THE
VERTIRAKES

P.V.R. (Pedestrian Vertirake)
- for Golf greens, Bowling greens, Cricket pitches and Tennis courts.
J.V.R. (Junior Vertirake)
- for Golf course greens, Bowling turf, Fine lawns etc.
T.V.R. (Tractor Vertirake)
- for Golf course fairways, Municipal Parks, Sports pitches.

These three machines have been designed to remove all the thatch, thus stimulating recovery and growth of strong healthy grasses. You will find that each machine will clear the difficult, dead, matted, fibrous grass that is so often so difficult to get rid of.

We have a machine for every purpose from the small golf green to the largest Municipal playing fields. One great labour saving device we have fitted on our P.V.R. model is the very large glass fibre collecting box which saves an enormous amount of time and energy that would otherwise be wasted in sweeping up afterwards.

Start your New Year off well by writing for full information on VERTIRAKES to:

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Front Cover Picture
Slitting turf on a golf course to cure water logging and improve drainage.
The final touch of pride on a fine course

Ransomes Golf Accessories

Flag Poles
Extra strong with tubular sleeve to allow flag to swivel freely. No pulling or fraying in high winds.

Quick Change Flags
For use with the Ransomes flag poles, simply unscrew top of pole and slip on the flag.

Tee Plaques
Crisp, clear lettering on sparkling white 'vistolite' background.

Large Tee Markers
Tough and long lasting with non-fade bright colours.

Putting Green Markers
Rust proof and guaranteed to last, in 'vistolite' and high strength aluminium. Ejector marker fitted with non-stoop ball pick up.

Direction and Rule Signs
Easy read black letters on brilliant white 'vistolite' background.

Putting Cups
Non corrosive heavy duty galvanised steel cups. Keeps pole rigid even in high winds.

Individual Club Designs
Personalised flags cost very little more than plain ones. Contact us for details.

Ransomes Grass Machinery (Scotland) Limited
St. Ninians Road, Corstorphine, Edinburgh EH12 8AN. Tel. 031-334 2261.
OF THE many novel ideas which find their way into the news columns of sportsturf magazines few will ultimately end up as standard turf management practices. So often the rigours of practical use under severe conditions in the field identify weaknesses in an initially hopeful and promising proposition. One idea, however, which appears to be gaining popularity and standing the test of time is “sand slitting”—a technique for dealing with waterlogging in turf.

To describe it as a new theory would perhaps be inaccurate for it is said that the Romans did it—and who knows where they got the idea? However with an intervening gap of almost two thousand years credit must be given to those who latterly have built around the idea a sound scientific basis of design and established the sophisticated technology necessary to make the technique widely available for sportsturf application.

An early installation in this country, reported in the Journal of the Sports Turf Research Institute No. 46, 1970 was carried out at Twickenham by Mr. H. E. Clark in 1966. Research into the design and functioning of vertical drainage channels, or slits and the development of scientifically based systems for sportsturf use has been assiduously conducted to the great benefit of all concerned with turf management, by Dr. Victor S. Stewart, Head of the Soil Science Unit, University College of Wales, Aberystwyth. He, with his colleague Dr. W. A. Adams has led the vanguard of opinion and development in this new field. Early successful work completed at Cardiff Arms Park and elsewhere attracted the attention of Chipman Ltd., of Horsham, Sussex, a firm already offering products and services to the sportsturf market, who were keen to develop these ideas commercially. This firm is now providing a comprehensive contract service in turf drainage based on the new principles established, and prominently featuring schemes for golf courses.

Basically the object is to overcome waterlogging in soils so finely textured or lacking in structure that they are incapable of transmitting water at an acceptable rate to the drains. If water cannot be removed through the soil itself some means must be provided to shed it from the surface. Here is where the sand slits come into play by intercepting excess water at the surface as it falls and conveying it laterally to the drains. Obviously it is important that the sand slits should intersect clean backfill over the drains so that they can discharge the collected water rapidly and a continuously permeable link can exist between the surface and the drainpipe. From a knowledge of the hydraulic conductivity, or water flow rate, of the materials used in backfilling a target design rate for the whole scheme can be arrived at. This is part of the technical service which Chipman are giving. They survey the site, checking levels and the condition of existing drains, sample soils for detailed mechanical and chemical analysis, and then prepare a comprehensive report and proposals. Slit dimensions, layout and intensity are all calculated in relation to materials employed and drain spacing to quantify the potential discharge rate suiting rainfall conditions and frequency of use.

Having the right machine for the job is vital and Chipman own the exclusive U.K. rights to a patent pending on the technique of “sand injection”, developed initially by Cambridge Soil Services Ltd., by which a number of
Scientific analysis of your soil enables us to:

Eliminate Waterlogging

Improve soil structure

By the New Deep Penetrating SAND INJECTION technique.

Establish precise fertilizer requirements and Provide YOU with the complete prescriptive Turfcare Service.
sand slits are "injected" simultaneously into the turf, without the need for spoil removal, and with minimal disturbance of the turf surface. They operate nationally with teams carrying out installations by contract in all parts of the country and many first class professional soccer clubs have taken advantage of the service. Machinery for use on the fine turf of golf greens is already available, and many greens, as well as fairways, have been successfully drained.

Chipman stress the importance of sand slitting as part of an integrated system of drainage consisting of "cut-off" drains where necessary to isolate the site from extraneous water, an intensive pipe system with correctly selected grades and depths of permeable backfill, and the slits giving the final close grid of interception channels at the surface. Sand slits can only be used alone where the subsoil is sufficiently permeable to function as an effective soakaway—a condition rarely encountered, or if they can reach through to a permeable raft featured in construction.

Unlike so many traditional drainage systems based largely on agricultural principles unsuited to compacted soils under turf, these schemes appear to really work. Maintenance has to be directed to keep the slits open to the surface, that is not capped by soil, and so receive water swiftly. Two ways are suggested: The first is to top-dress annually with fine sand, and the second is being worked on by Chipman at the moment; that is a device to instal a very close series of shallow "mini-slits" at right angles to the main slit system so as to remake the contact between the slit and the surface when renovating worn areas.

This is one new idea which may well earn itself a permanent place in golf course management techniques.
Quick-change artist

The Ransomes-Hahn Tournament Triplex is a remarkable machine — so remarkable that we call it the world's first Greens Management System. The Tournament Triplex is a 12hp vehicle with hydrostatic drive, which powers four separate turf maintaining operations. Each conversion, from superb greensmowing to utility mowing, to Verti-Cutting, to spiking takes less than a minute — and no spanner!

