"We are self financing in the main but also receive other funding from sports governing bodies. For example the R&A for golf and the TCCB for research into cricket pitches," explained Anne.

The Institute is backed by the Sports Council for the good of sport in the UK and the Council has an observer on our members' body, the committee which allows us to maintain our links with the sporting organisations.

"We are also involved with the Sports Council on the distribution of lottery money and we assist with the undertaking of feasibility studies - including the one which resulted in Hampshire County Cricket Club's successful bid for a new ground.

Other money comes from commercial research.

One of the principal duties of the Institute every year is the publishing of Turf Grass Seed, the bible for anyone choosing new grass seed.

"The Seed trade funds most of the trials on new grass seed - there are over 6,000 plots of grass in the trials programme - and these results are published annually.

"They are released at Saltex and the industry gets quite anxious about the publication of the results as the companies want to see their names at the top of the lists."

The results are objective and do not say which is the top company. What they do say is that in certain circumstances varieties performed in a certain way.

Since Mike Canaway took charge and Anne Wilson became External Affairs Manager there has been a significant change in the Institute's image and structure.

"It would be fair to say that the Institute had become insular and we waited for people to come to us rather than us going to them," said Anne.

As Mike Canaway says in the latest issue of the Bulletin: "Structural change was necessary to both clarify corporate objectives and to assist with the development of new initiatives. For many years STRI had, on the one hand acted as a centre for research, receiving donations from governing bodies of sports for this work. On the other hand it aimed to provide a commercial, advisory and consultancy service. Sometimes these objects were in conflict, for example, if a governing body donated money for research the accusation could be levelled that this was "propping up" the advisory and consultancy side.

"There was also a 'Catch 22' with the financial management. If, as a Company Limited by Guarantee we broke even this made the commercial aspects seem less than efficient. If, on the other hand, we recorded a surplus there was a potential deterrent for donors to research," explained Mike in his Editorial.

For that reason, as of the beginning of this year, the STRI advisory and consultancy services were transferred to a limited company, STRI Ltd, while the research work remains in the original Scientific Research Organisation.

The changes follow a revamp of the Institute's image which took place in 1995.

With that in mind last year a new image was unveiled complete with a new logo.

"We are about turfgrass and everything which goes to make it grow including root zones, sand, chemical analysis, diseases and the advisory side. Hence the reason our new logo displays grass," explained Anne.

"We've gone back to our grass roots, as it were," she added with a smile.

Anne has also worked hard to give the Institute's various departments a more corporate look.

"Initially everything that was produced by us was individual and didn't possess a common look. Each department had their own way of doing things, there was a lack of continuity and no-one in a marketing role to create a corporate image," said Anne, who stepped into the marketing role in '95.

One of her main tasks has been to revamp the Institute's publications including the Turfgrass Bulletin, which had been introduced in 1951 and had remained as a small black and white publication for many years.

"In '95, the decision was taken that we needed something more..."
commercial, in addition to the Journal which had become more scientific and only circulated to those people who requested it."

The launch of the Turfgrass Bulletin in April 1996 coincided with the organisational changes within STRI and the launch of the STRI's new logo and corporate image.

The new International Sports Turf Bulletin is full colour A4 size and contains advertising previously reserved for the Journal.

"It has a circulation of 5,500 and goes to all subscribers including golf clubs, sports clubs, local authorities, education, Sports Associations and Governing Bodies, trade contractors, greenkeepers, groundsman and colleges.

The Journal continues to be produced annually as a scientific research publication.

With education becoming ever more important the STRI also offers training courses including the Open Learning Training Modules, launched at BTME this year. Operated in conjunction with the GTC the written modules provide greenkeepers with theoretical knowledge for work place assessment at NVQ/SVQ Level 2. To support these written modules there is a series of three one-week long residential training courses.

With the new structure, image and other initiatives it seems that the Sports Turf Research Institute is well prepared to tackle the demands of the future in an increasingly competitive industry.

Dr Mike Canaway, Chief Executive, left and Dr Stephen Baker, Senior Research Officer and Head of Laboratory Services

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• For application of powders, granules or grass seed.

