

The



# British Golf U.S.G.A. GREEN SECTION FERGUSON



# YOUR PROBLEM IS OUR Whole Business and Here Are ten good reasons why

- 1 BEST DELIVERY SERVICE WITH OWN TRANSPORT FLEET
- 2 LARGEST STOCKHOLDERS IN THE UNITED KINGDOM
- **3 FREE TURF ADVISORY SERVICE**
- 4 MOST EXPERIENCED TEAM IN MECHANICAL TREATMENTS
- 5 A COMPLETE SERVICE, GRASS SEEDS TO TRACTORS
- 6 MAIN DISTRIBUTORS FOR BRITAIN'S LEADING MANUFACTURERS
- 7 A FRIENDLY COMPANY
- 8 COMPLETE AFTER SALES SERVICE, MOWERS, TRACTORS AND MACHINERY
- 9 24-HOUR TELEPHONE ANSWERING SERVICE
- 10 TEN LINES TO MEET THE IMMENSE DEMAND ON TELEPHONE TIME

SPORTICULTURISTS SPORTICULTUR

For a

Complete

Service



The

T

By Appointment to Her Majesty the Queen Charles H. Pugh Ltd. Motor Mower Manufacturers

arco

No other model in the Atco range carries the suffix 'special'. This 20" mower has been evolved from years of development and research into the problems associated with mowing golf greens and all fine turf. Among the many features of this purpose-built machine is a 12-bladed cutter giving 135 cuts per yard; optimum weight that enables it to hug the surface without over-compaction; separate new lever-operated cutter clutch and powered detachable transporting wheels for rapid inter-green travel without damage; full width divided rear roller for manoeuvrability without surface disturbance and an amply powered 150 c.c. four-stroke engine. But that's not all; this machine, like all Atcos, is backed by a unique nationwide service network, staffed by grasscutting specialists, always on hand to advise and recommend on your particular requirements.

Little wonder more and more progressive Clubs are turning to Atco.



The best way to judge a mower's capabilities is to see it at work on your own turf. We will gladly arrange a demonstration of this or any other Atco at a time to suit your convenience.

20" Special Model is

CHARLES H. PUGH LIMITED, P.O. Box No. 256, ATCO WORKS, TILTON ROAD, BIRMINGHAM 9.

### THE BRITISH GOLF

### EENKEEPER 2 C

HON, EDITOR: E. W. HAWTREE

### No. 277 New Series

### APRIL-MAY 1968

FOUNDED 1912

PUBLISHED MONTHLY FOR THE BENEFIT OF GREENKEEPERS, GREENKEEPING AND THE GAME OF GOLF BY THE BRITISH GOLF GREENKEEPERS ASSOCIATION

> President: CARL BRETHERTON

Vice-Presidents: SIR WILLIAM CARR R. B. DAWSON, O.B.E., M.S.C F.I.S. GORDON WRIGHT F. W. HAWTREE S. NORGATE I. G. NICHOLLS F. V. SOUTHGATE P. HAZELL W. KINSEY

Chairman: C. A. Moore 9 Vernon Drive 19 Stanmore, Middlesex

> Vice-Chairman: G. HERRINGTON

Hon. Secretary & Treasurer: C. H. DIX Addington Court G.C. Featherbed Lane Addington, Croydon, Surrey CRO 9AA

### **Executive Committee:**

Carl Bretherto	on (President)
G. Herrington,	C. Campion.
R. Goodwin	S. T. McNeice.
J. Parker,	J. Simpson,
A. A. Cockfield,	H. M. Walsh,
E. W. Folkes,	D. G. Lord
Hon. Au Messrs. Smallfiel	D RAWLINS AND

Co., Candlewick House, 116/126 Cannon Street, London, E.C.4

## Hon. Solicitor:

R. A. BECK 21 Lime Street, London, E.C.3

The Association is affiliated to the English and Welsh Golf Unions.

available issue.

It's only human nature that most golfers consider themselves exceptions to the Rules. -ROBERT BECKETT

## APRIL-MAY

# CONTENTS

Page TEE SHOTS 3

- 4 THE GREATEST SHOW ON TURF
- 7 SPECIAL OCCASIONS
- EIGHTEEN HOLES WITH 8 HAWTREE
- SITUATIONS VACANT, ETC. 10
- APPLICATIONS OF GROWTH 11 RETARDANTS
- HON. SECRETARY'S NOTES 15
- NEWS FROM THE SECTIONS 16
- 20 MRS GREENKEEPER

EDITORIAL AND ADVERTISEMENT OFFICES: Addington Court Golf Club, Featherbed Lane, Addington, Croydon, Surrey. Telephone: 01-657 0281. SUBSCRIPTION RATE: 15/6 for 12 issues post paid. Published during the first week of each month. LATEST COPY DATE: 8th of month prior to insertion. All rights reserved. Reproduction of original articles and photographs in whole or in part is prohibited. This Magazine shall not, without the written consent of the priblishers first given, be re-sold, lent, hired out, or otherwise disposed of. Contributions and photographs of interest are invited. TO INSERT A CLASSIFIED ADVERTISEMENT, write to the Advertisement Manager at the above address. The rate is 6d, per word (minimum 15 words). Remittance must be sent with order. Please state number of insertions required and write advertisement in block letters. Advertisements will be inserted in the first



**GREENS ZEPHYR 20"** available as Standard Superfine Models. or

**GREENS ZEPHYR 24"** Standard (Trailer Seat attachment optional).

**GREENS MASTER 30"** 

GREENS HY-RANGER GREENS RANGER TRAILED GANG MOWERS GREENS VERGE MASTER 30"

astin the field

\* Sales through professional dealers. Sales enrough provessioned oceanings.

Arter-2016 Jerrice of Provession \* Spares Service - immediate.

LIMITED

\* Spares Service - immediate. \* Delivery of full range nodels - immediate.

THOMAS GREEN AND SON

Telephone: 20357 (b lines) elephone: 40321 10 unes) Telegrams: Smithfield, Leeds

MORTH STREET, LEEDS 2.

Telegrams: Smithfield, Leeds for Tongreen Telex: 55293 Chamcom Leeds for Tongreen

HANKER SIDDELEY CONPANY HANKER SIDDELEY CONPANY Hawker Siddele/crrical and aerosales and mechanical, electrical of day are sales and mechanical, electric world-wide sales and mechanical, electric world-wide sales are service. A HAWKER SIDDELEY COMPANY



Darlington Finance Committee have slashed estimates for the next two years including £35,000 for the provision of a layout and temporary club facilities for a golf course at Stressholme.

The acting principal of Heriot-Watt University, at Glasgow entertained Fifth and Sixth Form schoolchildren in a lecture entitled "Mathematical Mirth". He demonstrated that a full drive generates a work-load of 400 horse-power; that the club-head is only in contact with the ball for one-half of one thousandth of a second, and that the ball leaves the club-head with a velocity of about 170 m.p.h.

Walmersley Golf Club wants to extend its course to 18 holes but may not carry out the work unless accommodation can be provided on the course for its greenkeepers. The Club was appealing against refusal of planning consent for two houses for its green staff. The course is so isolated that more staff could not be attracted to the course unless housing were provided. There is one greenkeeper at present and he is living in a caravan.

The Development Corporation of the new town at Cumbernauld is to be urged by the local council to buy land now for the town's 18-hole golf course. A Corporation spokesman said that active steps towards acquiring golf course land were being taken and a year ago Corporation officers considered how tipping might be used to create the first-class golf course.

Golfers at Haltwhistle, Northumberland, had a problem—the nearest course was too far away.

So they cured it—by building their own.

A local farmer rented them 60 acres: doctors, factory workers, clerks, farmers, bankers, everybody interested, got stuck in with mowers, tractors, picks, shovels. Now it is nearing completion and a clubhouse has been built. It should be open within the month.



# THE GREATEST SHOW ON TURF

### by F. W. HAWTREE

THE "Greatest Show on Turf" filled the Hilton Hotel in San Francisco for more than a week in February. This alone is no mean achievement when I recall that I had 105 yards to walk to the lift from room 1139 if taking the direct route or 295 yards if I went the other way. This made each side of the square about 75 yards. The first fourteen floors enclosed multi-storey garages so that one could drive up to the appropriate floor, park, and walk straight into the passage opposite one's bedroom. On the fifteenth floor the garage became a swimming pool and the next seven floors had a double circuit of bedrooms with those on the inside looking down on to the pool and those at pool level being "Cabana" rooms. All this was quite a change from the Star and Garter at Chipping Sodbury.

I felt immediately at home in the lobby when booking in. American superintendents evidently looked no different from British head-greenkeepers. They had the same tanned complexions and clear eyes haunted by the thought of what might be happening to their courses in their absence — the same obvious enjoyment of these infrequent reunions.

This was the Thirty-ninth Annual Turf Conference of the G.C.S.A.A. (Golf Course Superintendents' Association of America) and the organisation had obviously been perfected over the years.

Apart from members, there were representatives of every kind of firm concerned with turf maintenance, lecturers, guests, wives and families making up the balance of an attendance which certainly exceeded 3,000.

A special booth set up in the lobby for the registration of the attendance contained 11 young ladies in green uniforms bearing the G.C.S.A.A. emblem. They issued black brief cases containing a full programme, maps, invitations and brochures.

For recognition there was a card with name, club and state in a transparent cover.

The lower part slipped into the breast pocket and contained a summary of events. By turning over a page each day one always knew what came next. The word "England" on my card led to frequent greetings and conversations with friendly strangers. But the system as a whole led to the impression that anyone to whom you were introduced was finding out about you by shaking hands with your card and not with you. But you were inspecting his particulars at the same time and the real difficulty was to ensure that your hand met his.

There had been golf tournaments and committee meetings during the previous week but the conference proper started on Monday, 19th February. Some five hundred superintendents gathered in the Continental Ballroom at 9.00 a.m. to listen to the first educational assembly "What's new and how do we use it?" As Hon. Editor of the *British Golf Greenkeeper* I was invited to the Press and Speakers reception (Toyon Room) at 11.45 a.m. and to the Press and Speakers Convention (Walnut Room) at 12.30 p.m. (We never ran out of rooms.)

I met Walter Boysen, G.C.S.A.A. President at the first and sat next to Richard Sincerbeau, a golf course architect, at the second. Descriptions of work and of green committees reinforced my previous day's impression of being very much at home.

The second assembly at 1.30 p.m. dealt with golf course beautification. Warren Bidwell, Superintendent of the Philadelphia Country Club, spoke of the important first impressions of a golf course in his talk "The Front Door" Six other interesting papers were read, though, because his research had been into a novel area, Carl Whitcomb's discussion of "Root Competition between Trees and Turf" was outstanding. He is a Research Associate of the Department of Ornamental Horticulture at Florida University. He demonstrated how shallow rooting trees suffered if planted in existing grass, and how grass could be grown under deeper rooting

# You can't miss with M&B TURF PRODUCTS



### 'ACTRILAWN'\*

A unique new weedkiller designed for use on newly-sown turf.

### 'CLOVOTOX'\*

Selective weedkiller to control clover

### 'DICOTOX'\*

Showerproof selective weedkiller for general weed control in turf

### 'DICOTOX'\* EXTRA

Four times as concentrated as 'Dicotox', for greater economy on larger areas of sports turf

### 'IOTOX'\*

Specific selective weedkiller for the control of speedwells and parsley piert in turf

### 'SUPERTOX'\* 30

Broad-spectrum selective weedkiller for turf. Kills weeds and clovers.

'MOS-TOX'\*

A really effective moss killer

### 'MERSIL'\*

Concentrated turf fungicide with rapid and lasting activity. Recommended for moss control

### 'MERFUSAN'\*

Turf fungicide with similar range of action to that of 'Mersil'. For dry application

\*trade mark

M&B brand products

# MAY & BAKER LTD DAGENHAM ESSEX

Tel: 01-592 3060 Ext: 359

HA3739

### (Continued from page 4)

trees. David Gourlay from the Thornhill Country Club in Ontario (there is a Canadian branch of the G.C.S.A.A.) described how his members fill in the winter time with curling when the course is under snow. Naturally the superintendent looks after the rink.

There was a Get Acquainted Party at 6.30 p.m. to round off the day though judging by the way things were going seven hours later, this was for many the start of the day — not the end of it.

The exhibition opened on the following morning. The new Jacobsen rideon triple green mower caught the eye — all cutting and lifting mechanisms are hydraulic. When turning off the green cutting cylinders are raised and lowered with a time lag automatically provided between the lifting or dropping of the two forward machines and of the rear machine so that close cutting ends and starts at the green-edge.

Ransomes had a good display on the Warren Turf Nursery stand with Motor Triple and Autocertes bearing comparison or better with any other machines on display. They stood out all the better over there for being painted green. The Jacobsen house colour is vellow and Toro, red. Yet over here Ransomes, Atco, Lloyds, Greens. Webbs and even Qualcast all play on the basic theme of greenness as a standard finish. This certainly limits the factors likely to influence choice to those most significant. Whether it is better for trade is another matter.

Toro was naturally there in force with mowers and a good deal of space devoted to automatic watering systems. The latest irrigation layout has one controller controlling other controllers out on the course, obviating the need for long multiple runs of cable back to the central control point and giving a wider flexibility in setting a programme. The firm's representative obviously had all the facts at his fingertips.

I was not so sure about another one. I asked if one of the types of Agrostis he was offering was "stolonifera". He was not sure about that but it was selling very well. Elsewhere I was given a bottle of hormone rooting fluid enough to make 1,000 gallons at the dilution recommended. Try this next time you sow or turf. It works in the greenhouse: so far.

This little gift made the morning and the afternoon was made by a talk by Stan Frederiksen, Mallinckrodt's Turf Products Manager, and Dr John Weihing, Professor of Plant Pathology at the University of Nebraska. Descriptions of fungal diseases and their treatment are not calculated to stimulate much excitement in those familiar with them. But the excellence of the material and of its presentation held the audience enthralled. The lecture was as much a work of art as the knowledge of the subject was profound.

On Wednesday, there was a "Public Course Operators Clinic" in one hall and a "Small Engine Clinic" in another. On Thursday members of the U.S.G.A. Green Section dealt with putting green design, construction, planning and maintenance. Stolons are more often used than seed, both from Bent and Bermuda grasses, as the strains developed do not always breed true from seed.

Good drainage was constantly emphasised by speaker after speaker. Dr Marvin H. Ferguson is already well known over here from his articles and reputation. Another pleasing talk was by James Holmes, mid-western agronomist. A slide of a heap of derelict golf carts with the comment "That's where I would like to see all golf carts" brought a sympathetic response from the audience. He also described a telephone conversation with a man who reng up to be better

a man who rang up to ask what was needed to make a golf course. Answer: "Drainage and common

sense. And if you're a little short on common sense, put in more drainage."

These talks had been preceded by one from a professional, Paul Runyon. I was glad to hear that he thought the greens at Portmarnock were amongst the best in the world.

The exhibition closed that evening, (Continued on page 10)



APRIL	23rd	North-East Section Spring Tournament.
	24th	Welsh Section Spring Meeting
	25th	Sheffield Section A.G.M.
	25th	Midland Section Spring Tournament.
MAY	2nd	North-West Section Spring Tournament and A.G.M.
	7th	Northern Section Spring Tournament.
	8th	East Midland Spring Tournament.
	15th	Southern Section Spring Tournament.
JUNE	5th	Southern Section A.G.M.
	20th	Midland Section Annual Match.
JULY	2nd	Welsh Section A.G.M.
AUGUST	12th	
	13th	B.G.G.A. Annual Tournament-Seacroft Golf Club, Skegness.
	14th	
SEPTEMBER	18th	Welsh Section Autumn Tournament.



### The First

We are about to embark on a round of golf lasting two years or more.

Talking golf course layout and design can be a sterile occupation unless it is pinned down to actual example, but actual examples seldom unite all the relevant factors. So these 18 holes will be types—the short holes, the par-5, the dog-leg and so on—and the discussion round them will be general. The round will last a long time because each hole will take this magazine a month to play and sometimes two. But that is not so unusual nowadays.

Now we can drive off.

No. 1. Some like it tough. Think of yourself starting your round at Hoylake where drive or second can so easily be out of bounds into The Field. Now stop thinking about it. The Royal Liverpool Golf Club was founded in 1869 and although this hole was not the first at that time there are things flowering on ancient battlegrounds which do not survive transplanting to a fertile garden.

I shall return to the question of Out of Bounds later in the round. Here it is only used as an example of difficulty. The point to be made is that unless there is some natural obstacle which obliges the first hole to contain the risk of playing three from the tee, it is cynical to introduce it. There are still 17 holes to go, your golfer is probably stiff and cold. Let him dig his own pits —there is no need yet to dig them for him.

The warm humanity of the designer of golf courses is best demonstrated at the first hole. Mr Sam Snead said, "The golf architect can't play golf himself and makes darned sure nobody else can". Even if this were true in the first part it is certainly not true in the second. This is our only chance to beat Sam Snead on the first tee.

Next, the question of length. There have been people who advocated a par-5 at the first hole. There are two

mild comments to make on that recommendation. Firstly it is a waste of time; secondly it is rubbish.

It is a waste of time to make any generalisation whatsoever about the length of the first hole because the clubhouse site, the land round the clubhouse, the land beyond that and the ultimate ideal layout for the whole site, are, together, the factors which will determine how long the first hole will be. The man who starts work on a layout by saying "I must have a par-5 at No. 1", is either ignorant, feckless or both.

It is rubbish because the normal layout of, say, 6,300 yards will only tolerate two or three par-5's in either half if the total balance and variety of lengths in the sequence of holes is to be agreeable. Moreover the par-5 itself is a delicate matter. It demands, as we shall see when we play that hole, something more than sheer length to make it acceptable.

It may well be that the geography of the site requires a par-5 to open the round. In the same way a par-3 may be inevitable. But these necessities come from the site itself not from any academic decisions beforehand.

A few years ago I planned two 18hole courses for a club near Paris called Le Prieure. The East Course ended with a par-3. The West Course began with a par-3. Only in this way was it possible to connect the clubhouse naturally to the courses. An intimate relationship of course with clubhouse is a vital consideration. Old monastic foundations like this priory were mostly sited near running water and often therefore, in a valley which in this case was narrow with steep sides, inaccessible for a longer hole except in one direction. They were also remote from the distractions of Paris. That is another matter.

But normally the par-3's and 5's are better woven into the pattern of the round at a later stage. They are too valuable to be used on the edge. And if they have to be used, the proper balance of the remainder presents additional problems.

Therefore I am inclined to affirm even at the risk of wasting your time by generalising, that a par-4 of no special difficulty is the desirable opening for nine or 18 holes if there is any choice. And if the speed of despatching players from the first tee is also of consequence then a length of 350 yards would be appropriate. In principle the shorter the walk to the green after the tee-shot, the longer the time available for putting on the green before those following reach their But the proper tee and green drives. positions will generally clength and leave little choice. determine

One other small point. I believe that the flag on the first green should, if possible, be visible from the tee and the clubhouse. We shall be talking about dog-legs and blind holes after and somehow one feels that they should come later, when standing on the first tee. The visibility of the flag brings the course to the player before he drives off and as he reflects in the clubhouse afterwards. In the same way all the bunkers on the first hole should be handsome and well in evidence even if one or two might be superfluous on a strict interpretation. On an inland site especially, the views from the first tee ought to epitomise the golfing landscape and inspire eagerness to get out into it with a bag of clubs.

There only remains the windowdressing. The neat white rail, the broad expanse of immaculate teeing-ground, the waste-paper basket cleared of yesterday's ball wrappings, bright teemarkers, ball-washer, notices simple and to the point. The whole effect proclaims that this course is well cared for.

This first impression is probably as important as the hole itself. Provided the design looks good and the impression of the course is favourable that is as much as we need expect at the start.

For most golfers, the first hole is only a way of getting from the clubhouse to the second tee. Come to think of it, that is about all we have done here.



### FOR HIRE

AVAILABLE FOR HIRE, WITH or without operator, Ryan turf cutters, Ryan Ren-O-Thin rotorakes, Ryan Greensaire aerators, Sisis heavy-duty spikers, Howard rotavators, excavating and drainage machinery. Coswells, Agricultural and Sportsground Contractors, Croston Road, Farington, Leyland, Lancs. Telephone: Leyland 21243.

### FOR SALE

RANSOMES OVERGREEN MOWER. In perfect order and unused since overhaul and regrind. £150, o.n.o. Battrick, Piltdown Golf Club, Sussex. Phone: Newick 389.

### MISCELLANEOUS

PROFESSIONALS AND GREENKEEPERS having stocks of used golf balls contact Sparkbrook Golf Ball Co., 295 Highgate Road, Stoney Lane, Birmingham, with a view to filling export orders.

### (Continued from page 6)

the Annual Banquet followed. One further assembly took place on Friday followed by a tour of golf courses in the San Francisco area. But by then I was on my way home, grateful for the kindest possible hospitality and an absorbing five days. This is the way to run an association.

Has anyone any ideas about what we ought to do at Skegness?

Next month some of the practical pointers from this conference will be covered. I shall not be covering (and who would want to) the "topless" ' bars which offer comfort to the man about town in San Francisco from breakfast I mean BREAKFAST) until (and 2.00 a.m. or later (makes quite a long But then the day was so long day). that the Late Night Show on television, round about midnight was the Early Late Night Show. You could also ring up at 1.30 a.m. to borrow \$1,000 and would only pay back about \$36 a month for three years to service both the loan and its interest. If I had been able to dial the number and had no worries about the April Greenkeeper I might still have been there living on \$964 a month for ever. Not that it would have gone very far.

### SITUATIONS VACANT

- HEAD GREENKEEPER REQUIRED by Langley Park Golf Club, Beckenham, Kent. Free unfurnished flat provided. Apply Secretary, giving details of age, experience and salary required.
- GREENKEEPER REQUIRED FOR Harpenden Common Golf Club. Good wages in accordance with experience. Accommodation provided for first-class man. Apply to Secretary. Telephone: Harpenden 2856.
- STANTON ON THE WOLDS GOLF Club, situated 7 miles south of Nottingham, require Head Greenkeeper. Modern accommodation available. Apply in writing, giving details of previous experience, to H. G. GRAY, ESQ., 7 COLLEGE STREET, NOTTINGHAM.

No. 1 HIGH CRADE (Spring/Summer) Fertiliser is a complex, mainly organic compound, safe, non-scorching, applied at 2 ozs. per sq. yd. for the improvement and maintenance of fine turf. Used annually on the turf of The Royal Gardens and Parks, 'Wimbledon', 'Lords', The Ministry and Municipal Authorities, and by Leading Golf Greenkeepers. Price £56 0s 0d, 1 ton. No. 2 HIGH GRADE (Autumn/Winter) Fertiliser is the Autumn counterpart of 'No. 1 High Grade' and includes Sulphate of Iron. Price £54 10s 0d, 1 ton. No. 3. A Spring Fertiliser giving vigorous growth to fine turf with the well-known analysis 10:5.7:2.5. Price £59 0s 0d, 1 ton. No. 13. A good organic fertiliser for putting body into thin, poor-colour turf. Price £52 0s 0d, 1 ton.

YOUR OWN FORMULAE ACCURATELY MIXED

PRICES DEPENDING UPON QUANTITY REQUIRED

For general list of Fairways/Outfield Fertilisers, proprietary brands of fungicides etc., please contact:—

TOP FORM TURF FERTILISERS LTD. WOODLAND DELL, BYERS LANE, SOUTH GODSTONE, SURREY Telephone: South Godstone 3203 (day and night recording) T.F.T. FERTILISERS ARE USED ON TELEVISED TURF

# **APPLICATIONS OF GROWTH RETARDANTS**

### A Review by J. N. Hawtree

Though mainly concerned with cereals this review, which has been abbreviated, will be of interest to those concerned with grass where research into possible uses of these materials in greenkeeping has so far been limited.

Over the past few years, a number of chemical substances have been developed, which reduce or suppress the elongation of one or more internodes in plants. Such substances have been called growth retardants. One of these, known commercially as cycocel or CCC has received a considerable amount of attention recently in connection with increasing yield in cereal crops. Others such as B.995 and phosphon have been studied on a smaller scale, and may have some application in increasing yields in potatoes and root crops. There are several other uses to which growth retardants may be put, in agriculture and horticulture.

A number of basic properties are shown by all growth retardants, but there is considerable variation between the different types and their effects on different crops. This review will deal mainly with CCC, since this has been experimented with more than any other and appears to have the widest application.

In cereals the reduction of straw length by CCC has been demonstrated by many workers in several countries. In wheat, this reduction may be up to 50 per cent of the normal length. Tillering starts earlier in treated plants and is stronger: individual tillers grow almost as rapidly as the main shoot. There is an increase in shoot number at final harvest, but ear emergence may be delayed and grain size is often less than normal. The number of leaves per shoot is not altered, although they are on the whole broader and greener (Tolbert, 1960, Humphries et al 1965, Mayr & Presoly, 1963).

There may also be some anatomical effects in treated plants; for instance cell walls are normally thicker and the number of vascular bundles increases (Mayr & Presoly, 1963). In growth analysis experiments (Humphries et al, 1965), it was found that the leaf area index was decreased due to shortening of the sheath but the leaf area duration was increased due to delayed senescence. The net assimilation rate was generally decreased by the CCC treatment, particularly at high nitrogen levels, presumably due to denser growth and hence increased shading.

### Tougher stems

The uses of CCC in the growing of wheat are firstly to reduce lodging and consequently the losses so caused; secondly to increase yield by allowing greater levels of nitrogen to be applied. In many trials, lodging has been entirely suppressed due to the reduced straw length and greater straw stiffness.

Reports of the effect on total dry matter yield when no lodging occurred in untreated plots have been inconclusive. Fajerson (1965) found that total yield was increased in some varieties, which decreased in others. Primost (1965) and Linser and Kühn (1963) found that there was little change in short yield, but root yield was increased. Presumably the dry weight of individual tillers was decreased, but the increase in tillering possibly due to less shading, made up for this decrease giving a yield similar to or greater than untreated plants.

The second major use of CCC, as stated above is to enable greater levels of nitrogen to be applied, without the normal high incidence of lodging occurring under these conditions. Lecompt (1966) found that in winter wheat the response to CCC increased with the amount of nitrogen applied. However the majority of workers have found that increasing nitrogen levels reduced effectiveness of CCC (De Vos 1964, Caldicott & Lindley 1965, Linger & Kühn 1962).

(Continued on page 14)



# may I help you?

Dear Bert,

I don't think my turf likes me any more. We got on fine all last summer and I was receiving congratulations from all over. I found it most encouraging and had great hopes for 1968.

Now I am not so sure. Though I work my turf pretty hard, it doesn't seem to be responding in its usual way to my kindness. What advice can you offer?

Yours, "Worried Groundsman"

### Dear Worried Groundsman,

Are you being kind enough? For example, did you reward your turf's hard work last summer by cosseting it in the autumn? You know you can't expect your relationship to be a happy one if it's all ''take'' and no ''give''.

*My advice to you is to start thinking* now about how you are going to treat your turf this coming Spring-because I'll bet it's been getting stick all winter.

There's an organisation devoted to helping such cases. Why not write to Berk now for a Catalogue of turf treatments? Their products are excellent and very reasonably priced. What's more Berk have a team of specialists who will advise you on the spot if needs be.

Yours, Bert.

	USE	APPLICATION & TIMINO	
<b>Wormkilling</b> 25% Chlordane Worm Killer (Liquid)	Kills worms, leatherjackets, ants and chafer grubs underground	Apply at a rate of 5 gallons per acre in warm showery weather when worms are most active	
20% Chlordane Worm Killer (Granular)	No water or mixing required	Apply at rate of 80 lb. per acre in warm showery weather when worms are most active	
<b>Feeding</b> Berk Spring/Summer Fine Turf Feed	Organic base for slow release of plant foods	Apply at 2 oz. per sq. yd. April to July	
Berk Spring/Summer Outfield fertilizer	New low rate granular fertilizer	Apply at 3 cwt. per acre. April to July	
Weed Control Berk Weedkiller (Standard) 2, 4–D	Controls broad-leaved weeds	Apply at the rate of 2-3 fl. ozs., in ½ gallon of water per 100 sq. yds. in warm dry weather during Spring and early Summer	
Berk Weedkiller (Super) 2, 4–D + CMPP	Controls resistant weed species	Apply at the rate of 2-4 fl. oz., in ½ gallon of water per 100 sq. yds. in warn: dry weather during Spring and early Summer	
Berk Clover Killer CMPP	A specific to control clover but will also kill yarow, pearlwort and chick-weed	Apply at the rate of 6-8 pints in 20-50 gallons of water per acre in warm dry weather during Spring and early Summer	
Moss Control Berk Mercurised Turf Sand	A combined moss killer and grass stimulant	Water in during dry spells, not later than June at the rate of 4 ozs. per sq. yd. (10 cwts.per acre)	
Moss Killer	Contains no grass stimulant	Apply at any time during the year. Application rate: 4 ozs. per sq. yd. (10 cwts. per acre)	
Moss Eradicant	For use on Bowling Greens	Apply at any time during the year. Application rate: 4 ozs. per sq. yd. (10 cwts. per acre)	
Fungi Control Berk Turf Fungicide	Gives rapid control of fungi such as Fuserium, Dollar Spot, Ophiobolus and Corticium	Apply whenever necessary at the rate of 1 oz. dispensed in 2-8 gallons of water or mixed with 14 lbs. of fine dry sand per 40 sq. yds.	
Top Dressing Berk Fine Turf Top Dressing (contains Bedford Sand, Neals Kettering Loam & Fine Sedge Peat) parts by weight 3-2-1	Compounded with sterilised loam	Apply ready-mixed dressing in early Spring at 3 lbs. per sq. yd. (6 tons per acre)	

Hose Tricoflex

Tricoflex is a high quality, durable and non-kinking hose

Let Berk also advise you on gress seed mixtures.

	Berk Limited Parks and Sportsgrounds Dept.,	Wormkilling Feeding
	Berk House, 8 Baker Street, London W.1. Tel: 01-486 6688 Please send me full details on the turf treatments indicated:	Weed control
NAME		Moss control
POSITION		Fungi control
ADDRESS		Hose
	Key No. B.G.G. 68/3	Grass Seed Mixtures

### (Continued from page 11)

### Influence of Water

It has been suggested above that water regime may be important in determining the effectiveness of CCC and this problem has been investigated specifically. CCC has apparently no effect on transpiration coefficient of total dry matter yield at various levels of water stress (El damaty, Kühn, Linser 1965). It has been found that grain yield may be increased under moisture stress, and that the higher the stress, the greater the increase. However it appears that straw length is reduced more at low moisture stress (Barbier & Mayr, 1966). Experiments at Rothamsted (unpublished) indicate that root growth may be stimulated and hence drought resistance on sandy soils might be increased.

As to the practical details of application, soil dressings and sprays are both effective; seed dressings however are poor, owing to the hygroscopic nature of CCC, which makes handling and sowing difficult. One application is normally enough. Primost (1965) found that if seedlings were sprayed they became diseased within a week (the symptoms were not described). An aspect of CCC of more recent discovery is its effects on disease incidence in cereals. Jung & Sturm (1966) provided evidence that infections of *Septoria* and *Erysiphe graminis* were more pronounced in CCC treated plants. The incidence of damage due to *Cercosporella* (eye spot) was however decreased.

In grass seed production CCC may have a use. Stoddert (1964) found that treatment with CCC reduced culm lengths, maximum effectiveness being obtained from those treatments given at earliest growing stages. The number of heads and head length per plant were increased by the treatment.

In U.S.A. experiments have shown that CCC usually retards growth in the grass *Cynodon dactylon*, but under low light intensities induces dense growth.

Apart from agriculture, there are a number of uses to which CCC might be put in horticulture. Flower initiation is usually earlier in treated plants: this effect has been exploited in the U.S.A. with early flowering azaleas (Cathey, 1964). Halevy and Wittwer (1966) reported that dipping cut flowers in CCC delayed senescence.

A list of references is available from the Editorial offices.

### FOR HIRE

SISIS AUTOTURFMAN Aerator for hire, £25 per week — Do it yourself. J. B. Burnell, 2 Clarence Road, Eaglescliffe, Stockton on Tees.



We will gladly call on you to advise on your grass cutting equipment or arrange demonstrations. Ring us now.

153 Arch Stamford Brook Station, LONDON, W.6. RIVERSIDE 5415

\*



### HON. SECRETARY'S NOTES

## **REPORT ON WAGE SURVEY**

On 16th March 1968 the Executive Committee reconsidered their previous recommendations and proposed that the previous figures quoted should be amended to the following:—

Head Greenkeeper £22 to £26 per week (plus accommodation).

First Assistant Assistant £17 to £19 per week. £13 to £16 per week.

In the lowest scale every endeavour should be made to make additions for experience and special ability.

In the top scale the lower limit will represent comparative newness to a responsible post, or, for an experienced man, a wide range of additional benefits. The upper limit will often be exceeded for very responsible positions at busy clubs, but will otherwise represent a fully responsible position with few marginal benefits.

At present, competent First Assistants are in demand as Head Greenkeepers and the middle scale is therefore likely to be applicable only to a man potentially capable of full responsibility in some years' time.

In addition to the rates mentioned it is recommended that the Golf Club should operate a Pension Scheme which will ensure that a retired employee will enjoy an income, including his State pension, of not less than half his income at retirement.

This information is given because golf clubs frequently seek guidance from the Association as to the wages generally prevailing. The exact figures will remain the subject of negotiation between the golf club and the greenkeeper in the light of local circumstances affecting the particular situation.

I have received a letter from Mr Tucker, on behalf of Lord David, thanking the members of the meeting for their letter and good wishes. My latest information is that he is feeling better but, as yet, does not feel up to writing. We all wish him a speedy recovery.

### **BARRUS MINI-MOW**

A NEW rotary mower introduced in February was the "Mini-Mow" 14-inch Rotary Mower. Designed to cut both rough grass and lawns, the Mini-Mow has a single point height adjustment controlling all four wheels from ground leved to 3 inches high.

Powered by a 3 h.p. Briggs and Stratton four stroke, the Mower has friction overload device to protect both blade and engine from excess damage. The cutting arc of the blades extends beyond the wheels, allowing the mower to cut right up to the edge of walls or borders.

### 1968 Lawnboy range

The basic range for 1968 remains mechanically unaltered from 1967, with the exception of the self-propelled 21-inch Automower.

The Automower has a redesigned positive belt drive, which is taken off the top of the flywheel. This provides better traction where the machine is being used on steep banks or difficult slopes. Another new feature on the '68 Automower is a snap action handle which controls drive to the wheels. The new control handle is a wrap around design which engages and disengages drive to the wheels with a minimum of effort.

### **Pioneer** chain saws

Two new high speed models are included in Pioneer's 1968 range — the model 14-20 and 11-30. Both designs are available with automatic oiling and both are designed for hard professional cutting. Pioneer's "Inject-Aire" system is fitted on both models, allowing the fuel/air mixture to be adjusted for varying atmospheric conditions.





# from the Sections NORTHERN

Chairman: D. ROBERTS (West Bowling G.C.)

By J. Parker Hon. Secretary: Stock Terr., Harden, Bingley, Yorks. 8 Goit

### Subscriptions

MEMBERS ARE REMINDED THAT the new rates of subscriptions become due on the 1st May 1968 and are as follows :-Head Greenkeeper and Greenkeeper Pro-fessional, £1 12s. 6d.; 1st Assistant, £1 2s. 6d. and Assistants, 16s. 6d. Prompt payment would be much appreciated.

### Spring Tournament

The closing date for the entries for the Annual Spring Tournament to be played over the course of the Knaresborough Golf Club on Tuesday, 7th May, is 30th April.

### **President's Competition**

SON

Mr W. