area are also planted two Lilac bushes, still young but sure to provide a better show in successive years. A group of three Golden Weeping Willow (Salix Babylonica) list gently to the breeze midway along the unbroken riverside stretch up to the Fourth, and suggest the interesting possibility of more being introduced at some future date.

The appearance of two large patches of rhododendrons planted in the heights to the rear of our short 15th, promise a colourful prospect for the golfer in years to come. Since these 'rhodies' are products of dense woodland they are naturally drawn in habit and, consequently, the seasons since their installation has been spent adjusting to the comparatively open situation and producing stronger growth. They make a very useful and pleasing break in the one-time grassy escarpment between green and the stand of middle-aged spruce and larch.

One small item worth touching on again is the tree nursery. The stock consists of one thousand Lodgepole Pines, together with a dozen or two spruce, and other odd bits. Bought at one year old, the pines were planted in small plastic bag containers and at present appear to be forging ahead in a healthy condition.

A foreseeable problem arose out of having large blocks of land taken up by closely planted trees: what had been well tended semi-rough, easily mown with quintuple gangs, now became the centre of a new duty, that of mowing between the darn things. At first this tiresome task was undertaken with a Flymo Contractor, the only machine readily available. Necessity, in slow time, led to the acquisition of a Hayter Condor, a tough tool highly suited to the job.

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The Secretary
F. A. West
Wanstead Golf Club
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**Head Greenkeeper**

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Fairway Maintenance

by

W. N. S. Bisset, Advisory Officer, The Sports Turf Research Institute

Although there is a wide variation in the standard of maintenance on fairways all over the country, management should be guided by the same basic principles to provide the golfer with a fair lie from which to play his next shot. The end product on a fairway should give the golfer a clean firm stance which should be as dry as possible.

There is also a wide variation in natural conditions up and down the country, from seaside links to inland park and moorland, which will obviously necessitate local alterations to the maintenance programme but basically all should be aimed at producing a suitable smooth finish.

Drainage

Problems with drainage are not usually encountered on a seaside links but inland courses on a heavy soil can cause headaches for the committees. With increasing winter play on golf courses, it is essential that conditions are as dry as possible. Traffic damage is emphasised in the winter when the soil is naturally more moist and, therefore, it is desirable to ensure that underlying drainage is as efficient as possible.

This can be achieved by improving existing drainage, including cleaning out of ditches etc. and restoring existing drains. The relatively high cost of a comprehensive tile drainage system often proves a stumbling block but there is no satisfactory substitute, particularly in heavily used areas. In certain types of soil it may be possible to carry out mole drainage as a cheaper, although shorter term, solution. With all types of drainage it is necessary to ensure that a good outlet is available.

Mowing

During the growing season fairway mowing is frequently looked upon as a chore rather than an important part of routine maintenance. As it is normally the most frequent operation carried out on fairway, turf mowing can have a major effect on the finish. On some courses rather severe undulations can lead to skinning by the gang mower on the tops, while the sward is left rather long in the depressions, resulting in an uneven end product. The gentleness of contouring to aid efficient mowing should, therefore, be borne in mind during the construction of new holes or courses.

Mowing of fairways should be carried out as frequently as necessary to maintain a smooth finish at the desired height of cut. The cutting height is generally regarded as 1/2 in. on fairways but local variations may occur according to the situation. Seasonal variations are also desirable including raising the height during dry weather and in the autumn and early spring. Tractor speed should be carefully selected according to the conditions on the course and the direction of mowing should be varied where possible to obtain the best results.

To encourage more vigour and upright growth in the sward, harrowing should be carried out. This operation can be carried out at any time when growth is apparent but usually it is a spring operation when growth first appears. The grass is encouraged to produce more tillers thus promoting more upright growth, while removal of dead and decaying material from the base will allow better penetration of nutrients and water to the roots thus improving vigour.

Aeration on fairways is required to improve root action and relieve compaction, both of which will improve growth. Water may be assisted through the top to the drainage system or underlying soil particularly in compacted or fibrous conditions, thus providing a drier, firmer surface.

Spiking should be carried out on several occasions during the autumn/winter/spring period. To obtain maximum penetration the soil should be moist but the surface should be dry enough to take the tractor without serious damage. It should be appreciated that although some surface disturbance is obtained during spiking, the short term damage is

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far outweighed by the long term benefits. It should also be appreciated that the effect of these operations is cumulative and, therefore, regular treatment is essential.

