



capacity. Rinse and operate all controls. Spray out as required.

This 10% comes from tests used in agriculture where tank capacities are much larger giving larger flow and rinse capability but how can you safely rinse, say, a 200 litre tank six metre boom with balanced pressure controls induction hopper & can rinse with 20 litre of water add to this possibly hose reels with 30/50 metre of hose lance/possible walk booms.

A good guide below 400 litres tanks would be one quarter of the tank capacity. Don't forget to operate all control systems

Be aware of some can rinsing units. Although they need to be flushed of chemical residues they can leak around lid if bottle or container is not placed over them.

Practicality of carrying extra water for rinsing, especially on lightweight vehicles and tractors, could make them unstable as well as the extra weight on greens.

In my experience a good quality direct flow-rinsing head with 40/50 litres of water giving flow and presser would complete the job properly.

Local environment risk assessment for pesticides

Drift from certain pesticides could effect water quality and would be harmful to aquatic-life and wildlife so a six metre buffer zone has been set for some pesticides. Please read labels carefully, you can bring this down to one metre by using LERAP tested jets.

Turning any sprayer into a top 3 star rated unit is easy, well almost.

There are several three star jets on the market that will do this but only when using specification from LERAP test. This could be, say, 50cm spacing at 50cm above target at two bare pressure six kmh at a maximum given wind speed so choose your jet carefully.

These details should all be recorded when doing your spraying record and assessment.



It is possible to put two jets on the same holder thus doubling your output. This would also, in my view, break specification.

After saying this, I believe bubble/low drift nozzles are very good on fine to medium droplet applications. A true end users tool.

Finally, after going on about LERAP and ground water regulations the key questions are - Is your sprayer fit to use? and will your new sprayer be fit to use?

There are still low specification sprayers they will try to sell you. So find out about British Standard EN907 as just part of what you should be looking for. Look at pump application rates. Often cheap sprayers mean small pump. You will have to operate at high revs giving wear and tear on vehicle / pump / operator noise & vibration and even then you might not achieve some of the higher application rates. 75 litres per minute and above is a good size to start for six metre booms. Try list below as guide to other safety features.

- Balanced pressure controls.
- Clothing locker.
- Clean water bottle.
- Hose pipe holder or way of filling without contamination of hose.
- Chemical induction hopper.

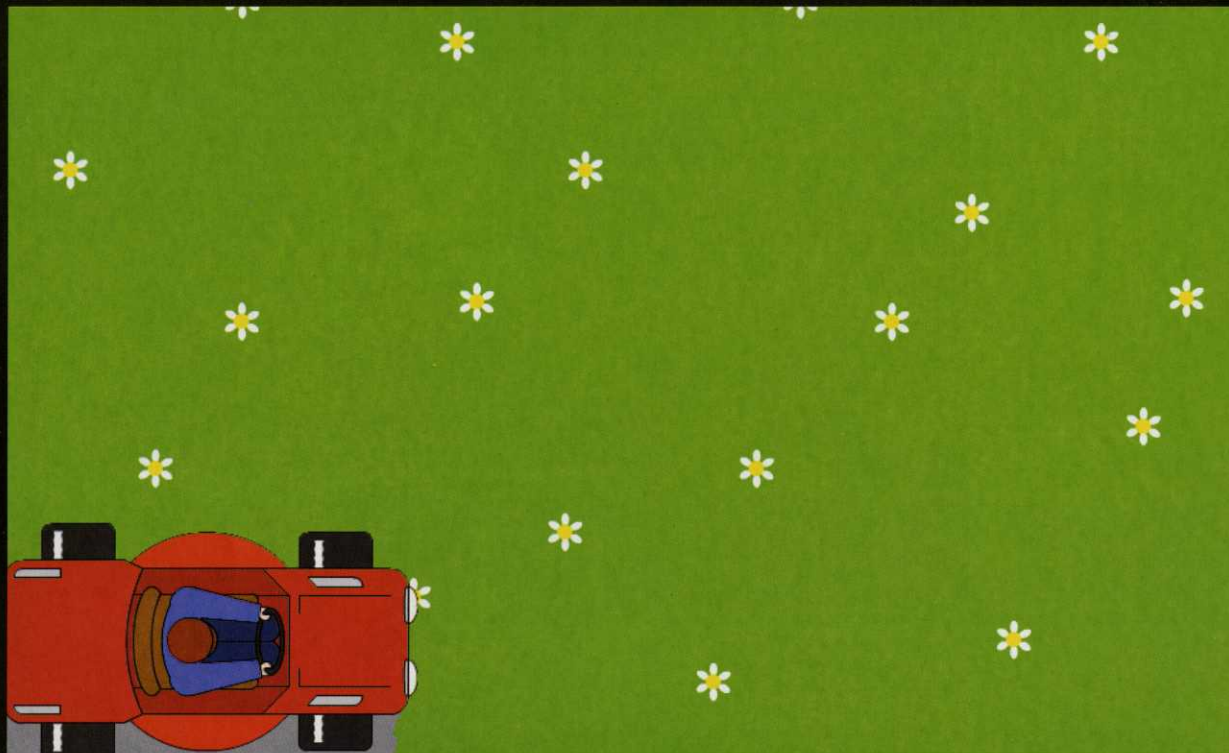
Finally, I'm often asked about sprayer MOTs. This is a voluntary scheme at the moment run by the AEA and having it done does not mean that your sprayer will pass HSE regulations but it will give you a good starting point as jets, application, pipes and pressure fittings will all be tested. Our sprayer cannot be failed in these tests but a recommendation can be made that you fit a new part or whatever. It would be down to your own safety assessment or equipment and the onus would be on you.

