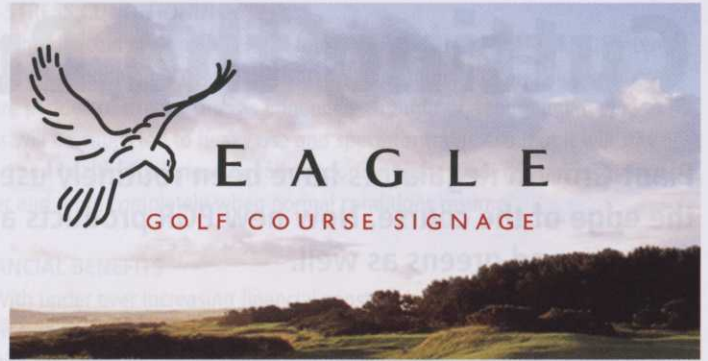
"I always say golf should be enjoyed, not endured. A challenge can add to the enjoyment, otherwise it gets boring. I want golfers to remember this course as an enjoyable test of golf, but they wouldn't do that if we have deliberately set it up to destroy a player," claimed Arnold.

"I agree. This course is a good mental challenge, with six lakes to avoid, but we wouldn't want to put people off from playing it due to it being too hard. It's a very fun course to play and you can shoot a good score, but when the wind gets up it can be a card wrecker, as a recent PGA qualifying tournament will verify.

"So I think we have a really strong balance here. We hit high standards, we have no excuses not to. With everything we have here, the course in the state it is and the team in place I really feel I'm in greenkeeper heaven," finished Adrian, with a broad smile on his face.



The Stock 4th offers a beautiful but challenging tee shot



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Cutting the Burden of Grass

Plant Growth Regulators have been routinely used to manage rough grass areas around the edge of the course. Now new PGR products are being introduced for use on tees, fairways and greens as well.

If you think you spend too much time on the mower and composting clippings, then prospect of reducing the frequency of cutting and the volume of clippings is an attractive proposition. While there have been plant growth regulators (PGRs) available for semi-rough areas and limited use on fairways for some years, there are now products which have been designed for use all round the course, including fine turf tees and greens.



Triple nozzle

Furthermore, the new generation PGRs claim to be able to increase sward density, create a more consistent playing surface and reduce turf susceptibility to drought and stress damage from heavy play. The latest introduction launched at BTME earlier this year, works by blocking the grass plant's production of gibberellic acid, which is responsible for vertical growth.



Cranham untreated



Cranham Primo

The PGR principle is that by imposing the gibberellic acid block late in the growth cycle, it serves to stop cell elongation and keep shoots and stems short. The aim is to divert energy production into more lateral growth - creating a denser, healthier sward - and encouraging more root growth, which makes plants better able to withstand drought, heavy wear and stress.

RECOMMENDED PROGRAMMES

Although the effects of PGR application should be seen within a couple of weeks of initial application, results tend to be cumulative, so a programme of applications will be required through the season. It is therefore possible for Course Managers to tailor rates and frequency of application to different areas of the turf, sward composition, prevailing growing conditions and the effects required.

As a rule, the shorter the turf is cut, such as greens and tees, then the more frequent applications will have to be made, but at a lower rate of PGR; over the course of the season overall chemical use will be broadly the same across fine turf and rough grass areas.

Greenkeepers using Primo Maxx are advised to apply on tees at four to eight week intervals from mid-April to early September, with tees cut at 10mm receiving rates of 0.8 l/ha, but increasing up to 1.6 l/ha for an 18mm cut height (see Table 1). For greens that are cut tighter, down to 7mm, the application rate is just 0.4 l/ha, but should be applied every three to four weeks through the growing season.

If the repeated treatment sounds onerous, most PGRs can be tank-mixed with liquid fertiliser or trace elements. Mixes with herbicide or fungicide applications could be compatible, but checking with a technical source first is advisable.

TAILORING APPLICATIONS

Most PGR programmes start with the onset of the grass growing season in April and run through to September or October. But with weather patterns tending to give earlier springs and prolonged growth into the autumn, the season may need to be extended. The flip-side, is that application timing can be extended in dry periods during the summer if growth slows; although irrigated fairways and greens are likely to need repeated use all season.