To minimise damage the tractor speed should be carefully regulated and improvement of the disrupted surface can be achieved either by lightly chain harrowing or brushing or running over with the gang units set high.

Weed Control
Apart from detracting from the appearance of a fairway some weeds can cause a bumpy surface by their mat or cup formation. It is, therefore, necessary to have a weed free sward and control measures should be carried out where applicable using a suitable selective weedkiller. Among weed problems on fairways, daisies and clover are possibly the most prolific and can cause ball finding problems on fairways when they are flowering.

Worm Control
Where the worm population is numerous, soft, muddy surfaces are often found. Wear on areas where there is excessive casting can cause thinning out in the sward. In such a situation control measures are desirable and are normally carried out in the spring or autumn period during mild, moist conditions when the worms are active in the surface.

In some cases major improvements in playing conditions have been obtained merely by removing worms.

Renovation
To maintain as smooth a surface as possible, renovation work i.e. divot filling, should be carried out using a compost/seed mixture. This work should be done thoroughly in the spring and maintained progressively during the summer months. Particular attention should, of course, be paid to these areas from which an iron is usually played from the fairway to the green.

Fertilizer and Lime
These are not usually applied regularly to fairway turf and general symptoms of a lack of nutrients are more frequently seen than the effect of an overdose.

Under British conditions, fairways naturally tend to become more acid and regular maintenance does not alter this fact. A point is then reached where grass growth is weakened and weeds such as sorrel or woodrush become more apparent. Acid turf is also more susceptible to drying out, often only in patches. Liming, therefore, becomes necessary but this should not be done without first having the guidance of a soil test — a service which is available to associate members of the Institute.

If lime is required, it is normally applied in the late autumn or early winter during showery weather conditions. The lime should be applied evenly but, if there are variations within a single fairway, low-lying, lush areas should be avoided.

To minimise the risk of trouble with disease (Ophiobolus patch) following liming, a granular fertiliser should be applied in the spring following the lime dressing. The soil analyses mentioned previously will also reveal any deficiencies of nutrients.

Fertilising of fairways is not usually an annual job but it should be carried out as often as necessary to maintain reasonable growth.
Christmas Greetings from the President

CHRISTMAS GREETINGS and best wishes to all members of the B.G.G.A. hoping that the Association will continue its strength and progress in 1973.

CARL BREThERTON

From the Chairman
To all Officers and members of the British Golf Greenkeepers’ Association and all readers of the Journal I wish you a Merry Christmas and a Happy and prosperous New Year.

H. M. WALSH

From Hon. Secretary
To every member of the Association I would like to extend my very best wishes for a Happy Christmas and a Bright and Prosperous New Year.

C. H. DIX

News

Special occasions

Dec 6 Southern Section Lecture
7 Sheffield Section Lecture
11 North West Section Lecture

1973

Jan 3 Southern Section Lecture
4 Sheffield Section Lecture
15 North West Section Lecture
Feb 21 Midland Section Lecture

SOUTHERN

By F. W. Ford
Chairman:
C. A. Moore
(Stanmore)

Hon. Secretary:
68 Salcombe Gardens,
Mill Hill, N.W.7.
Tel: 01-959 2847

A MERRY CHRISTMAS and a Happy New Year to Members of the B.G.G.A. everywhere.

November Lecture
A good gathering met at 'The George' and, despite being embarrassingly short of seats once again, I feel that the speaker, Mr. Pat Moran, with his subject of 'Trees' was thoroughly enjoyed by all.

He was so obviously very enthusiastic about his subject that I am sure he would have liked all present to have gone home and planted as many trees as possible on their respective courses. I, personally, couldn't agree more; for apart from replacement planting, there is room for many more trees and shrubs on most golf courses. As wind breaks, trees had been known to reduce 100 mph to 40 mph.

Trees and shrubs recommended for planting were Red Oak, Silver Birch, holly, forsythia, broom etc. In particular, Silver Birch trees were recommended for 'their easy planting and no autumn leaf problems'.

Elm Disease Treatment
— Dry branches which show the slightest infection must be cut back to healthy parts and burnt (change of colour and dying back of leaves).
— Mulch the base surrounds with cow dung or compost, approximately 6in. thick, and water copiously.

— In dry weather conditions i.e., spring and summer, an aerial mist spray would be a great advantage to supplement the moisture in the air.

The meeting closed with a vote of thanks to Mr. Moran with the hope that he would visit the Southern Section again in the near future.

In the Benevolent Fund Draw, which concluded the evening, the Red Oak was won by R. Lance and is firmly established at Surbiton by now, we hope! The bottle of Scotch was won by Jock Rennie. The total proceeds of £9.55 included a £1.00 donation by Jock.

January Lecture
6.30 p.m. Wednesday 3rd January, 1973

This will be the showing of a new film ‘The Royal and Ancient Game’. It is not a selling film and it is based on the preparation of St. Andrews for the Walker Cup and the design of a course by Fred Hawtree and quite a bit about the history of the game.

The commentary is given by Fred Hawtree, John Campbell, Links Supervisor at St. Andrews, and Henry Longhurst. There will also be slides of the International Turf Show in America with commentary on the opinions of certain leading Superintendents on the use of Triple Green Mowers.

As this is the premiere of the golf film in our area, Ransomes would like members of the Southern Section to see it before it is generally shown to Golf Clubs.

Light refreshments will be provided and we hope to have with us E. G. Catchpole, Phil Marshall and John Shaw.

New Members
A warm welcome to the following new members:- P. J. L. Fileary and I. F. Wilkins (Temple), J. Cockburn, Mr. R. Smith, W. Maggs, A. H. F. Jiggens, G. R. Young and R. C. Jennings, Class E Members.

NORTH-WEST

Chairman:
R. Vickers,
Leigh Golf Club

Hon. Secretary:
Horrobin Cottage,
Old Links Golf Club,
Montserrat, Bolton,
Lancs.

By H. M. Walsh

Annual Trip
It is with the greatest of pleasure I have to report a most successful trip to the International Sports Company Ltd., at Liverpool on November 14th. The sincere thanks of the 28 members who made the journey are due to Mr. Osborne, the works manager who extended to us a very warm welcome indeed, and to Mr. English, the personnel officer for arranging the smooth running of the visit. We appreciated very much the patience and courtesy of the staff in taking us through the various departments of the factory and answering the endless questions put to them, and also the lavish hospitality shown to us, both liquid and solid. Thank you, once again gentlemen, it was something to remember.

Lectures

New Member
We welcome to the Section, C. P. Brown, Esq., Chorlton-cum-Hardy Golf Club, Manchester, and hope his association with the Section will be a happy one.

Autumn Tournament
Our sincere thanks are due to the Captain and Directors of Old Links G.C. Bolton for their kindness in granting us the courtesy of their course and the facilities of the club house and the very warm welcome extended to us by the Captain, Mr. J. Taylor. Our thanks also to

Cut grass
and capital outlay.

RANSOMES LEASING

The British Golf Greenkeeper
Mr. and Mrs. Swinghurst for the excellent meals provided and to Messrs. Vaughan, Wyatt, Wilcock and Barlow for their assistance with the cards and moneys etc. Our most grateful thanks to all prize donors both individual and from the trade. Prizes were presented by the Captain Mr. J. Taylor. Thank you once again.

Prize Winners
Best Gross E. Walsh 113 over 27 holes
Best Nett P. Chapman 106½ over 27 holes
2nd Nett A. Fyles 107¼ over 27 holes
3rd Nett M. Sheehan 109 over 27 holes
4th Nett K. Bruckshaw 111 over 27 holes
5th Nett E. Walsh 111½ over 27 holes
6th Nett G. P. Jones 112 over 27 holes
7th Nett K. Holmes 112¼ over 27 holes
8th Nett T. Holmes 114 over 27 holes
9th Nett J. Robinson 114½ over 27 holes
10th Nett R. Janorskis 115 over 27 holes

11th Nett G. Hall 115 over 27 holes
12th Nett B. Grigson 115½ over 27 holes
13th Nett R. Lewis 116 over 27 holes
14th Nett A. Leonard 116 over 27 holes
15th Nett W. Sumner 116½ over 27 holes
16th Nett A. Stewart 117 over 27 holes
17th Nett J. Rhodes 118 over 27 holes
18th Nett J. Leonard 119½ over 27 holes
19th Nett H. Sumner 120 over 27 holes
20th Nett H. M. Walsh 121 over 27 holes
21st Nett H. McAddy 121½ over 27 holes
22nd Nett G. Leonard 122 over 27 holes
Over 50s A. Fyles c.p.o.