Hope this look into the world of spraying will assist you. I would be happy to help with any problems you may have with any make of sprayer.

Good spraying, see you all soon.



Bill Oliver works on Technical Sales for Gambetti Barre UK Ltd



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The flags of 12 nations were on display at BIGGA House on 15, 16 and 17 April when 24 delegates from Belgium, Britain, Canada, Germany, Iceland, Ireland, Italy, Netherlands, Norway, Russia, Switzerland and the United States attended the World Conference on Greenkeeper Education and Training.

World Education Conference



Above: Back row: Philippe Mallaerts (Belgium), John Van Hoesen (Netherlands), Clive Osgood (BIGGA), Clus Detlef Ratjen (Germany/FEGGA), Martyn Jones (Myerscough), Neil Thomas (BIGGA), Paulo Croce (Italy), Ken Richardson (BIGGA)
 Centre: Sami Collins (BIGGA), Margeir Vilhjalmsson (Iceland), Kate Entwistle (STRI), Jaqui Atkin (Canada), Sergei Dolmatov (Russia), Gilbert Ayer (Switzerland), Gordon Child (BIGGA), Stal Bo (Norway), Daniel Ward (GCSAA), Dimtrie Boutyryn (Russia), Dean Cleaver (FEGGA)
 Front Row: Carol Borthwick (Elmwood), Elliott Small (Chairman BIGGA).
 Not in Picture: Paddy Holahan (Ireland), David Golding (GTC)

In his welcoming remarks, the Chairman of BIGGA, Elliott Small, welcomed delegates and said that 'although the countries represented may differ in culture and be separated geographically, the basic principles of greenkeeping are the same all over the world. Therefore, it must follow that greenkeeper education and training should also be similar. He hoped that the gathering together, over 3 days, of representatives from so many countries could help to bring the world of greenkeeping closer together.

The first afternoon looked at two differing (or so we thought) approaches to training, the British Experience and the North American Experience.

The session on the British Experience was led by David Golding, Education Director for the Greenkeepers Training Committee (GTC). David said that the British model of greenkeeper training was a useful model for other countries to look at but the industry was working on the model continually to improve it.

David went on to describe the structure of the GTC, how it is

funded and managed. He showed how the Technical Committee fitted into the structure and illustrated its role and stressed that the GTC was an employers' organisation.

He stressed that all British qualifications were related to Government Standards for both vocational training (work based) qualifications and work related qualifications and went on to describe the roles of lead bodies, awarding bodies and training providers.

He described the structure of Vocational Qualifications. He stressed that the qualifications belonged to the industry and were based on skill i.e. the ability to do the job but also included knowledge requirements. To assess candidates required qualified industry assessors and the GTC had trained over 700 assessors, the highest number in the Land Based Industries. David showed how all greenkeepers could achieve vocational qualifications even if they had been in the industry for many years.

David then went on to describe work related qualifications and said how colleges were making these courses, which

include a first degree, more accessible to people in work by providing them on a distance learning basis.

David was followed by Carol Borthwick, from Elmwood College, who illustrated the facilities of Elmwood, stressing that the main area of operation was greenkeeper training, golf course management and golf course design. She showed an impressive list of facilities and showed how they were used for training purposes.

Carol showed how the college had strong links with the R&A, the GTC, BIGGA, the Scottish Golf Union and a number of colleges and universities. She then described the structure of courses in Scotland and highlighted that all courses were modular which allowed greater flexibility.

Elmwood's connections with the rest of the world was of great interest to the delegates and Carol described how the college was working with the Chinese to develop greenkeeper training in China by giving students the skills and knowledge to be able to set up their own training courses 'in country'.



Following a brief input from Martyn Jones, of Myerscough College on some of the differences between English and Scottish Colleges and on the facilities at Myerscough, Daniel Ward, Curriculum Manager from the GCSAA described the approach to training in the United States. Daniel showed that there are as many myths about education and training of superintendents in the US as there are about US golf courses being mini Augustas. He explained how the whole structure of education and training in the US was being changed by the introduction of the Professional Development Initiative (PDI). Many US Superintendents saw PDI as a threat and there was a high level of opposition. PDI had combined what the Superintendents felt was the job with the requirements of golfers and with golf club owners to come up with a list of competences (the ability to do the job and the knowledge to go with it). Superintendents can assess their competences against a plan and from the results, they can judge what training is required. The scheme has led to a massive change in the way that education and training courses are presented and in the content of seminars, courses and workshops.

The new system gives credit for on the job training but leaves assessment to individual superintendents.

Jacqui Atkin, Professional Development Manager with the Canadian Superintendents' Association (CGSA) said that she hoped that she would be able to get as much out of the conference as she could to help in her own quest for knowledge. The CGSA has the objective of getting all Canadian superintendents up to the National Occupational Standard. The standards are based on what a superintendent is expected to do. The Association is also looking at ways of presenting training eg. college, seminars, on course, Internet etc.

The first afternoon showed that three different countries had very similar ideas when it came to greenkeeper/superintendent training ie they all were looking at competence. How competence was achieved and assessed was approached in different ways but the underlying theme was ability to do the job against National Standards.

Day 2 began with a brief recap before delegates split into 4 groups to discuss the points raised and to exchange ideas before returning to present group solutions to greenkeeper training problems.

Points of concern were:

1. No access to college in many countries with limited number of golf courses.
2. Funding of training.
3. Language problems.
4. Non standardisation of training and job specifications.
5. Limited opportunities for student exchanges.
6. Legislation. (Planning, pesticides, water)
7. Educating employers.
8. Status of greenkeepers/

superintendents.

Solutions presented were:

1. Use technology to improve dissemination of information.
2. Use technology to translate information.
3. Use international support/co-operation to change/prevent the effects of legislation.
4. Produce a common framework of standards and have regional variations around it.
5. Educate the educators and the employers.
6. Look for greater collaboration.
7. Standardise titles and job specifications.
8. Access funding.

Agnar Kvalbein, Principal at Gjennestad Horticultural College in Norway closed the morning session with the Norwegian approach to greenkeeper training. He said that their research on both sides of the Atlantic had shown that competence was the key but that knowledge was an important part of competence. The further education system in Norway differed from that in Britain and from that in the US. Therefore, his college had designed a course that was based on attracting full time students who would be taught theory in golf clubs and skills on golf courses. They hope to develop a pool of greenkeeper assessors and to open up training and qualifications to existing greenkeepers.

The afternoon session began with Ken Richardson outlining the proposed continuing professional development scheme for BIGGA members, which is due to be launched in July. The scheme is intended to encourage members to continue learning throughout their careers ie. lifelong learning. It is hoped that it will not only develop an individual's skills and knowledge and raise the status of all greenkeepers but also allow golf club officials to compare and contrast individuals when recruiting new staff and improve playing conditions for golfers.

Daniel Ward followed with a detailed look at the GCSAA's Professional Development Initiative. The Professional Development Initiative was being undertaken to improve the knowledge skills and abilities of the professional superintendent. It is hoped that this will lead to:

- Increased salaries
- Enhanced job security
- Intensified recognition as a key member of the golf course management team.

The PDI model, shown above, shows that the process is continuous ie golfers' needs define competences which identify the need for education which leads to marketing opportunities etc.

The GCSAA is, currently, matching their curriculum to their gap analysis, developing their curriculum to match needs and assessing the standards of external trainers.

Although suffering from some early problems, the GCSAA feel that PDI is

the best way to ensure that the superintendents of the future have the skills and knowledge necessary to maintain their golf courses.

A fairly heated discussion then took place on 'Who should pay for greenkeeper training'. All delegates had very strong opinions on who should pay and gave details of who did pay for greenkeeper training. Those paying for training currently were:

- Individual greenkeepers/superintendents.
- Governments through grants etc.
- Golf club owners.
- Associations with help from sponsorships.
- Federations and Unions.
- The R&A

Mr Gordon Child explained that British Golf Unions contributed funds to greenkeeper training through at a rate of 8p for each registered golfer. He also explained that if each golfer paid £1 into greenkeeper education then all greenkeeper training would be free. The delegates came to the conclusion that it should be individual golfers who should pay for greenkeeper training. They use the golf course and expect high standards of maintenance, which is impossible to achieve without high quality training.

The final day began with briefings on the BIGGA Master Greenkeeper Certificate and the Certified Superintendents Schemes in Canada and the United States. Both the CGSA and GCSAA had similar certification systems which were also similar to the BIGGA Master Greenkeeper Certificate. However, the MGC Standards were higher. Delegates felt that it should be easier for Master Greenkeepers to become Certified Superintendents of CGSA and/or GCSAA and vice versa.

Ian Grady, Regeneration Manager from Knowsley Metropolitan Borough Council, then gave a very informative talk on European funding, basing his talk on work done to establish a greenkeeping academy at Bowring Golf Course, home of Tommy Givnan, the 1999 TORO Student of the Year. Ian made it very clear that funding was available from Europe for a variety of projects. Knowsley had accessed funding to establish a greenkeeping academy at Bowring and 12 students were currently under training. Ian said that funds were still available for a wide range of projects and pledged the support of Knowsley Metropolitan Borough Council to anyone wishing to make a bid for funding.

Technology was the byword for the next presentation given by Tony Frascina an expert in distance learning. He showed that a number of methods could be used to train greenkeepers at a distance eg. in countries that did not have their own training system. Simulation, video (on CD, DVD or tape) and the Internet could all be adapted for greenkeeper training, however, Tony also said that paper eg. books etc could still be useful in certain circumstances. Delegates felt that current

Professional Development Initiative Model



technology using CD, DVD, video, TV and the written word could be useful to allow countries with a small number of greenkeepers to gain access to training. They also agreed that the Internet would be a useful, low cost training aid once speed of access was improved.

The penultimate session of the conference was on work permits, visas, job swaps and exchanges. It soon became apparent that it was easier to travel from Europe and work in a different country than it was to come to work in Europe. Martyn Jones and Carol Borthwick had a wealth of experience of placing student greenkeepers at colleges in the US and had attracted some students from outside Europe. The general feeling was that it would be difficult to set up an international exchange scheme, however, all delegates said that they would give all possible help in individual cases.

The final session was led by Elliott Small and came up with a number of outcomes/commitments. These were:

1. Link all Internet Sites to all other relevant sites.
2. Use e-mail to issue news letters, updates, forthcoming events, training opportunities etc.
3. Continue to make contact through meetings of smaller groups eg. colleges. Ensure that the same standards are set, worldwide. Attempt to standardise job specifications. Attempt to standardise job titles. Hold more 'virtual' meetings using eg. chat rooms, video conferencing, telephone conferencing. Hold further International meetings 'as required'.
4. Exchange information on public relations measures. Attempt to improve status of greenkeepers/superintendents.
5. Exchange magazines and journals.
6. Make teaching material available.
7. Allow access to members areas on Internet site for association officials.
8. Attempt to make Internet sites multi lingual.
9. Develop distance learning packages.



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Brin Bendon continues his excellent series concentrating on improving your off-course skills by looking at the 'M' word – motivation.

Motivation's what you need



Managers in organisations have, over recent years, been increasingly concerned with the question of motivating their people. The major problems within organisations are no longer technological but organisational human problems.

How do you get a co-operative response from the workgroup? How do you get integrated behaviour towards the attainment of organisational goals? In my work as a management trainer, I am often called upon to run sessions on motivation. Head Greenkeepers, like other managers frequently ask, 'How can I motivate my team or how do I motivate an individual?'

My first response to this is to say that you cannot motivate anyone apart from yourself. Motivation is not something you do to people. People have to charge their own batteries, you cannot do it for them. Unless people carry their own 'on-board generator' they cannot be motivated. However, what a leader can do is to create conditions, which are favourable to the development of a motivated workforce.

First of all, it should be stated that people join organisations in an attempt to satisfy their needs. Within organisations, leaders are able to facilitate the motivation of their people, if they can influence the way the individual is able to satisfy their needs, either helping them to satisfy them or threatening their satisfaction. Abraham Maslow, one of the founding fathers of classical motivation theory, drew up perhaps the most widely

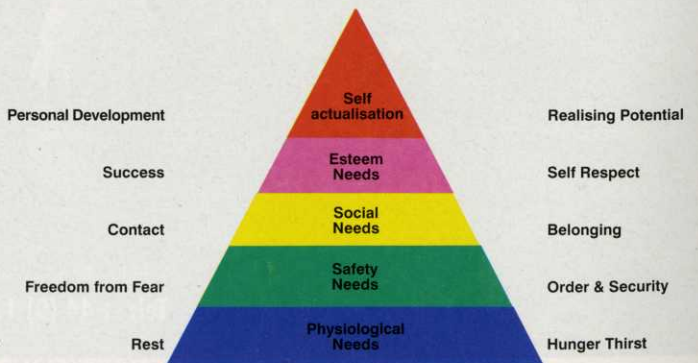
accepted theory of human needs. This theory is constructed on the following foundations:

- All behaviour is 'goal directed' – aimed at satisfying needs, to relieve the tensions created by needs.
- A satisfied need is not a motivator.
- People have 'ever expanding' needs. Once one level of needs is relatively satisfied, the next level will preoccupy them.
- Human needs form a hierarchy – a series of levels.

Creating the conditions under which people can feel motivated isn't just about pay and conditions. If you

haven't got much money, then money will become an important factor. Likewise if people work under poor conditions, these will have an adverse effect upon their motivation. People have to be satisfied with their pay and working conditions before they can be motivated. However, good pay and conditions alone are not enough to encourage motivation. The need for money may motivate us to get a job, but it won't necessarily make us do the job well once we have started work.

The relationship between pay and motivation is a complex one. Both Maslow and Herzberg classified pay as a means of satisfying low level needs, rather than as a motivator. In many jobs there is no direct link between pay and performance. Provided the individual performs adequately the amount of pay received remains static. In these circumstances pay does not motivate people to work harder or to



improve the quality of their work.

Yet economic rewards continue to be used as a means to raise quality and output, often with no more than average results. The response tends to be calculative, with very little commitment to the organisation. With 'carrot and stick' cultures people tend to be preoccupied with WHIFM. They ask, 'What's in it for me,' and work out what effort would be required to get a return or payback on the effort expended. The problem with this approach is that we only get average performance, a fair day's work for a fair day's pay. Sure, as Herzberg once observed, "If you 'bribe' people or threaten them enough you will get a response," something which he called 'movement.' But, that isn't motivation.

Building on Maslow's theory, Frederick Herzberg led an important development in approaches to management – an approach termed 'job enrichment,' where one seeks to improve both task efficiency and human satisfaction at work by building into people's jobs greater scope for personal achievement and its recognition, more challenging and responsible work and more opportunities for individual advancement and growth.

Motivation is about freeing people to do their jobs willingly and well. Most people come to work because they have to. Few come because they want to. And yet, that is what motivation is all about – coming to work because you want to. Many will pursue a sport such as golf, not because they are paid to play golf, but because they want to. Indeed most will pay a lot of money to play golf and will devote much of their personal time to practising and playing their beloved sport. Now that's motivation.

However, to be motivated, two essential requirements need to be present; opportunity and capability. Herzberg argued that unless people have the opportunity to do something, they cannot be motivated to do it. So for example, unless I have golf clubs and access to a golf course, I cannot be motivated to play golf. Secondly, I need the ability to be able to play golf. If I cannot play golf then I cannot be motivated

to play without some instruction or coaching.

This is what I mean by creating the conditions in which people can be motivated to do; by providing the opportunities for people and by encouraging people to develop their abilities. One of the most effective ways that we have of developing ability into capability is through training. The more people are trained to do things, the more they can do, and the more they can do the more they want to do.

If we train people to do their jobs well, and then give them constructive feedback on their performance, praising people when they do things well, then we enhance their self esteem. They feel better about their job. Effective leaders let their people know how important their jobs are by giving some appreciative feedback on the importance of their work. Ever so often, we need to remind people of the importance of the job that they are doing. And we need to let people know that they are personally appreciated when they deserve it for work well done through appreciation, recognition, congratulations or a simple thank you.

Giving people confidence in the value of their job is a key motivator. We can do this by helping people to understand the meaning of their work by explaining the context of their job. Effective leaders explain to people precisely what they are doing and why, i.e. give them a reason for doing so that they understand the context of a task or the job.

Effective leaders also lead by example. They set an example of a positive approach to work.

A second technique for improving motivation is to give people confidence in their value as individuals through offering challenge, praise and concern. Effective leaders encourage their people to realise their individual potential by offering challenge. They will feel stimulated and involved if they feel that their special skills are being used.

Showing concern is the third way that leaders show that they matter as individuals.

If leaders show concern for their



people as human beings, people will show concern for their work. This means getting to know them well and taking an interest in them as an individual.

Finally we need to give confidence in our people in their value as a team by helping them to feel, think, and work like a team.

As a leader you should treat all the members of your team fairly and equally and it is very important that you let them know that they can rely on you for your support and for their protection. Never run the team down, indulge in victimisation, leave someone out on a limb or practise favouritism.

Team leaders can help their people to think like a team by providing opportunities for discussion and two-way communication. Briefing the team collectively will help the team to think that it is worth them contributing their ideas.

To help people to work cohesively together as a team, the leaders has to get each member of the team to think that his or her job is to help the team to do its job – to inspire the idea of helping each other out.

To create the conditions in which people can be motivated, Herzberg's so-called hygiene factors need to be satisfied. These are company policies, administration, salaries or wages, working conditions, working relationships and supervision. Once a certain standard of living is achieved and hygiene factors are satisfied, more than money is needed to increase the individual's contribution.

The leader needs to be aware of how to get people to work willingly and well to increase the individual's satisfaction in the job, and the organisation's efficiency.

To enable people to have confidence in the value of their jobs, confidence in their value as individuals, and confidence in their value as a team, the leader needs to ensure that people's jobs provide opportunities for growth.

Job enrichment can stimulate an interest in the job. Leaders can encourage a sense of achievement by offering challenge and recognition of good work through praise and appreciation and by giving greater responsibility and opportunities for advancement.

Herzberg may be seen as old hat by some, but for my money, he remains ahead of his time.

Brin Bendon is the Managing Director of Vector Training Ltd., an approved training provider for BIGGA and many other corporate and public sector clients. Brin is well known to many Greenkeepers in his role as one of the lead tutors on the BIGGA's Management Development Programmes. Vector Training can be contacted via telephone on 01904 642462 or by email: enquiries@vector-training.demon.co.uk.



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Golf course management is a challenging job at the best of times, but a course situated on an SSSI (Site of Special Scientific Interest) presents challenges all of its own.

Managing an environment



Right: Skylarks are one of the many protected species at Fairways Golf Club



Right: Course Manager Lee Squires

At Fairways Golf Club near Clacton-on-Sea, Course Manager Lee Squires (left) juggles the demands of maintaining a high quality course with the need to protect the skylarks and swifts that make it their home.

Part of The Orchards Park at Point Clear, Fairways Golf Club caters for the Park's golfing members. Situated by the River Colne, the perimeter area of the course lies on a sheltered site adjacent to salt flats and this provides an ideal habitat for large numbers of skylarks as well as a range of scarce and rare plants and insects – the reason for the SSSI status.

The nine-hole course was constructed three years ago on an almost square 27ha field which had remained wild for at least ten years before work began. The course was completed by September of that year, with Lee taking up the post of course manager in February 1998.

"Right from the beginning I knew that it would be a challenging course to manage," recalled Lee. "When I first came here it needed a lot of attention – the greens hadn't been cut for six months and the grass was an inch long. There was a wide variety of weeds present including some wild carrot in the plot.



Above: Clover was just one of the problems for Lee



Left: Creeping Buttercup

"Added to that, the course sits on clay, so drainage can be a problem and the course surface can crack in summer when it dries out."

But the SSSI rules mean Lee faces a number of restrictions to what he can do to the course – and when.

"For example, I was only allowed to use a herbicide on parts of the course after 18 months of discussions with English Nature, our SSSI advisers, because of fears about any runoff into the protected areas," said Lee.

He works closely with the organisation's Chris Gibson to ensure they can help provide the best habitat for the birds. The rough or semi-rough areas of the course are not touched and Lee was only given this permission to use a specific herbicide twice on the course after careful consideration of products with English Nature.

"I'm lucky in some ways as there are virtually no daisies, dandelions or annual meadowgrass on the course. But my main weed problems – clover, creeping buttercup and particularly bristly oxtongue – present quite a challenge."

Bristly oxtongue is perhaps the worst weed headache, and following discussions with English Nature to find the most suitable and environmentally safe product to use on the course, a programme was chosen to control the weed – as well as clover and buttercup – on the greens and surrounds.

"Steve Denton, at Rigby Taylor, suggested a programme of Bastion T at three litres/ha to help control the clover and creeping buttercup, and we were allowed to spray the course just twice last season as a one-off," said Lee.

"We also knew that the manufacturer had experience with Bastion T's off-label recommendation for control of bristly oxtongue. A short while after spraying the oxtongue had curled up and we found the whole weed had been taken out, right down to the tap root."

Bristly oxtongue, a broadleaved biennial, has been a problem on the course since its establishment and Lee had been looking for an effective way to control the weed.

"There were only a few tiny dots left in the turf where the weeds were and these will soon fill out when the grass starts growing again," says Lee.

Leatherjackets can be the other main headache at Fairways.

"We have seen masses of them on the course here at times. We have been allowed to use Lorsban T on one fairway where the problem was particularly bad. As for disease, we don't get too much here, and I try to keep it that way. Fertiliser use has also been restricted, and last year for the first time since the course was established we put 11kg/ha of nitrogen supplied from Taylor's 3:12:12 outfield fer-

tiliser, applied at 35g/m² on the fairways.

"Thatch isn't too much of a problem as the course is still relatively new. But the land on which the course was constructed is now beginning to settle, so I will have to start planning a scarifying and aeration programme."

The course's underlying clay means that it can be very wet during winter and so it is closed for play from November to February, reopening in the spring for the first few members of the season. Again, this fits in with the management strategy which English Nature believes secures the protection of the SSSI while allowing the area's use as an attractive golf course in the summer months.

English Nature's Chris Gibson added that the area is also designated a European site and therefore has International importance to wildlife.

"The restrictions on the management of the course serve to ensure it is operated in a welfare-friendly manner and is supportive to a range of birds, and we believe the work carried out by Lee and ourselves has fully met these objectives," said Chris.

As for Lee, his busiest period is just starting again.

"The members are starting to come back to the course, and are the skylarks and swifts. This year I hope the bristly oxtongue won't also be back, though!"

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Entries to reach us no later than wednesday, June 14, 2000. The first correct entry drawn will receive a cheque for £50!

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Last month, Desmond Dobbin, Head Greenkeeper of Bushfoot Golf Club, certainly knew his numbers when he correctly identified all three telephone numbers.

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