Spread pattern without trim control

Spread pattern with trim control

Uniform Flow Severe Funnel Flow Ratholing
# Premium Fine Turf Spring Fertilizers

<table>
<thead>
<tr>
<th>PRODUCT ANALYSIS</th>
<th>SIZE GUIDE No.</th>
<th>RATES kg/hec</th>
<th>N</th>
<th>P</th>
<th>K</th>
<th>NUTRIENT SOURCES</th>
<th>SPREADER SETTINGS</th>
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<tr>
<td>13-2-13 w/100% Ammonium Sulphate</td>
<td>100</td>
<td>20</td>
<td>200</td>
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<td>19-5-19 Spring Starter w/25% Nutralene®</td>
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<td>25-5-15 w/50% Nutralene®</td>
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<td>200</td>
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# Premium Fine Turf Summer Fertilizers

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<th>P</th>
<th>K</th>
<th>NUTRIENT SOURCES</th>
<th>SPREADER SETTINGS</th>
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# General Purpose Fairway and Sports Grounds Fertilizers

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<th>RATES kg/hec</th>
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<th>P</th>
<th>K</th>
<th>NUTRIENT SOURCES</th>
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<td>200</td>
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<tr>
<td>37-0-0 w/100% SCU</td>
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<td>150</td>
<td>7</td>
<td>55.6</td>
<td>0</td>
<td>0</td>
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* Slowly Available Water Soluble Nitrogen ** Water Insoluble Nitrogen *** Coated Slow Release Urea Nitrogen

NOTE: Tee Time spreader settings were established using the standard equipment available from the spreader manufacturer at swath widths and speeds typically used with the industry. It is recommended that all spreader equipment be calibrated at the time of application to achieve the desired application rate.

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Balbirnie awakes

Balbirnie Park Golf Club lies to the north east of Glenrothes and is encompassed in 416 acres of attractive parkland and woodland gardens. Within its precincts are some of the most important historic features in Fife. These range from our beautiful golf course to archaeological sites dating from the late Neolithic period of around 2000 BC including a ritual site of some significance and a stone circle and burial site. A classical mansion of the 18th century stands guard over the first tee and its magnificence is enjoyed by many overseas visitors.

The course itself is a treasure chest of environmental delights, and its flora include many special and magnificent trees, these include majestic Oak and Beech through to the introduced species such as the mighty Wellingtonia, Atlas Cedar and Black Pine. But what really makes Balbirnie special lies in its outstanding collection of Rhododendrons brought to our shores from India by the Balfour family in the early 18th century.

To add to these delights the course's wildlife is next to none and even in winter months the rich vegetation of Balbirnie give shelter to an interesting variety of birdlife including mixed flocks of blue tits, coal tits and great tits, and yes readers this is Balbirnie and not Baywatch!

The down side to this heaven on earth is that extra care and management have be be practised while looking after our golf course, here we must sustain and create ongoing environmental habitats for the things we share the park with.

March

Well hopefully spring is here, but when you work on a golf course two degrees nearer the Arctic circle than Moscow anything is possible. The demise of this winter ends the 23rd one as a Greenkeeper, they don’t get any harder, just shorter.

Its been a busy winter for us with many projects being successfully completed, and it is now time to tune the course in readiness for commencement of summer competition play towards the end of the 27th.

The first half of the month continues opportunity slitting, this operation ceases before our famous easterlies decide to dry and open up the slits adding more frustration to our early, heavy competition play. Top dressings are initiated to iron out surface winter desiccation, this allows me to maintain a realistic cutting height while creating smooth surfaces.

These operations are incorporated to include tees and aprons. If a window of good weather is evident then I will apply a lawn sand to both greens and tees, this I usually mix myself as I have for over thirty years using a recipe handed down to me as a boy using double salts giving the mixture a greater killing power to the occasional weed that may have crept in over the winter.

March also sees the start-up of the irrigation system and wait for it, we actually start to irrigate our course. March gives me the opportunity to assess the irrigation system and determine if it is working correctly, this we do with the help of the irrigation contractor.