Visitors
1st Nett N. Walmersby 18 Holes 73
2nd Nett E. Holmes 18 Holes 75 c.p.o.

SHEFFIELD SECTION
Chairman: G. Herrington (Lindrick)
Hon. Secretary/Treasurer: H. Gillespie
63 Langsett Avenue, Sheffield S6 4AA

Slater Trophy
The annual match for the Slater Trophy against our friends from the Northern Section was played at Lindrick Golf Club on October 11th, 1972, and in spite of the persistent drizzle the course was in perfect condition, thanks to George Herrington and his staff.

The result of the match was not a pleasant one for us, going down by 6 matches to 4, with 2 halved, and so the trophy was presented to the Northern President, Mr. Mountain, by our own President Mr. Arnold.

Our thanks are due to the Captain and Directors of Lindrick Golf Club for giving us the opportunity to play over the Championship course, also thanks to the Steward and his staff for looking after us so well.

Coach Cup
The Coach Cup was competed for in the morning before the Slater trophy with 24 members taking part in the 9 holes Stableford competition. The winner with 20 points was H. Holmes and Mr. Arnold was second with 19 points.

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RANSOMES LEASING NEW
Lectures
The first of our winter lectures was held at Abbeydale Golf club on October 5th with a talk on fertilisers given by Mr. O. E. Jones of Cannock Fertilisers. The attendance was not up to our usual numbers and we apologise to Mr. Jones for this but the 18 members present listened with interest to the talk.

The November meeting was a demonstration of machinery and equipment by Mr. P. F Wyatt of Pattisons. This was attended by 42 members.

The January lecture will be on Grass Seeds; the speaker will be Mr. J. Bradbury of Momersee Seeds Ltd; the venue Abbeydale Golf club, January 4th commencing at 2 p.m.

Subscriptions
There are still some subscriptions outstanding and members responsible are requested to attend to this important matter.

New Members
We welcome the following new members to the section and hope their association will be a long and happy one: K. B. Heaney and B. Andrews, both of Wath G.C., J. Goldthorpe, Hallowes G.C., D. Turner, Alfreton G.C., D. N Docherty and M. Redfern, Chesterfield G.C., P. Barron, Hillsborough G.C.

Outing
It is proposed to arrange a visit to the Cannock Fertiliser Companies works in Staffordshire. The date is not fixed at the time of writing, but the proposed date is early in March. If you wish to go, your name should be on the list, if it is not, please contact me.

Annual Dinner Dance
The Annual Dinner/Dance was held at the Empire Hotel, Leicester, on Saturday, 3rd October 1972. Sixty-six attended, and a very enjoyable evening was had by all.

Knock Out Cup
The final of this competition was held at Longcliffe Golf Club, by kind permission of the Captain and Committee. The winner was Mr. W. Woods, Head Greenkeeper of Holllwell by 7 and 6, over Mr. B. Cooper, Vice President, Kibworth Golf Club. The cup was presented to the winner at the Dinner/Dance, together with a tankard, and a tankard was presented to the runner-up.

New Head Greenkeeper
I should like on behalf of the Section to wish Roger Willars success in his new appointment as head greenkeeper of Cosby Golf Club.

Copy of letter received from Mr. M. W. Young
Would you please convey to your President, Chairman and all members, my sincere thanks for the surprise presentation made to me at your recent meeting at Wollaton Park. Though moving to Princes in Kent, a considerable distance away, I should like to remain associated with you. My personal thanks to you for your own efforts and wishing you every success.

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RANSOMES LEASING

The British Golf Greenkeeper
members of the Association, and the many Golf Clubs and firms who so kindly support us throughout the year, a Merry Christmas and a Happy and Prosperous New Year.

MIDLAND

Chairman: G. Hart (Gay Hill)
Hon. Secretary: R. Goodwin
4 Burton Old Road, Streethay, Lichfield, Staffs.

1973 Fixtures

Spring Lecture
A lecture will take place in the Club House of the Sutton Coldfield Golf Club, by kind permission of the Captain and Members, on Wednesday 21st February at 2.15 p.m.

Spring Tournament
The Spring Tournament will be over 27 holes at the Edgbaston Golf Club, by kind permission of the Captain and Members, on Tuesday 8th May.

Autumn Tournament
The Autumn Tournament will be held at the Gay Hill Golf Club, by kind permission of the Captain and Members, on Thursday 6th September.

Further details of these events and other fixtures will appear in future editions of the Journal.

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