**Greens Units** A full 67" cut. Each 23", nine-bladed cylinder can be lifted individually.

**Utility Units** Heavy-duty cutting cylinders and bottom blades for approach and tee mowing. Grass catchers provided with all units.

**Verti-cut Units** Patented twin offset blades remove 'thatch', keep greens in play even in difficult conditions.

**Vibra-Spiker** Now spiking takes even less time than greensmowing. High-frequency vibration penetrates to a depth of 1½" with a minimum of compaction. The combination of this unique quick-change unit feature, full 67" swath for every operation, variable-speed units and individual unit lifts make the Tournament Triplex an investment which no club can ignore.

Your local Distributor is keen to impress you with a demonstration. Give him a call.

Ransomes Sims & Jefferies Ltd., Ipswich.

---

Ransomes-Hahn Tournament Triplex

BUY OR LEASE
Ransomes-Hahn Tournament Triplex

When an advertiser tells you that a conversion is quick it's customary to take it with a pinch of salt. But *this* time take it as fact. Trying is believing, and you can try it for yourself at your local Ransomes dealer! You simply pull the connecting pin and quick-couple cable, remove the existing unit, and slip the selected unit into place. It takes less than a minute! Honest!

**Tournament Triplex Greens Unit**
A full 67" of cutting width with the exclusive features of variable speed cylinder drive, giving you a cylinder speed completely independent of ground speed. Units may be operated one-down, two-down or all-down.

**Tournament Triplex Utility/Tee Units**
Triplex utility units use same seven-blade design as greens reels, but have heavier fairway blades to withstand approach and tee mowing. These units are ideal for approach maintenance and the precision cutting of tailored tees, and can be adjusted down to ½" for greens-mowing after top-dressing.

**Tournament Triplex Verti-Cut Units**
Verti-Cut units use durable, yet thin offset blades to remove thatch and grain as they begin to form. With 67" of cut (the Verti-Cut units are the same width, work at the same speed, and use the same grass catchers as the greens and utility units) and a riding vehicle, these attachments are ideal for preventing the development of thatch etc., lessening the need to take greens out of play for renovation. Variable-speed cylinder drives provide high tip-velocity even at low forward speeds.

**Tournament Triplex Vibra-Spiker**
Vibra-Spiker reels use gentle high-frequency vibration to achieve deep penetration, without excessive weight, even when ground is hard and dry. Spiking (summer aerification) provides root pruning and moisture absorption, relieves surface compaction, and conserves fertilizers and fungicides by getting them immediately to the root zone. Full 67" swathe and Triplex speed make spiking a task that now takes even less time than greensmowing. Spiker penetrates to depth of 1¼".

Ransomes-Hahn Tournament Triplex
- the world's first Greens Management System.
For expert help and advice with their game, most club members have a professional to turn to.
But who can a green keeper turn to for help in keeping his turf up to par?

His own professional: SAI TURF FOOD

Courses like Carnoustie and Muirfield use SAI Turf Foods.

It works wonders with grass.

It comes in the form of mini-crumb granules which makes it easy to spread.

It also stays where it's put, releasing its goodness slowly into the soil to strengthen grass growth.

For stronger, greener, cleaner, healthier turf, try SAI.

All enquiries to the manufacturers or to our accredited suppliers for England and Wales:

Chipman Chemical Co. Ltd., Horsham, Sussex.
Telephone 60341/5

HORTICULTURE LTD.

Hortus House, 3 John’s Place, Edinburgh.
Telephone: 031-554 5451
A guide to wages

GOLF Clubs often seek guidance from this Association as to fair wages for their ground staff. Although the figures remain the subject of negotiation between the Golf Club and the Greenkeeper in the light of local circumstances, the British Golf Greenkeepers' Association carried out a survey of Greenkeepers' wages in England in 1964, in order to be able to make proposals as a general guide. This revealed wide variations in the rates, but enabled a scale to be formulated.

IN March, 1975, the Executive Committee reconsidered the figures, and now suggest the following:—

<table>
<thead>
<tr>
<th>Position</th>
<th>Salary</th>
<th>Overtime Rate</th>
<th>Accommodation &amp; Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head G'keeper (36 holes)</td>
<td>£3,750 p.a. or £72.00 per wk. Plus accom. &amp; 4 wks. holiday</td>
<td>Time and a half.</td>
<td></td>
</tr>
<tr>
<td>Head G'keeper (27 holes)</td>
<td>£3,450 p.a. or £66.25 per wk. Plus accom. &amp; 4 wks. holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head G'keeper (18 holes)</td>
<td>£3,125 p.a. or £60.00 per wk. Plus accom. &amp; 4 wks. holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head G'keeper (9 holes)</td>
<td>£2,812 p.a. or £54.00 per wk. Plus accom. &amp; 4 wks. holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Assistant</td>
<td>£2,500 p.a. or £48.00 per wk. Plus accom. &amp; 3 wks. holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant</td>
<td>£2,180 p.a. or £42.00 per wk. Plus accom. &amp; 3 wks. holiday</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

That the basic conditions of employment should be:—

- 40-hour working week.
- If not salaried, overtime to be paid for weekend work as follows:—
  - Saturday ... ... ... Time and a half.
  - Sunday ... ... ... Double time.
- Retirement pension scheme.
- Subscriptions paid.
- Annual wage increases not less than cost of living index increases.
- Washing and toilet facilities.
- Footwear allowance not less than £10.00 per annum.
- Travelling expenses at 10p per mile.
- Insurance accident policy to be paid by the Club.
- Time off to attend lectures, demonstrations and B.G.G.A. Golf Tournaments.

Where accommodation is provided by Clubs, it should be rent and rate free, plus phone costs if required by Club in connection with work.

In the lowest scale every endeavour should be made to make additions for experience and special ability, if junior staff are to be encouraged.

In the top scale the minimum will represent comparative newness to a responsible post, or for an experienced man, a wide range of additional benefits.

In view of the shortage of Head Greenkeepers, competent First Assistants are likely to secure rapid promotion to senior posts. The middle scale is, therefore, likely to apply only to a man potentially capable of full responsibility.

In addition to the rates set out, it is recommended that the Golf Club should operate a Pension Scheme which will ensure that a retired employee will enjoy an income representing not less than half his salary and benefits at retirement.

Objects of the Association

To advance Golf Greenkeeping; to assist and encourage the proficiency of members; to arrange lectures, functions and competitions; to maintain a Benevolent Fund; to publish a monthly magazine; to collaborate with the Sports Turf Research Institute; and to effect any other objects of a like nature.
Would you buy a mower from a firm that has produced only half a million or so?

If you're looking for gimmicks of course you wouldn't. Because it smacks too much of traditional values - universal appeal, continuity of design, and so on - and a determination to keep it that way.

Fortunately for the world's sportsmen (and women), groundsmen throughout 73 countries think differently. They go for robust construction, proven design, ready availability of spares and a reputation for reliability that dates from 1921.

They choose -

JACOBSEN

Jacobsen mowers are available in the UK from a national network of distributors, all of whom carry good stocks of essential spares and offer an expert technical and after-sales service. Over 80% of spares are stocked by Rolfe, suppliers of an extensive range of turf care equipment and sole importers in the UK of Jacobsen mowers.

Send now for Rolfe's 20-page brochure, price list and details of your nearest distributor.

ROLFE
Rolfe's International Turf Equipment Ltd.,

Winchester Hill, Romsey, Hampshire.
Tel: Romsey 513185
Telex: 47347
Science . . . and sweat

THE following was submitted by one of the Section Secretaries and is reprinted from the Newsletter of the Golf Course Superintendents Association of America.

THERE appears to be a growing feeling among veteran golf course superintendents that they are caught in a spiralling upheaval of sorts which threatens their very own physical being.

Frankly, the burdens of the profession have reached the point where certain superintendents are beginning to ask themselves . . . “are the returns worth the investment?”

This has nothing to do with the stock market or the race track. It concerns the job outlook of dignified men who must revaluate their present positions because of a slow but sure tipping of the scales in regard to the “compensation vs. responsibility” syndrome.

It has reached the point where superintendents are leaving the responsibility-choked atmosphere of the big country club for less of same . . . and less money. Examples of pay cuts in the thousands have come to this desk’s attention. And with them, complementing comments that the reductions are worth it.

Fortunately, the job structure of the superintendent is arranged so that he often is able to pick his spot on the success ladder. He has the option to shoot for a position bathed in responsibility which will reward him accordingly or he can level off at an assignment where he has the luxury of choosing how much of himself he will pour into the job.

The gradual recognition of the superintendent as a most integral part of the country club operation has brought his job into focus as far as the membership goes. It has come to realize that conditioning of the course is something more than running amok with a lawn mower and tossing grass seed in the air like so much confetti. The superintendent’s job is a science. Therefore, he is expected to turn miracles with the turf where once it was thought to be a hit-or-miss operation.

Whether you like it or not . . . whether you choose to recognize it or not, the job of the superintendent has become one of increasing pressures. And it follows a realistic pattern. The man in charge of a 36-hole course where national championships are contested is like the executive vice-president of a large corporation, the make or break aspects of business resting on his shoulders. The man putting the green touch to the little nine-hole layout down the street doesn’t come close to such

[Turn to Page 17]
Greenkeeper 1 and 2.

Whatever the wear and tear on your fine turf, Greenkeeper 1 and Greenkeeper 2 provide the ideal treatment, with fast action and long-lasting effects.

Greenkeeper 1 and Greenkeeper 2 are part of the unique Hi-lite range of products. They are lightweight, so there's less to carry around, and flow smoothly and evenly. They also reduce the danger of scorching.

Greenkeeper 1 contains the correct balance of nutrients for Autumn and Winter application; Greenkeeper 2 for Spring and Summer.

Both are suitable for all types of fine turf and encourage your grass without causing excessive growth at the end of the season.

Conveniently packed in 62lb poly-bags, they are ideal for both indoor and outdoor storage.

Greenkeeper 1 and Greenkeeper 2. The ideal treatment for your fine turf - all year round.

Fisons Agrochemical Division

Greenkeeper lets under their
the grass grow feet all year.
This 32% N Fertilizer is an absolute boon to everyone concerned with superb grass, whether it be for a sportsfield or for general amenity areas.

It gives an initial boost within a few days, then a steady supply of nitrogen for up to 5 months. It keeps the turf lush and green all season and minimises leaching and scorching.

So you need only apply it once, by hand or machine. That's a great saving on time and labour.

GOLD-N is a highly efficient source of nitrogen—it goes further. And virtually all the nitrogen is usable, even at low soil temperatures.

It flows easily and is free from dust and there are no disease risks.

You can use it indoors on glass-house crops, or outdoors on vegetables, pot plants, fruit and shrubs as well as on grass.

It's another great winner from ICI.

For further details, contact:
FOR HORTICULTURE
Plant Protection Ltd., Yalding
Maidstone 812511
FOR TURF
Chipman Limited
Horsham 60341 Harrogate 68658 Nottingham 52397
FOR ALL USES
Imperial Chemical Industries Ltd.,
Bristol Avonmouth 3601
Cambridge (0223) 61601
Guildford (0483) 65551
Lincoln (0522) 24531
Shrewsbury (0743) 4021
York (0904) 56761
SAI Horticulture Ltd.
Edinburgh 031 554 5451/6
Richardsion (Ulster) Ltd.
Belfast 57424/5/6
ICI (Ireland) Ltd.
Dublin 771831
The Greenkeepers No. 2

Ernest Brown
HEAD GREENKEEPER at Bramshott Golf Club at Dibden in Hampshire is Ernest C. M. Brown, who was previously 10 years at Beaconsfield Golf Course and seven years as a First Assistant.

He joined Bramshott when it was opened in June 1974. The course is 18 holes, two-tier, and although some tree planting has already been done, more is to take place. Already the club boasts over 500 members plus ladies and juniors, and there is additional play by members of the public, giving the greenkeeping staff plenty of work keeping the course in good order. Mr. Brown has a First Assistant Keeper and two other assistants, one with a Bingley certificate.

To help him maintain the course there are two tractors, a Hahn Triplex, one Marquis 20 in. set of fairway gangs, three semi-rough magnas, one Certes 20 in., one Auto Turfman, one motorised soil sifter, a trailer front loader bucket link box fertiliser spreaders, one fairways and one greens drag harrow, a 14 cwt roller, a power take-off, a 66-gallon sprayer, Push Mystifier, Fairway Spiker HJ6, spike roller for greens, two drag mats, one Flymo plus the usual tools.

Mr. Brown uses Parker's F2 and F22 fertiliser but will try other types to obtain the best results. One of his major problems is compaction, and some of his greens are badly drained. Tees have become very compacted and spiking and hollow tining has not solved the problem, which Mr. Brown thinks will be a long term job.

The course is new and has many faults to be cured over the years to come. Tees have taken a very heavy wearing and are now out of use, greens which were, and still are over compacted caused by the use of heavy machines in construction. Sandy clay soil was used for top soil and is not very porous, causing some greens to stay very wet. The course is built on the edge of the New Forest, suffers from some bog areas and is very hard to drain. The bottom of the course is a heavy clay area and more drainage is now being planned to help ease this problem.

Science . . . and sweat [From Page 13]

responsibility . . . nor is he affected as much.

One superintendent claims that a man in the profession must find his own niche. “Often this isn’t easy”, he tells. “For example, what once was a job with little pressure can change over the years. That little nine-hole layout could become ambitious and transform itself into an 18-hole championship course. And all of a sudden, pressures appear that weren’t supposed to.”

It’s only natural that every once in a while a superintendent will take himself into a little room and have a heart to heart talk with himself. In that session he has to ask himself . . . “is it worth it?” Then, he puts the reassessment measuring stick to work and decides which road he’ll travel . . . easy, medium, difficult.

The demands of the recreational and sports participation field are on a tremendous upswing. The family has come to realize that the best vacation buy is the country club. It can gather there and find all of its recreational needs for the asking. There is golf, tennis, swimming, skating, bowling, bridge . . . even curling if you require it. And in the centre of it all stands the superintendent whose job it is to provide the playing grounds.

It boils down to one question as to how far a super goes: “To sweat or not to sweat.” “Only he can answer it.
Those who have striven to improve standards with only drag rakes, chain-harrows and other improvisations will surely welcome the SISIS Veemo, of British design and manufacture. The Veemo provides a fast, efficient means of turf fibre removal and of cutting horizontal growth, economically on large areas such as golf fairways, cricket outfields, parkland, etc., which have perhaps deteriorated over a period of years.

A single Veemo unit, containing wheel driven, vertically cutting blades can be towed by the SISIS Auto-Trac or similar small tractors. Gangs of three or five units can be towed by bigger tractors on larger areas. Patents applied for.

For further details write or 'phone

SISIS EQUIPMENT (Macclesfield) LIMITED
Shoresclough Works, Hulley Road, Macclesfield.
Cheshire SK10 2LZ. Tel: Macclesfield 26363

Don’t forget the SISIS LITAMISA for powered collection of litter, leaves and grass cuttings. 6ft. wide, 72 cu. ft. hopper
The new Secretary

TO ALL MEMBERS,

Your Secretary and Treasurer is sorry to have to advise you that he will be resigning his office at the end of the current financial year, but is very happy to also advise you that Mr. W. Heeles, Secretary of the Northern Section has offered to undertake the secretarial duties and treasurership for the Association as from May 1, 1975.

May I say how much I have enjoyed my duties with the Association over the last 14 years, but I have no doubt that Mr. Heeles will prove a worthy successor.

Yours very sincerely,

C. H. DIX

Getting rid of moss

THE Sports Turf Research Institute annually receive many enquiries regarding Turf maintenance. We have their permission to reprint some of these which originally appeared in The Journal.

Enquiry

WET, MOSSY FAIRWAYS
SEVERAL of our fairways have a lot of moss in the swards and are soft, spongy and wet during the autumn and winter. Soil samples from the areas are enclosed for testing and your advice.

Reply

Tests show that the soils are a little, but not excessively acid and there are reasonable levels of phosphate and potash. Give these areas as much mechanical spiking as you can when ground conditions are suitable through the winter and early spring. Next April treat the areas with nitro-chalk or similar at the rate of 1½ cwt./acre. As soon as fairly steady growth is occurring carry out vigorous and pretty severe harrowing using a short toothed grassland harrow. The work must be done quite thoroughly to open up the fibrous surface and drag out the moss. Resulting debris should be removed. As an alternative to this you could consider using one of the recently developed gang unit scarifiers for fibre removal. The purchase of one of these machines could be justified if many of your fairways are like this but if you are going to do fairly regular extensive operations of this nature then a large mechanical litter collector might be necessary to help with the tidying up afterwards!
A FOUR colour eight-page brochure describing Irrigation Systems and Sprinkler Appliances has been produced by Cameron Irrigation Co. Ltd., Harwood Industrial Estate, Littlehampton, Sussex. Sprinklers for golf courses must supply just the right amount of water to compensate for all weather conditions and a range of sprinklers is described with circle or sector watering with pressures between one and four A.T.M.S.

CRITCHLEY Bros. Ltd., of Brimscombe, Stroud, Glos., GL5 2TH, have issued a guide to laying Pipaway. It embraces the product range and fittings, Installation Design, Installation Techniques and a section dealing with Permeable fill and Backfilling. Illustrated with simple diagrams it is useful reading for all greenkeepers.

A NEW 1975 catalogue showing substantially reduced prices has been published by Gerson & Co. (Agricultural) Ltd., Grove Lane, Smethwick, Warley, West Midlands, B66 2SE. It covers grass seeds and combined turf fertilizer and weedkiller. A supplementary price list covers Chlordane Wormkillers and moss control products. Mixtures for tees, fairways and greens are identified and recommended. Seeding rates are given.

CIVIC TREES (Tree Movers) Ltd. of 91a High Street, Great Missenden, Bucks., have produced a leaflet describing a hire service for their tree spade enabling 20ft. trees to be transplanted expertly but cheaply from as little as £6 which they claim is about the same price as buying and planting a nursery standard.

[Continued facing page]
ELVIN Pennants Ltd., of Spa Road, Hockley, Essex, SS5 4AS have produced an attractive four colour 24-page catalogue listing their wide range of golf course accessories from Tee and Green Boards, flexible P.V.C. flag poles, golf and putting equipment. A must for all Greenkeepers.

PREPARATIONS are now well in hand for The Midland Zone Show. This takes place at Edgbaston, Birmingham, home of the Warwickshire County Cricket Club on Wednesday, April 16, 1975.

The show will be opened by Mr. Denis Howell, M.P. (Minister of Sport). On view will be the latest machines and equipment necessary for maintenance of sports grounds and golf courses.

In this day and age of ever increasing costs grass cutting is becoming an expensive business as are the other operations coupled with good sports ground maintenance. With this in mind it is of utmost importance to select the right machines and equipment for the job. It is by attending such exhibitions as this, that one can make the correct choice.

During these difficult times there has been a good response from the trade firms. Exhibits covering a wide range are on view, from the various hand tools, fertilizers, etc., right up to the sophisticated machines costing several thousands of pounds.

From the above notes one can see that this exhibition is both educational and informative and is a must for all connected with sports grounds, parks and golf courses.

Remember the date—April 16, 1975, from 10.30 a.m. onwards. So come along and see both the exhibition and this wonderful ground. Facilities are first class and tea and refreshments will be available throughout the day.
MAKE MORE OF MANPOWER

THE TORO 'GREENSMASTER 3'
Better greens and aprons in less time

58” riding gang mower with three 21” cutters. One operator can cut 18 greens of up to 7,500 sq. ft. each in less than four hours.

- Quick micrometric adjustment of cutters from 1/8” to 11/16” for greens
- Immediate raising of height by further 3/16” for tackling aprons
- Fine cutting (144 cuts per yard) with optimum grass collection in wet conditions
- Terra-turf tyres leave no marks
- 7 mph transport between greens reduces wasted travelling time
- Positive hydraulic drive to cutters and traction wheels
- 12 hp engine with electric starting.

Now available: optional extras.
- powered spikers
- thatching reel
- individual reel shut-off kit
- tipping trailer
- rear roller cleaner kit

For further details get in touch with
TORO (UK)
SALES & SERVICE
a Division of Flymo Limited
Greycaine Road, Watford, WD2 4PT (Watford 41301)
Sole Distributors for Toro in U.K. and Channel Islands.
EUROPE’S leading plant breeder, Mommersteeg International of Finedon, have started on an extensive development programme to meet the growing demand for their grass seeds and for mixtures.

At the moment work is in hand on the construction of a new 2,090 m² warehouse at the Finedon headquarters and in July a sophisticated high-capacity seed cleaning plant will be installed for grasses, cereals and roots. Future plans include the complete automation of packing facilities.

At the four-hectare trial grounds at Finedon a new 418 m² warehouse is being fitted out and office space totalling 46 m² is nearing completion.

The new facilities will be unveiled at the first of a series of Open Days the company is planning for later in the year. These include sports and amenity turfs in July, agricultural grasses also in July and agricultural root crops in October. Further details of these events may be obtained from the Programme Organiser, Mommersteeg International, Station Road, Finedon, Northamptonshire, NN9 5NT.

A NEW smooth stalked meadow grass is being introduced this year by Mommersteeg International of Finedon. Called Geronimo, this new variety is a broad-leafed grass which will retain its exceptional dark green colour throughout the winter months. It also has an excellent resistance to rust. Geronimo will form a most attractive, compact and resilient turf.

The variety will be included in the Mommersteeg mixture MM14 which has been designed for sowing down new golf tees, and for tennis courts. As well as containing 20 per cent Geronimo, the mixture contains 45 per cent Koket chewings fescue, 25 per cent Monopoly smooth stalked meadow grass and 10 per cent Highland brown-top.

“Tailored” to your needs—
A COMPLETE RANGE OF TURF DRESSINGS

TAYLOR’S SUPER FERTILISER
Spring/Summer Grade

This fertiliser has no equal for fine turf areas, and is widely used by parks departments and other authorities for bowling and golf greens. It is a scientific blend of organic and inorganic materials, and is a complete balanced grass food which may be applied from March to August. First dressing at 2 oz. per sq. yd., subsequently 1 oz. per sq. yd.

TAYLOR’S COMBINED FERTILISER
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may also be applied now at 3 oz. per sq. yd. (about 8 cwts. per acre).

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Supaturf FERTILISERS

—that's what you need
to maintain first-class sward for fairways, approaches and greens.

Fertilisers, seeds, top dressings, weed-killers, for all seasons. Supaturf Fertilisers are scientifically blended from organic and inorganic ingredients

Supaturf Products Limited, Fenbridge Road, Werrington, Peterborough PE4 6BR. Tel. 72470
Sportsground, Park & Horticultural Supplies
LYN Arbon, head greenkeeper of Woodbridge Golf Club is very pleased with the Ransomes Hahn TM 80 Aerator which plays an important part in his turf maintenance programme.

The club took delivery of the machine about 12 months ago. Its use then helped the fairways considerably during the summer drought of 1974. Since then the weather has been more favourable, and Mr. Arbon says there has been a continuing improvement in the standard of the fairways.

He thinks regular use of the machine is important and he has used it all year, covering the fairways six or seven times. "It is useless to hire a machine and do the job once" he says. "Aerifying must be carried out regularly, in both directions. It can be done regularly because of the speed of operation of this machine."

Mr. Arbon is convinced of the benefits of the thatching spoons he has been using. He says that where he has used the machine on a wet fairway, drainage has been improved by as much as 50 per cent. Another feature he likes is that the cores brought out by the tines are chopped up by the first pass of the gang mowers and give the effect of an additional top dressing—and while it is doing all this good work the machine does not stop play on the course.
Aeration, properly carried out, creates conditions which will produce a better sward and consequently a better playing surface. Proper aeration allows air to circulate more freely around the roots thus assisting respiration.

In addition it also:
- ENCOURAGES BACTERIAL ACTIVITY
- PROMOTES A VIGOROUS ROOT GROWTH
- IMPROVES SURFACE DRAINAGE
- RELIEVES COMPACTION
- AIDS ARTIFICIAL WATERING
- ASSISTS FERTILISERS TO REACH THE ROOTS
- ENABLES TOP DRESSING MATERIALS TO BECOME INTEGRATED WITH TOP SOIL.

Remember, however, it must be proper aeration. There are many aerating machines on the market but not all of them perform the function adequately. There must be maximum penetration combined with minimum surface disturbance.

For FREE advice on the best machine for your area why not consult us – we are the acknowledged experts on all types of aerators, turf maintenance machinery and allied products.

From Sowing to Mowing
PARKERS

T. PARKER & SONS (Turf Management) LTD., Worcester Park, Surrey, KT4 7NF. Tel: 01-337 7791 or 0861
More about leasing

IN A recent issue of the Greenkeeper, we published a short article about equipment on lease. The following article gives more information about Ransomes leasing scheme.

THE whole range of Ransomes Professional grass machinery is available under their scheme, although there is a minimum limit of £500. Leasing offers certain financial advantages over buying outright. In the current circumstances of high inflation leasing means that new machinery can be obtained before prices rise, and it means that equipment can be acquired without borrowing money at today's high interest rates.

Interest rates are fixed for the entire leasing period when the agreement is signed, so the lease itself will not be affected by inflation. Leasing allows more accurate budget planning, and frees capital for concentration in other areas.

Leasing rentals are fully tax deductable and the tax relief gained on the lease payments can be claimed as a business charge against profits. This can lead to a smaller tax liability than the usual "capital allowance".

How does the plan work? Ransomes Leasing Company pays the capital sum to the dealer who supplies the machine. The lease is split into a primary period of three years, during which a fixed quarterly payment is made, and a secondary period of four years with a much reduced annual payment.

The differences in outlay between leasing and purchasing can be illustrated [Turn to Page 29]
BOMFORD
BANDIT
FLAIL MOWER

Unchallenged on golf courses, parks and sports ground outfields. The Bomford Bandit mows and mulches in one pass, cutting a broad swath 67 inches wide and covering 2/3 acres per hour under normal conditions. Fits any tractor over 30 b.h.p.

Flail Knife cutters—are robust and do not require sharpening. Mulching action swiftly rots material—avoiding after collection problems and grass lumps affecting ball play.

BANDIT 2500 model available with a big 8’ 3” cutting width.

ASK YOUR LOCAL BOMFORD DEALER FOR A DEMONSTRATION

BOMFORD & EVERSHELD LTD
Evesham, Worcs. England. WR11 5SW.
Tel: Bidford-on-Avon (078-988) 3383 Telex 311081.
by the figures for the Tournament Trip-lex, at the price ruling in January, 1975.

The purchase price of the basic system vehicle plus greens units and collectors, Verticut units and dump cart would be £3,366 plus V.A.T. The lease would be worked out on the basis of £102 rental per thousand pounds per quarter. The 12 quarterly payments over the three year primary period of the lease would each be £343.33, plus V.A.T.

This is equivalent to 15 per cent total interest over the three years, which makes leasing a financially much more attractive proposition than borrowing money for outright purchases at current interest rates.

At any time after the end of the primary period the Company would be willing to appoint the lessee as its agent to sell the machine should it no longer be required in consideration of a nominal payment of 5 per cent of the proceeds to Ransomes Leasing Co.

Alternatively, the machine could be kept for a secondary leasing period of four years, at a nominal annual rental of one per cent of the original purchase price—£33 a year in the case of this machine. Where the amount is less than £3,000 the rentals for a lease are slightly higher—£103 per quarter for each £1,000, which represents 16 per cent total interest over the three-year primary period.

As an example, a golf club wishing to purchase three 20" Auto Certes greens mowers would have the option of paying a cash price of £804 or twelve quarterly payments of £82.81 during the primary period, followed by an annual rental of £8 during the secondary period, all prices excluding V.A.T. The facility for disposal after the end of the primary period is unchanged.

In terms of operating costs, there is no difference between leasing and purchase, in that the lessee is responsible for the upkeep and maintenance of the machinery in just the same way as if they owned it. Hiring is another alternative means of access to the equipment needed for the job. Ransomes itself does not hire out machinery, but a number of well-known distributors do.

Hiring has the advantage of reduced maintenance requirement, in that the hiring company maintains the machinery. It also has advantages as a short term solution to a machinery problem—as a temporary stop-gap where a machine is out of use for some reason.

Hiring is also useful for isolated jobs. For instance a golf club may have areas of bracken or rough grass which require clearing only once or twice a year. It would not be economical to buy or lease a flail mower to use only occasionally, and hiring provides a solution.

However, hiring is comparatively expensive when it comes to medium or long term machinery requirement, and where outright purchase is not the answer, Ransomes leasing scheme provides the ideal solution.

There is no problem in getting a lease. Any Ransomes distributor will assist in filling in the proposal form. The acceptance of this proposal by the leasing company serves as the basis for the leasing agreement, cutting paperwork to a minimum.
1975

ANNUAL TOURNAMENT

Members will be pleased to learn that the above tournament will be held at WALSALL GOLF CLUB, Broadway, Staffordshire, on 11th, 12th and 13th AUGUST, 1975.

On behalf of our members we would like to express our sincere appreciation for the courtesy extended to us by the Club and Committee.

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Specialist Growers and Suppliers of Hardy Nursery Stock to Public Bodies and Horticultural Contractors for the Betterment of Recreational and Leisure Amenities.

Send for Availability List
The latest answer to moss

Fisons Agrochemical Division introduce a new mercurised Mosskiller/Fertilizer onto their range this month. New Mosstoll will complement Fisons very successful Hi-lite range of Fertilizers, being in the form of lightweight peat-based granules, formulated by a process unique to Fisons. New Mosstoll will replace “Mostoll”, which was a mercurised mosskiller based on a traditional lawn sand. Like the rest of the Hi-lites, New Mosstoll is easy to apply and pleasant to handle. It gives long lasting efficient control of mosses in turf, without any danger of scorching. New Mosstoll is approved under The Agricultural Chemicals approval scheme.

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Brentwood, Essex
Telephone: Brentwood 216107
East Midland Section
Chairman: G. Darby
Hon. Secretary: S. Fretter
4 Queens Drive, Leicester Forest East, Leics.

Spring Tournament
THE Annual Spring Golf Tournament is being held at Spalding Golf Club on May 14, 1975. Would you please let me know by May 1, 1975, if you will be playing and require a meal. Would you also let me know if you require a seat on the bus, the fare is approximately £1.50 each.

Knockout Cup
The above competition is being held once again this year. Entrance fee is 50p. Would you please let me know by May 1, 1975, if you will be entering.

Captains Versus Presidents Match
The above golf match will be held at Longcliffe Golf Club on June 4, 1975. Anyone wishing to play and require a meal, please notify me by May 14, 1975.

From Head Greenkeeper, Spalding Golf Club. Details of the course where we are holding the Spring Tournament. “The Spalding Golf Club is situated near the village of Surfleet, which is four miles north of Spalding on the A16 Spalding to Boston Road. The course lies immediately south of the River Glen and one mile to the right of the A16 when proceeding north. The Club was founded as a 9-hole course in the early 1920’s, built on the low lying rich fenland soil, in the heart of an area of intensive arable farming. In 1966 it expanded to 16 holes, and in 1973 became a full 18 holes occupying 78 acres with a par of 68 and a length of 5,847 yds. The shortest hole on the course is 165 yds. and the final four holes are all par 4’s, the shortest of these being 373 yds. There is one par 5, 12 par 4’s and five par 3’s. The first and second holes have the River Glen on their left, and the Blue Gout drain on its left. Several thousand trees have been planted since 1966 to make things even tighter in the future, and the timber clubhouse has had recent extensions to the dining and bar facilities.” Signed A. W. Ward.

Subscriptions
As so many subscriptions are not paid until late in the year the committee has passed that Section C Rule 7 of the Constitution Rules for British Greenkeepers which states: “no person whose subscription is in arrears shall participate in any advantages or privileges of the association, vote on any question or compete for any prize.” This now applies to this section, and also the committee would like all subscriptions to be paid within one month as from May 1, 1975.

Letter from Mr. I. Toon, Vice-Chairman
It is with much regret that the East Midlands Section has had to say yet another farewell to a very valuable Greenkeeper. In this case Mr. Gerald Darby, past Head Greenkeeper of the Birstall Golf Club, who has now taken up the position as Head Greenkeeper.
of the Worpleson Golf Club near Woking in Surrey. Throughout his six years or so, at Birstall, he has served this section to his greatest ability, both as a committee member and Chairman. Besides this he has been a valued friend to myself and many others, and will be sadly missed.

May I then as Vice-Chairman, say on behalf of all the members of this section “We wish you good health and fortune in your new position, for you, your wife and your family. Many sincere thanks for all you’ve done”.

South Coast Section

Chairman: E. R. JAMES
Hon. Secretary: MRS. J. STIMSON
North Wilts. G.C. Devizes.

OVER forty members attended the third Winter lecture held at Alresford Golf Club on Tuesday, January 7, 1975, and they were rewarded with a very interesting talk on Irrigation by Mr. R. Gundry of Toro/Wright Rain Ltd. Mr. Gundry covered every aspect of the various water systems which are installed on golf courses in this country and he illustrated several points by special slides.

Considering the fact that Mr. Gundry had to deputise for Mr. Flowerday at the last minute and he also remained unperturbed by the presence of a member only four years old, we all agree “Didn’t he do well!” and extend to him our grateful thanks for making the long journey from Reading.

We are pleased to welcome Mr. P. Stanwick of Alton Golf Club and we hope his association with us will be a long and happy one. Since May, 1974, we have achieved a fifty per cent increase in membership!

Members enjoyed a very interesting and entertaining lecture evening on Tuesday, February 4, 1975, at Alresford Golf Club. Our grateful thanks to Mr. C. Head, Technical Manager of Chipman Limited, who gave us a most informative talk on Drainage and Sand Slitting and the ready response at Question Time clearly indicated that the topic was of immense interest to the audience.

Members are reminded that the 1975

TEE OFF IN HERTFORDSHIRE

Be in at the start and make sure we amateurs match up to your professional standards.

We are in the process of constructing an 18 hole Golf Course on a 184 acre site with a 9 hole pitch and putt course and other practice, driving and putting areas.

We need a Head Greenkeeper now, who will advise on ground layout and maintenance, equipment etc, and, when the Little Hay Golf Centre opens in 1976 will proudly maintain it to those Golfers highest standards.

We need your advice, so we’ll give you a salary of between £2200 and £2600 p.a. inclusive of threshold etc. A detached bungalow will be available on the site and full removal expenses will be given.

So ‘phone Hemel Hempstead 54241 now for an application form or write to the Chief Executive, Personnel Services Dept., DACORUM DISTRICT COUNCIL, 41 Marlowes, Hemel Hempstead, Herts.
Ransomes' reputation for gang mowers needs no elaboration here, we're among professionals. Two types of gang unit are available, the Sportcutter for a finish perfect for golf courses and parks, and the Magna, where finish is not the prime factor, and grass up to 8" high can be dealt with. These quick-coupling units can be used in gangs of 1, 3, 5, 7, 9, to cover a wide application of cutting tasks. Sportcutter and Magna units can also be built into a mounted 3-unit mower for use with standard tractor 3-point linkage, cutting 7 ft. wide. Your local distributor has the full story, which he'll be happy to tell you.

**Check these features**
- NEW heavy rear rolls for even faster, smoother cutting.
- Impact-resistant cutting cylinders.
- Universal framework eliminates build-up of grass cuttings.
- Hardened steel gears for positive drive.
- Quickly removable cylinder for rapid mid-season grinding.
- Width of cut from 2 ft. 6 in. to 20 ft. 6 in.

Ransomes Sims & Jefferies Ltd., Ipswich.
Spring Meeting will be held on Thursday, May 8, at Stoneham Golf Club by courtesy of the Committee. Tee off 9 a.m.: 36 Hole Medal: Entry fee £3.50. Will all members who intend to play please send their entries (indicating current golf handicap) to Mr. E. Fox, Tournament Organiser, c/o Huxleys Garden Machinery, The Dean, New Alresford, Hampshire, not later than Friday April 28, 1975. Cheques and postal orders to be made payable to B.G.G.A. South Coast Section.

NOTICE is hereby given that the 1975 Annual General Meeting of the South Coast Section will be held at Stoneham Golf Club on Thursday, May 8, 1975, at 7 p.m.

We are pleased to welcome to the Section the following members and we hope their association with us will be a long and happy one:—

Mr. H. Hibberd, New Forest Golf Club.
Mr. R. N. Keatley (Maxwell Hart (London) Ltd.)

THE Spring Meeting will be held at Llantrisant and Pontyclun Golf Club, Talbot Green, on April 15, 1975. Could all attend by 9.45 a.m. for an early start.

Northern Section

Chairman: J. Scott
Hon. Secretary: W. Heeles
Wetherby Golf Club 7 Tentergate Close, Knaresborough, Yorks.
Tel: K’boro 3851

OUR thanks to Mr. B. Kirby and the Managing Director of Longdales Development Co. Ltd., Growers and Suppliers of TANA GRASS, for the very interesting talk and slides on the growing and uses of TANA GRASS.

Diary Date. The Spring Tournament will be held on May 29, 1975, at the Moor Allerton Golf Club.

HEAD GREENKEEPER

Applications are invited from suitably qualified persons for the above post.

The course is 6000 yards set in Parkland in the County of Tyne & Wear. A Modern 2 Bedroom Flat is available.

Applicants should apply giving fullest details of previous appointments and stating age and salary requirement to:—

H. R. G. Loadman, Esq., Chairman, Greens Committee, WHICKHAM GOLF CLUB Hollinside Park, Whickham, Newcastle upon Tyne NE16 5BA
Testing the seeds

More details of work at the Sports Turf Research Institute, Bingley

Cultivar and Seeds Mixture Testing

Work on these subjects has gone on almost continuously at various levels of intensity right from the beginning and at the present time the greater part of our research effort is directed to this end.

In recent years grass breeders have produced a great many new cultivars (varieties) of the common turf species and it seems clear that independent testing is important (though not covered by the State as in Agriculture). Field tests are carried out to compare performance under different treatments (e.g. height of cut, fertiliser, artificial wear) and results are reported each year in our Journal. It is hoped that before very long we will be able to produce for sale a regular handbook summary of our evaluations.

New seed mixture trials are necessary because of the availability of improved varieties and to take account of the artificial soil conditions which are being increasingly used. We would like to do more than we are able at present.

Needs for research at the present time

Last year a new committee of representatives of the main turfgrass breeders was formed, the idea being for us to consult with them as to whether trials we are doing on cultivars are of a satisfactory nature. Happily, it would appear that we are not far off the mark but this committee thinks that much more work is required and indeed that it should be carried out at several centres to take account of different climatic and other conditions. It is interesting to note that the idea of sub-centres was referred to in our first Journal in 1929 and was recommended by the Scientific Advisory Committee in 1930!

The committee of Breeders representatives suggested the formation of

[Continued facing page]
a wider based committee to help us, i.e. a committee representing a broad field of users. Our practical advisory committees of earlier years had petered out for various reasons but the Board had felt that the matter should be kept open and so we went ahead and formed a Turfgrass Advisory Committee with representatives of greenkeepers, groundsmen, parks superintendents, etc. At the very first meeting of this Turfgrass Advisory Committee last year the members, after examining what we were doing, expressed the opinion very forcibly that, especially in view of the very large amount of money spent annually on construction and maintenance of turf, the amount of research urgently needed is vastly beyond anything the Institute could contemplate with the scale of finances available. With the help of the Institute’s staff a schedule was got out indicating work that ought to be done as soon as possible and the estimated cost of the items in it.

It was felt that of outstanding importance at the present time is the need to carry out wider trial work on new grass cultivars and on grass seeds mixtures for various kinds of amenity turf (from lawns to parks, golf courses and sports grounds) and that it is necessary to have trials at several sub-centres—as many as eight being considered necessary. The cost of a really comprehensive system comparable to that of Agriculture seems to be at least £75,000 per annum for the cultivar assessment and £25,000 per annum for mixture trials aimed, not only at golf courses and sports grounds, but also at areas such as road verges where minimum maintenance is required.

The list which was drawn up and agreed by the Turfgrass Advisory Committee of some other major subjects on which information is urgently needed is as follows:

1. Physiology and morphology of wear resistance in grasses.
2. Deterioration of playing surface in relation to plant damage and recovery, and type of plant structure most important for maintaining playing surface, e.g. roots, rhizomes, etc.
3. Establishment and behaviour of turfgrass species and cultivars in different soil types, and with different nutrient status. (This would help to fill the gaps in the extension trial network.)
4. Techniques for producing clean seed beds and particularly establishment of fine turf free of Poa annua.
5. Requirements of turfgrass seedlings at establishment in relation to seed rate, and competition at initial stages between the components in mixtures.
6. Properties of soils affecting their use for sport, especially the production of free-draining soil profiles capable of carrying hard-wearing turf.
7. Development of reproducible assessment methods for playing surfaces, to check value for money in construction and repair of pitches etc.
8. Inter-relationship between turfgrass disease and management, especially nitrogen regime.
9. Surveys of turfgrass seed use in the U.K. (possibly repeated once or twice after intervals of a few years) and survey of numbers of turfgrass users of different categories, and numbers of facilities of different types (e.g. how many football pitches).
10. Minimum maintenance methods of turfgrass management.
11. Reaction of turfgrasses to growth regulators, appropriate methods
of using growth regulators in
different turf situations, and
selection by trials of the species
or cultivars of grass particularly
suitable for such techniques.

12. Shade tolerance.
13. Use of grass for indoor surfaces,
and response to artificial light
and other indoor conditions.
14. Effect of soil heating and pro-
tective covers on turf in winter
and effect of protective covers in
summer.
15. Methods and mixtures for rapid
re-seeding on sports fields and
other areas of heavy wear.
16. Development and control of
"thatch" especially in fine turf.
17. Reassessment of optimum time
of fertiliser application and kind
of fertiliser.
18. Light and temperature require-
ments for turfgrass seed germin-
ation in relation to depth of
seeding and season.

The subject of annual meadow-
grass control is not listed as a separate
item, although perhaps it should be;
it is supposed to be covered in various
other items such as the fourth.

The work required is envisaged as
taking 5-10 years and costing a total
of between £400,000 and £500,000. It
need not all be at Bingley, of course.
For comparison purposes I can tell
you that the expenditure on research
at Bingley at present is running at
£18,000 per annum, much of this on
cultivar trials.

**Limits**

Clearly, from all that has gone
before the main limit on the research
that can be done is money. More
staff are needed urgently but it is
probable that buildings, land, etc. will
come into the picture in due course.

Although research can lead to the
production of high quality turf which
will perform satisfactorily under
heavy use even under adverse weather
conditions, we have to face the fact
that as far as can be foreseen there
will always be such a thing as over-
use of turf. It will not stand an un-
limited amount of wear.

No matter how much information
becomes available it is of little value
unless known to those responsible for
construction and management of turf.
At the present time educational facili-
ties for greenkeepers and groundsmen
are less than adequate—even the
present rather low state of the art is
not as widely known as it should be.
Obviously as more knowledge be-
comes available the problem of
passing it on becomes the more
marked.

Next issue:
Bingley looks to the future.

---

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From the single-nozzle 2-gallon Falcon to
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an 8-foot boom for towing behind a garden
tractor. Cooper, Pegler have wheeled
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Illustrated is the CP 178 Sprayer which
applies up to 3 gallons at a filling. Avail-
able with 2 ft., 3 ft., and 5 ft. booms or
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takes all the weight of weeding off your
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Pencross Creeping Bentgrass for the production of high quality golf greens, makes rapid establishment and a hard wearing close-knit sward that gives an excellent uniform putting surface.

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