March also sees the start-up of the irrigation system and wait for it, we actually start to irrigate our greens. Horror you cry but believe me I know my greens, as I do my Malts, and a conscious, calculated decision has to be adopted in order to prevent the abysmal clays from drying out (if allowed to dry out a hydrophobic situation is sustained throughout the spring unless excessive rain occurs). This early irrigation programme is backed up by incorporating a wetting agent at the maximum dosage.

A lot of effort this winter has been directed towards tree and scrub clearing in our many woods and plantations. Here careful consideration is vital, do I remove a healthy tree in order that its neighbour may grow as nature intended. One must evaluate these decisions on the trees' merit or indeed its downsfalls, is it aesthetically appealing to the park's visitors? Does this particular process reduce its aesthetic appeal? Is it taking away the height or width of the tree? Is it taking away the tree's natural beauty?

Management

By March all the staff should be fully cognizant with our new machinery purchased. This would include adjustments, operational skills, service intervals and methods. At Balbirnie each piece of machinery has its own log which allows a history to be recorded of its performance and reliability. This record can be useful in future upgrade or if needed in warranty claims.

By this time of the year at Balbirnie tenders have been received and ordered placed for most of my requirements for the coming season. The weekly checking of invoices to sanitation payment is very much in force, other chemical duties would include the daily log book, recording work schedules, attendance, chemical usage and weather conditions, and if unlucky the reporting of accidents under RIDDOR, touch wood the latter is seldom needed at my course.

March will also keep me busy with the involvement of a feasibility study incorporating specifications for a new golf facility that we fully intend to implement in the near future. This project will be built within the confines of the estate on land we have the good fortune to purchase. The land in question forms a beautiful pasture gently rolling with a light sandy loam soil and fringed with an abundance of more magnificent trees.

Being the custodian at Balbirnie is of great importance to me, as is my part-time job as lecturer in greenkeeping at what I would consider to be the best college in Europe, Elmwood, especially with the completion of their own 18 hole golf course. March gives me plenty of scope to bring my students down to Balbirnie for practical work based assessment and when they have reached the desired level of competence and are fully aware of the under-pinning knowledge it allows me to stamp the GTC manual. This gives the student a feel good factor and contributes to a record of their practical skills for prospective employers. All in all March at Balbirnie can be both a very rewarding and busy month of the year and I love every single day spent within its polices.

Well enough from me, I've got some bunkers to rake - have a good season!
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The features and benefits of Turfmech’s tractor-powered blowers and trailed vacuum collector are highlighted in a new video available on free loan from the company.

The video shows the largest in the four model range of Turfmech Tornado blowers at work. Featured clearing leaves and litter from turf and hard surfaces, this machine produces a blast of air in excess of 200km/hr (125mph).

Also featured is the tractor-trailed TurfVac TM11 vacuum collector, launched in 1996. Operating like a large vacuum cleaner, this high capacity unit is ideal for fast, effective collection of leaves, litter, grass clippings and most other loose debris from turf and hard surfaces.

A copy of the video (code number VIW1) can be obtained by contacting Turfmech Machinery Ltd, New Road Industrial Estate, Nixon, Staffs ST18 OPJ. Tel: 01889 271503.

Spaldings latest edition to its professional range of workshop equipment is a heavy duty fully adjustable 4” cross vice.

The vice has up to a 4” capacity and is adjustable both laterally and longitudinally. This is said to facilitate the quick and easy drilling of multiple holes in the workplace without the need to continually remove and adjust the position of the work.

This leads to increased drilling accuracy and minimises drill bit breakages.

The vice can be ordered under Product Number 4408 and is priced at £46.75.

For further information telephone 01522 500600.

Vermee, originator of the first stump cutter, has introduced wireless remote control technology to its stump cutter line. With an operating range of over 30m, the state-of-the-art, radio remote control option provides operators with more flexibility and freedom of movement and reduces their exposure to dust, dirt and machine noise.

Currently available on the SC1102 and SC 502 gearbox driven stump cutters with Vermeer’s unique Auto Sweep feature, the remote controls the direction of the stump cutter’s tongue, moving the cutter wheel in and out of stumps; the swing of the cutter wheel in its sweep pattern; and runs the up/down wheel positioning mode. For increased safety it is equipped with an emergency engine-stop control. Operated with industrial sealed joysticks, it is powered by a standard 9-volt battery and, weighing only 1.3 kg, can be hand-held or worn with a neck strap.