PGR application rates can also be adjusted for turf composition, with lower rates on fine turf grasses and higher on perennial ryegrass. The liquid formulation of the new generation PGRs are claimed to be safe for repeated use on even the most delicate grass swards. One useful tip when treating a bent/poa mix sward is to add a small amount of nitrogen to the tank mix to pep up the poa, which are generally slower to green up after treatment than the bent grass.



Rob Holland - Birchwood

Safer PGRs, which are gentle on grasses, can also be used on renovated or over-sown patches and re-laid turf to encourage quicker and stronger rooting.

CUTTING REGIMES

Reduction in grass growth with the PGR programme should enable cutting intervals to be extended over the course of the season on tees, fairways and rough areas. There is also a significant - up to 50% - reduction clippings to remove, so the operation should prove quicker. But for greens it is recommend to continue to cut as normal; the key difference will be the healthier, denser grass quality, with reduced growth during the day - so greens should putt more consistently.

The reduction in clippings could also help reduce issues with composting under new waste management legislation, and slower grass growth could minimise the impact of rain disrupting the cutting schedule, and provide greater flexibility in the cutting intervals.

PRE-STRESS CONDITIONING

In the US, course managers have found PGRs can help with what they term 'pre-stress conditioning'. Their aim is to enhance the health and vigour of grass before periods of stress - such as impending drought or a tournament where grass will be subjected to heavy use and spectator traffic - so that it will stay green and healthy for longer. Equally importantly, they report grass recovers faster and more completely when normal conditions resume.

FINANCIAL BENEFITS

With under ever increasing financial constraints, along with the need to provide better and more consistent playing conditions, the routine use of PGRs can tick the boxes to reduce course management time and costs, as well as producing better quality turf.

Area		Application rate	Application frequency
Tees	10 mm cut height	0.8 l/ha	4 - 8 weeks
	18 mm cut height	1.6 l/ha	4 - 8 weeks
Fairways	Fine turf	1.6 l/ha	4 - 8 weeks
	Perennial ryegrass	2.4 l/ha	4 - 8 weeks
Greens	7 mm cut height	0.4 l/ha	3 - 4 weeks
Rough/semi-rough	Fine turf	2.4 l/ha	5 - 8 weeks
	Perennial ryegrass	3.2 l/ha	5 - 8 weeks

Recommended programmes for Primo MAXX application around the golf course

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In the Shed

Greenkeeper International brings you 'In the Shed', a puzzle page to keep you entertained when the weather forces you in or for when times are slow.

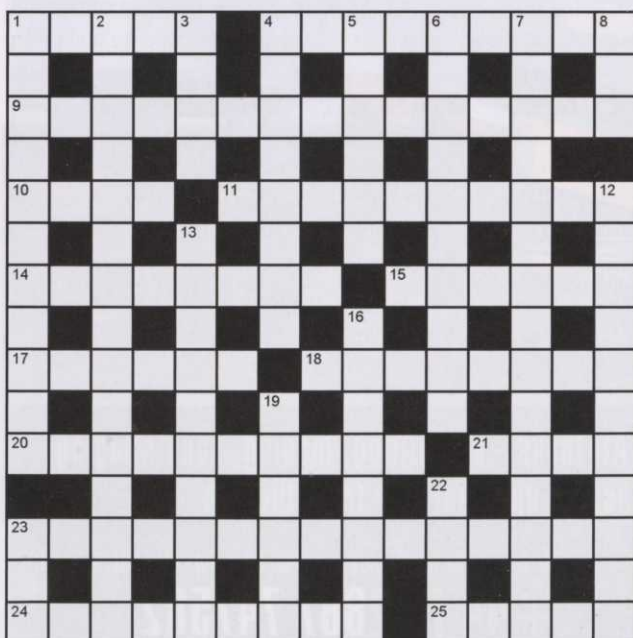
CROSSWORD - Compiled by Anax

ACROSS

- 1 Excellent (5)
- 4 Circuitous journey (5-4)
- 9 1956 John Osborne play (4,4,2,5)
- 10 Light brown colour similar to beige (4)
- 11 Centred on a time many years hence (of films, books etc.) (10)
- 14 Commercial enterprise (8)
- 15 Turn a deaf ear to (6)
- 17 Destroyed (6)
- 18 Canadian province, capital Winnipeg (8)
- 20 Intense sorrow (10)
- 21 Ship's prison (4)
- 23 Port and third largest city in Canada (7,8)
- 24 Type of flavoured biscuit (6,3)
- 25 Printing machine (5)

DOWN

- 1 Betula pendula, tree with drooping branches (6,5)
- 2 Deferral, delaying tactics (15)
- 3 Loose, flowing garment (4)
- 4 Choice, possibility (8)
- 5 One of a kind (6)
- 6 Securing device, typically to attach paper to display board (7-3)
- 7 Title usually applied to cabinet ministers (5,10)
- 8 Standard number of strokes in golf (3)
- 12 Tilttable full length mirror (6,5)
- 13 Twist together (10)
- 16 Person who refuses to work (8)
- 19 Child whose parents are both deceased (6)
- 22 Wisecrack (4)
- 23 Non-technical term for a virus (3)



ANAGRAM

Identify these two television female presenters.

TIED GIFT EVENLY EARN EARTHNUIT

QUICK 'NINE HOLE' QUIZ

1. Which club did Chelsea sign Didier Drogba from?
2. Why is Ricky Hatton giving up his IBF light-welterweight title?
3. "My dad nearly strangled me. I didn't want to cry and look like a jessie but I couldn't help it" - who said this?
4. Which band has been chosen to perform England's official World Cup song?
5. In British Basketball, which side secured their first BBL championship title with a 102-82 win over London Towers in April?
6. With the announcement that Wembley Stadium will now not be completed until 2007 at least, where have the Rugby Football League moved the 2006 Challenge Cup to?
7. Which Country topped the Medal Table at the 2006 Commonwealth Games?
8. "I told them to go home, look at their wives and children and say 'How do you think your daddy played today?' I won't be able to look my family in the eye after that" - which Premiership manager said this and against which team did his side lose to?
9. Which rugby union club will England Centre Stuart Abbott play for next season?

SUDOKU

Fill in the grid so that every row, every column and every 3x3 box contains the numbers 1 to 9.

	2	5		1	7	A			
1	8			A					
4	7		B		5				
9	4	C		7	6	1		B	
B			1	2	A		7	6	
							1	3	
	9		C						
5		A		2		6	7	8	
7				C	B	1	4	6	5
				1		B	9	A	
						4		2	3
		9	C		6		B	5	

Supplied by www.dailysudoku.com

SPOT THE DIFFERENCE

Look closely at the pictures below and try and spot the difference between them. You should be able to spot six!



ANSWERS TO ALL THE PUZZLES ARE SHOWN ON PAGE 48

Spray on or lay it down

Peter Bridgewater finds out how pitch line marking has come along way since the days of mixing up chalk powder and applying the resultant slurry to mark out pitch lines.

Up to the mid 70s, there was a limited selection of basic equipment and hydrated lime (Calcium hydroxide) was the 'product' of choice. The operation was time-consuming, the product very toxic, messy to mix and apply and the lines often became blurred following the first shower of rain and easily smeared by player contact.

HOW THINGS HAVE CHANGED

Today, a wide range of marking compounds, paints and machines are available, pitches can be marked out very quickly, the lines are bright and rainfast and the 'paint' can now be left on the turf not the operator or transferred to players!

There are many different types of marking equipment available; Dry Line, Pressure Pump, Belt Feed but the choice will probably fall between a Transfer Wheel marker or Spray Line marker.

TRANSFER WHEEL MARKERS

Wheel Transfer Markers convey the liquid paint via rotating wheel onto a tray and then transfer the paint via a sponge to a wheel that places it directly onto the turf surface. Some models use a cast iron wheel with dimples that collect and holds the paint before transferring it onto the surface.

The machines themselves are quite basic, need minimal maintenance or cleaning and are very robust.

When used with the right liquids, these machines will put down an excellent line but they have to be used under almost ideal conditions where frequent use of the pitch is low and the surface maintains reasonable grass coverage. The line marking operation itself also can be quite time consuming.

Professional football clubs have tended in the past to favour Transfer Wheel markers as they normally string the pitch out at every mark, walk very slowly when marking and therefore feel more in control. The majority of groundsmen however, will mark the pitch at least twice, once in each direction, simply because that is the way the transfer wheel operates.

Marking one-way coats the leaf on one side, marking the other way coats the other side, either way it only coats the top of the grass and the line is cut out more easily. Clubs will often use the paint at a high, even neat concentration because for them cost is not seen as an issue.

The total opposite is the case when line marking pitches under Local Authority management. Here practices are based on the unit cost, availability of labour and time. Transfer Wheel markers are still used as old habits die hard but their use is becoming less and less as improved equipment and advanced paint technology are made available.



Impact Spray Line Marker showing its ability to coat both a surface with that has good grass coverage and one where all the turf has been worn away.

The paints used by Local Authorities tend to veer towards a lower unit-cost as they are more often a chalk base product or one using a reduced specification concentrate. Unit cost per bag or container may look low but the amount used is quite high and can often end up being false economy.

Major disadvantages exist with the use of Transfer Wheel markers under adverse surface conditions when it is difficult even to push the machine along a muddy, rutted halfway line, never mind attempting accuracy. Similarly, towards the season end when the surface is dry, the transfer wheel is applying the paint onto a surface that has a top layer of dust that adheres to the transfer wheel making it difficult to obtain a maintain a quality line.

In such situations, what could look good value at first sight, may not provide the results required.

SPRAY LINE MARKERS

When comparing the difference between Transfer Wheel and Spray Markers, the benefits of applying a line as a spray is that the paint is being applied to and through the grass without any point of contact on the surface. This means both sides of the grass blades are being covered as well as the turf surface itself so the line does not get cut out so frequently.

There are additional practices required such as machine cleaning after use, ensuring the battery is kept charged and the paint used will almost certainly be a higher specification, higher unit cost product but there are many advantages.

More pitches can be marked as with spray application it only necessary to mark the line in one direction. Marking can be carried out regardless of the surface condition of the pitch. Low operator fatigue, reduced handling and exposure to the product are additional benefits.

Most recently a concept adopted by the wine producing industry has been transferred to the line marking operation. Rigby Taylor's 'bag-in-the box' Impact system eliminates the need to mix product as the highly concentrated paint is simply poured into their specially designed machine and spraying can start immediately.

A cone jet is used as this ensures an improved coating of the leaf blade compared to a flat fan nozzle. The bag-in-the box concept eliminates mixing, reduces the level of operator exposure and is less wasteful as the paint can be left in the machine overnight if required. The containers can also be simply and inexpensively disposed of with standard refuse.

Obviously there are a variety of machines and paints on the market and the final decision will depend on a range of factors but speed, flexibility, actual cost of the operation, reduced operator exposure and disposal will all need to be considered.

Peter Bridgewater works for Rigby Taylor Ltd. Freephone: 0800 429 919.



Bag-in-the-box showing how it can be easily poured without operator exposure



Empty bag that is easily disposed off and waste is minimised as the bag collapses as the material is poured



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To learn more about Primo MAXX please go to www.primomaxx.co.uk or telephone Scotts Professional on 0871 2205353.



Be Prepared!

At the first hint of spring, golfers are ready to play but are you and your sprayer prepared for that first outing? Richard Fry finds out...

Due to the ever-increasing cost of pesticides, the need to ensure Health & Safety guidelines are met while at the same achieving maximum spraying effectiveness, it clearly makes sense to ensure that a sprayer is operating safely and efficiently.



Pre-season checking of filter for cleanliness and damage

The application of sprays within a golf course environment carries a high level of responsibility. There is the safety of players and visitors to consider, the local environment; including valued plants, wildlife, water bodies and, not least, the spray operator.

If a sprayer does not perform at its maximum efficiency throughout the spraying season there could be costly downtime during critical periods such as sudden fungal attack. A few hours of waiting for a problem to be fixed can make the difference between immediate control or a widespread infection.

Poor sprayer pre-season maintenance or inattention to faults can mean unnecessary chemical waste and the potential for either turf damage or poor control that would lead to an unnecessary and costly return visit.

If a club has not had its sprayer tested under The National Sprayer Testing Scheme it is still not too late and there are approved testing stations throughout the country. This scheme, developed by the A.E.A, is part of the Voluntary Initiative. If there is not time to book in to one of these testing stations, a downloadable check sheet is available direct from the following website www.aea.uk.com/sprayer.

Before any spraying is undertaken ensure that a thorough check of the machine and equipment is carried out and make a quick risk assessment: Is the sprayer secure, is the PTO shaft guarded. Other checks should assess nozzle wear and spray output (only check with clean water), the condition of the pipes and hoses, filters and pressure gauges.

It is vital also to check beforehand with your chemical supplier the approval status of the products being used as many are being withdrawn from the list. As always it is essential to consult the product label as changes may have been introduced since the last time it was read and ensure that the minimum recommended protective clothing is worn relevant to the product being applied. This is a vital requirement for managers as it is A Duty of Care responsibility to ensure that employees in their charge are protected at all times.



When spraying close to water ensure that LERAP guidelines have been followed and the correct nozzles have been fitted

Always ensure that the spraying practices adopted are in line with the Club Policy and Risk Assessment. If required by the product label place information signs that are easily visible to advise those on the course that spraying is taking place. By taking such actions, management and members concerns and misunderstandings will be reduced or even eliminated.

Spraying should only commence when climatic conditions are favourable and particular care should be taken when spraying in the vicinity of lakes and drainage ditches. Local Environmental Risk Assessment Practices for Pesticides (LERAP) should be adhered to in such situations and low drift nozzles fitted to machines, at least one sprayer manufacturer Gambetti fit these nozzles as standard to all their amenity sprayers.

Finally, as an added insurance for operators to be able to see at a glance that the sprays being applied are placed with accuracy and uniformity, the simple and inexpensive addition of a spray pattern indicator should be added to the tank solution.

Greenlink International, in association with BIGGA is sponsoring an initiative to identify the Master Sprayer of the year. This initiative supports the use of Blazon spray pattern indicator as a valuable operator spraying aid.

Richard Fry, GreenLink International Ltd. Telephone: 01245 222750.



The Coordinator

Gareth Jones travels to Hollywood to meet a man responsible not for directing films, but greenkeeper education.

When told that I was to visit Hollywood for a story I got rather excited. All that glitz and glamour, a chance to see the famous Hollywood Sign and the possibility of spotting a celebrity or two sounded great. I was then told it was Hollywood, Birmingham - so not quite as glamorous then.



Saying that, the UK's Hollywood does have some similarities to its American namesake. While Hollywood USA looks to set the standard for 21st century cinema, the UK version is equally determined to rise the bar, but in education. Instead of the Walk of Fame on Hollywood Boulevard, where all the famous film stars have their names and handprints immortalised, Hollywood, Birmingham, should have a Walk of Education - or something slightly snappier - to recognise all the highly

trained greenkeepers that are being produced within the region.

If such a Boulevard existed it would run alongside Gay Hill Golf Club and, to date, there would be 86 stars imprinted on it celebrating all those who have successfully attended varying training courses that have been held at the club, through the BIGGA Midland Section. Paul Woodham is the Course Manager at the club, while he also fills the position of Training Coordinator for the Section, and his progressive nature, encouraged by the Section, has seen a renewed focus on local education for the average greenkeeper.

"I attended a A1 Assessor Course, but had to travel all the way down to Heathrow for it. So to get qualified involved a lot of expense in terms of

Assessor Course becoming one of the first courses to run at the club.

Paul's strong relationship with Gay Hill's hierarchy and the club's forward thinking approach has also knocked down one of the major barriers to education - cost. The club give their facilities for free, cutting out a major outlay for any education event, and Paul, through the Section, takes every opportunity to gain subsidised funding from BIGGA. It means that the Section can offer dramatically reduced training to its members. This, combined with the fact that the training is in the local area, means that vital training and career development has become instantly more accessible to the developing greenkeeper.

"The set up we have here at Gay Hill and the great funding we get from BIGGA means that we can offer quality training at a inexpensive cost. In turn, this lower cost and the reduced travelling time means more greenkeepers are willing to attend and clubs are happier about paying for it. The GTC provides quality training for work based assessors and other training programmes, while BIGGA provide training through their Continue to Learn Regional Training programmes. These come with great financial support, but I don't think that they are utilised enough by other Sections. I am always onto the BIGGA Education Department asking what funding we can get. All I can do is ask the question and most the time we get the help we need. I don't think enough people realise what financial help there is for education from BIGGA," stated the progressive Course Manager.

The help from Gay Hill clearly makes a huge difference to Paul's campaign



travelling costs and time away from doing my duties on the golf course. I was lucky that I could attend, but I knew there must be loads of greenkeepers who couldn't attend courses like this due to the travelling distance and the inconvenience of location. I thought that there must be a better way to do this and realised that the key was setting up somewhere local for quality training," explained Paul, who has been at the club for over five years.

The light bulb flicked on in Paul's head. Gay Hill was the perfect place to hold such training. It is in a central location to the Section and just two minutes off the M42, while it boasts a good workshop, an array of equipment, a strong, healthy golf course and a clubhouse with ideal facilities for training. After gaining advice from the GTC and speaking with Gay Hill's Captain and Chairman, the future of Midland Section education was born, with the A1



to increase greenkeeper development. By offering their facilities and use of their equipment for free - they only charge to cover the cost of providing lunch for the course delegates - they may not be benefiting financially, but they certainly are in reputation and staff moral.

"The club are building a reputation for training and by doing this they are showing a clear commitment to our industry, which can only be a good thing. One benefit is that by offering training here it means that our staff are at the front of the queue for it. The club is giving the staff a chance to improve themselves and develop new skills, this in turn improves job satisfaction and motivation levels. A lot of it isn't just giving the boys new skills, but giving them the confidence to achieve. So then the more qualified they are, the more responsibility they can take on, which is great for everyone concerned.



"Of course, if we do lose a member of staff you would hope that our reputation for training would then attract a higher standard of applicant. It all leads itself to a greater standard of golf course, which is the overall aim for any golf club really."

It's not just the staff at Gay Hill that profit from this type of local training, it's the green staff at surrounding clubs too. As word spreads of this initiative more clubs are sending their staff to these programmes. In turn these members can return to their club after their training and pass on what they have learnt to their colleagues. These courses also allow neighbouring greenkeepers a chance to meet each other and discuss native greenkeeping topics.

This is highlighted on the day 1 visit, as Gay Hill is busy hosting the final afternoon of a two day chainsaw course. Led by GTC recommended Trainer Alan Stephens, the course has four members on it - the maximum limit for Health and Safety reasons - all from differing local clubs.

"We had some trees that needed cutting down and wanted to train another member of staff for chainsaw use. So we set up the course here, got in Alan and the funding sorted, and then spread the word to the local clubs. They were keen to send their boys to such a local and cheap course," said Paul, who also pointed out that one of the members of the course didn't have access to a car and wouldn't be able to attend such a course if it was outside the local community, emphasising one of the true appeals of this training.

The four members of this particular course aren't donning Course Manager jackets, they are instead the life blood of the industry - the members of the everyday green staff that crave to develop more practical skills and play their part in the progression of both their own course and greenkeeping as an industry. This local, inexpensive, practical type of training is perfect for such greenkeepers and the rewards are plentiful for the individuals, the clubs and the industry as a whole.

"If we want to be seen as a fully professional and progressive industry we have to take everyone with us. We have to raise the level throughout all elements of greenkeeping, not just the top few percent," concluded Paul.

That just sums it all up.



LAKE LINERS

Hanbury Manor Golf Club: Reservoir Liner



Donnington Grove Golf Club: Pond Liner



Frilford Golf Club: Irrigation Reservoir Liner



Aroeira Golf Club, Portugal: Lake Liner

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- For your assurance, our site installation works, which are

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LINERS

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