For more information telephone 01933 274400.

Sussex-based Eurogreen, best known for its shredders and chippers has been appointed the UK distributors for the Solo Range of Professional Brush Cutters/Strimmers and Mowers. Solo was formed in a garage in Stuttgart Germany in 1948 by brothers Hans and Heinz Emmerich. It began by developing the world’s smallest and lightest gasoline engine. From this small beginning has come nearly 50 years of innovative engineering of the highest quality. In the early ‘50s Solo pioneered the Rotating Blade Mower with sturdy die cast aluminium body and wheels. 1950 saw the company producing Brush Cutters/Strimmers which they have steadily improved, refined with much research both in the lab and most importantly in the field with the professional user. 1958 saw Solo lead the way with a Direct Drive Chainsaw the Solorox.

In the UK Solo is known for its range of Back Pack Sprayers and Mist Blowers. It was was this reputation that persuaded Eurogreen to ‘go Solo’.

Mark McIntyre of Eurogreen, Solo Specialist said “After initial trials with some of our customers in 1996 we soon realised just how good Solo Professional Strimmers and Mowers are, we are already getting repeat orders after just a few months going Solo.”

Eurogreen will offer Strimmers and Brushcutters from the little electric unit of 1000w /2300 SOHZ up to a 40cc two stroke version, most will be available in Back Pack form.

Mowers will be from 2-5/2 hp powered by Honda or Briggs and Stratton engines.

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permeate penetrates through thatch and water repellent soil layers to infiltrate the root zone optimising water penetration to critical depths.

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web pages, http://members.aol.com/servchemuk
Be a winner

Although spring is with us and greenkeepers turn their thoughts to a new season of growth, my thoughts are turning to the autumn, when our major competitions reach their final stages, we start the next series of Supervisory Management Courses and to next January when the Learning Experience 1998 takes place.

Two new competitions have been announced for 1997. These are the BIGGA Golf Course Environment Competition and the Toro Award for Excellence in Greenkeeping.

The BIGGA Golf Course Environment Competition
Following two very successful years of competition run solely by Amazona Ground Care, this year has seen BIGGA and Rhône Poulenc Amenity join Amazona to run the BIGGA Golf Course Environment Competition. This competition is designed to reward those clubs that integrate ecological management with normal golf course management practices to ensure that golf and the environment are compatible. All details have been sent to all golf clubs and leaflets are included in this magazine. Entries must be returned to BIGGA by 30 April 1997. Why not enter and your club could win a prize of £5000.

The Toro Award for Excellence in Greenkeeping
Joining the very successful Toro Student Greenkeeper of the Year Award is the Toro Award for Excellence in Greenkeeping. With prizes like a Toro Greensmaster triplex ride-on mower and a two week trip to the USA, prizes for the winner's greenkeeping team and for the runners up, this competition is sure to be popular with both greenkeepers and their golf clubs. Nomination forms have been sent out to golf clubs and leaflets are included in this magazine. Get your nominations off as soon as possible and we will send out entry forms to all nominees. All entries must be returned to BIGGA HQ by 30 May 1997. The National Final will take place, in Harrogate, on 26 and 27 October 1997.

The Toro Student Greenkeeper of the Year Award
Now in its eighth year, the search to find the Toro Student of the Year has begun. Competition details and entry forms have been sent to colleges and all entries should reach BIGGA HQ by 30 May 1997. The main points of the competition are:

• The winner receives the Toro scholarship to the USA and visits to the TORO factories and to the GCSAA conference and show in Anaheim, California.
• The two runners-up win a visit to the GCSAA conference and show in Anaheim.

Regional finals will be held in five locations during late July and up to eight students will be selected for the National Final which will take place on 26 and 27 October 1997.

National Education Conference and Seminar Programmes
Detailed information on this year's Supervisory Management Courses will appear in the next issue of Greenkeeper International. Make sure that you book early to ensure your place on the Aldwark Manor Courses or on the two day courses around the Regions.

WANTED!
This time of year is when planning commences for the Learning Experience, at Harrogate. After a very successful year in 1997 it will be more difficult than ever to find speakers and subjects for the National Education Conference and Seminar programme for 1998. Therefore, if you wish to listen to a particular speaker or have a particular topic or even volunteer to speak, then please let me or Sami know.

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'Enforcer' controls moss on golf greens, bowling greens and other amenity turf areas without blackening the turf.

It can be used at any time of the year, providing conditions are moist, and will kill moss and fungi on hard areas like pavements and car parks without damaging the surface.

And remember, empty 'Enforcer' containers can be collected and disposed of free of charge on the UK mainland using the Miracle Professional Collection Scheme on 0345 125398.

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We may be biased but we believe that our Bar 2 mixture is rightly regarded as the very best for golf and bowls greens. The major reason is that it contains Barcrown, the outstanding slender creeping red fescue coupled with the brown top bents Heriot and Bardot. Barcrown is tolerant to close mowing, has good shoot density and disease resistance - there's nothing else like it.

As with all Barenbrug mixtures, it contains varieties consistently rated in the top banding of the STRI Turfgrass Seed booklets.

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Playing performance

Dr Steve Baker, Senior Research Officer, reports on the fascinating research he is currently undertaking at the STRI.

Within the golf clubhouse a fairly regular topic of discussion concerns the playing quality of the greens. Snippets of conversation may include - "the greens were far too slow today", or "... the greens were much harder than those on the course we played last week" or hopefully "...the putting surface was excellent". Unfortunately human nature being what it is, it is more likely that the complaints will be voiced more loudly than the compliments!

Unless we can measure the various components of playing quality it is very difficult to assess whether the complaints can be justified or was it a case of a poor round and a "bad workman blaming his tools"? One of the objectives of our recent research project for the R&A covering a National Survey of Golf Greens (Greenkeeper International, January 1996) was to develop test procedures for measuring the playing performance of golf greens and to assess the range of values that are likely to occur on golf courses.

This had two main objectives - firstly knowledge of playing performance can set clear objectives for the management of greens. Secondly In research work it is important that we can assess how for example a particular construction technique or maintenance operation will affect the playing quality of greens, so that the measurements we make have direct relevance to the golfer.

THE SURVEY
The work took place over an 18 month period and included visits to 74 golf courses from south-west England to north-east Scotland, although with a concentration in sites in northern and central England. Several types of course were visited, e.g. parkland, links, heathland etc. and on each course we tested two greens one of which the Head Greenkeeper considered to be one of his best greens, the second being one of his weaker greens. As well as measurements of soil and grass properties (for example drainage rates, air-filled pore space or grass species composition) we measured the playing quality of the greens.

PLAYING QUALITY MEASUREMENTS
The three main aspects of playing performance of interest to the golfer are the speed of the greens, the evenness of the putting surface and hardness, in particular how this will influence the distance taken for a ball to stop when pitched onto the green.

Measurements of green speed are well established through the use of a Stimpmeter, to measure the evenness of the putting surface we used a profile gauge consisting of ten graduated rods at 50 mm intervals which were free to move vertically if they were displaced by undulations. Measurements of displacement could be combined into an index of evenness.

In the last ten years we have made regular measurements of the hardness of sports surfaces using a Clegg Impact Soil Tester. This consists of a 0.5 kg, 50 mm diameter cylinder which can be released from a variety of heights. An accelerometer attached to the cylinder and the appropriate electronics measures how quickly the cylinder stops when it lands on the turf. If the surface is hard the test mass stops quickly and a high reading is obtained. On the other hand the cylinder will stop much more slowly on a wet, thatchy surface and a low hardness reading will be recorded. In the current study we evaluated the effectiveness of two different drop heights, i.e. 0.3 m and 0.55 m.

Ball impact properties can be assessed by firing a ball at the surface with defined conditions of velocity, approach angle and back spin so that we can simulate different shots. This was achieved using ball firing apparatus in which the ball was fired between two independently rotating wheels to simulate what can loosely be described as 5-iron and 9-iron impacts. In recording the impact we recorded the distance of the first bounce, the patterns of subsequent movement, in other words whether it continued to travel forwards or whether back spin brought it back. Most importantly from the golfer's point of view we recorded that the total distance travelled from the pitch mark of the initial impact to the final resting position.
**PLAYER ASSESSMENT**

It is no use making thousands of measurements if we have no means of interpreting them. Just what does a hardness value of 1.5 gravities mean compared with a value of 105 gravities and do these differences relate in any way to how a golfer perceives the hardness of a green? One solution was to ask golfers using the greens what they thought about the turf's playing performance, so a questionnaire was prepared covering everything from the golfer's handicap to his perceptions of green speed, hardness, etc. Players are notoriously variable in their attributes to the quality of a green so it was important that a large number of responses were collected. In total we collected questionnaire forms from 787 golfers enabling us to look at general patterns of response.

**GREEN SPEED**

In an article of this length it is not possible to cover more than a fraction of the results but some of the more interesting findings are discussed here. For example results for green speed are given in Table 1 and are related to the USGA classification for regular membership play. The overall range of values was 1.20 m to 2.97 m but the vast majority of values occurred in the range 1.52 m to 2.44 m which accord to the USGA classifications of medium-slow to medium-fast.

<table>
<thead>
<tr>
<th>Category</th>
<th>Distance rolled (m)</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>&gt;2.44</td>
<td>6 6</td>
</tr>
<tr>
<td>Medium fast</td>
<td>2.15-2.44</td>
<td>31 15</td>
</tr>
<tr>
<td>Medium</td>
<td>1.83-2.14</td>
<td>37 28</td>
</tr>
<tr>
<td>Medium slow</td>
<td>1.52-1.83</td>
<td>14 5</td>
</tr>
<tr>
<td>Slow</td>
<td>&lt;1.52</td>
<td>2 1</td>
</tr>
</tbody>
</table>

Most of the players were happy with the speed of the greens. Only 6% of replies suggested speeds were too slow and only 1% of players thought the greens were too fast. There was some inconsistency in response to green speed but 38% of respondents considered green speeds less than 1.8 m to be slow or too slow but for values greater than 2.40 m 84% of respondents suggested that green speed was good or fast.

**HARDNESS AND STOPPING DISTANCE**

Hardness measured using a 0.3 m drop height ranged from 50-130 gravities with the majority of readings being between 60 and 110 gravities. Hardness values tended to be highest on greens with high bulk density (a measure of soil compaction) and a low organic matter content and inevitably firmness decreased as soil moisture content increased. Newer greens also tended to give a harder surface, in part probably reflecting greater sand contents in modern rootzones but probably also because of less thatch build up on these newer greens, thus giving a firmer playing surface.

There was a significant relationship between player response and measured values of hardness. For example 40% of players considered greens with values less than 70 gravities to be soft or too soft, while the number of responses that the green was hard increased for greens where measured values exceeded 90 gravities.

Similar results were obtained when stopping distance was considered. Stopping distance was influenced by such factors as soil density and moisture content. For the five iron simulation the average distance between the pitch mark and the landing point of the first bounce was 1.21 m and in general the ball continued to move away from the point of initial impact giving an overall stopping distance ranging from 0.5 m behind the pitch mark to 9.04 m beyond the pitch mark. However for the nine iron simulation, although the initial bounce was similar, roughly half of the balls spun backwards to the point of initial impact because of the greater backspin and the overall stopping distance ranged from 1.36 m (i.e. the ball lay behind the initial point of impact) to 3.56 m.

Again there was a significant association with player response. For example, greens where the ball spun back behind the initial pitch mark following the nine iron simulation (i.e. had negative values of stopping distance) were generally considered to be soft while the proportion of golfers considering the surface to be hard increased as stopping distance became higher. In addition the proportion of golfers complaining that their ball travelled on excessively increased considerably on those greens with high measured values of stopping distance.

**SUGGESTED PERFORMANCE REQUIREMENTS**

The proposed limits for interpreting the playing quality of golf greens under British conditions are given in Table 2. They have been established as relatively broad bands because one of the joys and challenges of golf is playing a wide variety of courses under a range of weather conditions and it would be criminal to define an excessively uniform set of playing conditions. In dry summer conditions it would be expected that for example hardness and stopping distance would be towards the upper part of the range while in wet winter weather the values would fall. However it is believed that the values that have been proposed eliminate the extreme conditions that may be unacceptable to the golfer such as slow, thatchy surfaces that will hold almost any chip however badly struck or badly constructed greens that have been set like concrete in dry weather.

The limits have not been determined only by the information on player response as it is important that greens present a challenge to the golfer and reward the skill of the better players. In this respect firm, fast greens should be regarded as ideal, even though questionnaire responses from some players indicated that the greens were too fast and that the ball travelled on excessively after pitching.

Finally it is essential that the limits were set so that they could be achieved using good green-keeping skills without causing unnecessary stress to the turf as this may have long term effect on the quality of greens. In the United States for example, there have been problems with Stimpmeter readings putting pressure on greenkeeping staff to reduce cutting heights to achieve faster and faster green speeds. By setting both upper and lower limits for each component of playing quality it is hoped that these values can act as a tool to help research work and management decisions without giving unrealistic expectations for the golfers who play the course.

**Table 1: Green speed in relation to USGA classification for regular membership play**

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**Table 2: Proposed limits for interpreting playing quality of golf greens under British conditions**

<table>
<thead>
<tr>
<th>Parameter range</th>
<th>Test method</th>
<th>Normal range</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green speed</td>
<td>Stimpmeter</td>
<td>1.6 to 2.8</td>
<td>1.5 to 3.0</td>
</tr>
<tr>
<td>Hardness gravities</td>
<td>Clegg Impact Soil Tester</td>
<td>70 to 100</td>
<td>55 to 120</td>
</tr>
<tr>
<td>Stopping distance (m)</td>
<td>&quot;Five iron&quot; simulation</td>
<td>0.5 to 5.0</td>
<td>0.5 to 8.0</td>
</tr>
<tr>
<td>Stopping distance (m)</td>
<td>&quot;Nine iron&quot; simulation</td>
<td>0.0 to 2.0</td>
<td>-0.1 to 3.5</td>
</tr>
<tr>
<td>Surface evenness (mm)</td>
<td>Profile gauge</td>
<td>&lt;1.0</td>
<td>&lt;1.25</td>
</tr>
</tbody>
</table>

This index is based on the calculation of standard deviation, which is a statistical measure of the variation of readings.
Keeping in touch with news and comment from the regions

THE UNIQUE VERTI-DRAIN: Redexim

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- Simple tine design
- Leaves playing surface in superb condition

THE CHOICE OF CHAMPIONSHIP COURSES

Around the Green

SCOTTISH REGION
Eliza Smith
Tel: 01259 731445

North
It is good to start the report with news of some new members to the Section. Rejoining us are three of the Ballater staff, Derek Cowan, Andrew Brown and Richard Cowper. Andrew Wood, from Bon Accord, has joined and Helen Bates, of Fife Silica Sands, has joined us. I hope this year we can hold on to all 1996 members and add to our total instead of, as in recent years, when we have lost as many as we have gained. Anyone out there thinking of not renewing please call me and we can talk about it and I will try to show you all the benefits of membership which should outweigh the minus points. The stronger we are, the better for greenkeepers and greenkeeping all round.

Royal Aberdeen's Sam Morrison, the current Scottish Chairman, is happy to announce that he has finally "off loaded" his son, Wilson, Head Greenkeeper at Alford, when he married his fiancee, Suzi, in January, on February 18. Congratulations to both and good luck to Suzi. Being married to a greenkeeper takes a special kind of person, or so my wife says!

BTME was bigger and better than ever. I have never seen the Exhibition so busy and the workshops and Conference were packed out. A big vote of thanks must go to the staff at Head Office for all the hard work that went on to make this week so successful. It is comforting to know that the Association is in such good hands. The entertainment at the banquet was first class although I don't think they were responsible for the sky diving display from the snooker room window on the Sunday! Once again there was a good turnout from the North and I can thoroughly recommend others to go next year. Another pleasing aspect was meeting up with so many ex-North members now working in other regions and hearing how they are doing. Congratulations to Gordon Moir on an excellent talk which was well received by all present, despite his broad Fifeborough accent.

This month we have the Scottish Conference at the Isle of Skye Hotel, Perth, and I hope to see many Section members present.

Later in the year another trial will be lettered to everybody. Recently a conservation day was organised at Duff House Royal on Thursday, May 15. We look forward to visiting Duff House as the Head Greenkeeper and ex-Section Chairman, Willie Forsyth, will be retiring this year after 34 years at the club. On Sunday, July 13, the club is staging a testimonial open golf tournament to mark Willie's retirement and in recognition of his loyal service. So members in the area could enter that competition as well and swell the testimonial fund for Willie.

Iain MacLeod

West of Scotland

Welcome to spring, or so they say when the end of the month comes, but no doubt the grass will have ground to a halt. Let's hope this spring is better than last with good temperatures inducing fresh growth for a nice early start to the season... wishful thinking, we've got as much chance of winning the lotteries. What's been happening and what is going to happen in the future? By now the fixture cards will have been issued so most of you can roughly see the agenda for the year.

Although I was not personally at the BTME the reports were all first rate. The annual exhibition to the BTME of lawnletters and highlanders appear to have enjoyed the social events with some over-indulgence from certain quarters who will remain unnamed. The whole event sounds as if it is going to be a good season and looks forward to seeing you at future events.

Finally, two events to mark in the diary — firstly a day trip to Loch Lomond, early entries will be a must as this is sure to be an interesting day. Secondly the greenkeepers/ convenors match at Kirkhill, again a popular event and an enjoyable day. Both events should have been let go in plenty of time or you will be kicking yourself.

One last thing — please telephone me if you have an interesting piece of news on BTME the reports were all first rate. The annual exhibition to the BTME of lawnletters and highlanders appear to have enjoyed the social events with some over-indulgence from certain quarters who will remain unnamed. The whole event sounds as if it is going to be a good season and looks forward to seeing you at future events.

Central

Sandy's must begin this month's report with the news that one of our retired members, Jim Harrison, formally Head Greenkeeper at Muthill GC, died recently. Jim was a long standing member of the section and along with his pal and fellow member, Haig Gordon, attended most of our events, even after retiring. He will be sadly missed and our sincere condolences go to his family at this very trying time.

At the time of writing this report the date and venue for the Spring Tournament have yet to be confirmed but the probable date will be late April. I will send out details and entry forms as soon as possible.

Congratulations from everyone in the Section go to Ian MacMillan, of Balbirnie Park GC, Ian is the first home-based Scot to achieve the Master Greenkeeper Certificate and was presented with his certificate and MGC blazer at the National Education Conference at Harrogate in January. Another Section member in the news is Walter Woods. Walter was appointed a Guardian of the Association in January at the AGM. It is nice to see that despite all his years of hard work in the formation of BISGA and his numerous other achievements he is still taking an active interest in our future. Thanks Walter!

While writing about the AGM and BTME it was pleasing to see a good number of Central Section members there and those that were there for the first time enjoyed themselves so much they are intending to mark it in their diaries for next year.

We extend a warm welcome to new members David Leishman and Gregory Parr, both from Dullatur GC, David Gilson, from Tolluallan GC, Kevin McArthur, from Balbirnie Park GC, and Dick Thelen, from Elmwood College. We now have eight new members so far this year so if we keep going at this rate we will achieve and maybe even pass our target of 250 without too much effort. Just imagine what we could achieve if we really put our minds to it! We are looking for all the sportsmen in the Section as we are planning to organise fishing on Loch Leven, kart racing at Kirkcaldy, ten pin bowling in Glenrothes/Palikirk and football in Stirling/Glasgow (we can pick all the exotic locations!) plus our golf tournaments at some of the finest courses in the country. So let's have a lot more support than we have been getting in the past. Details of all events should be reaching you shortly so if you give me a quick response we can start getting them organised. If there are events which you think we should be organising just let me know and we will try to oblige.

The Inter Club Tournament will be held again this year with a different format. Leagues will be formed with games played on a home and away basis and the tournament will be completed prior to the Spring Tournament in 1999.

Former Section Chairman, Sandy Brown, is leaving Crieff GC after many years as Head Greenkeeper there and emigrating to...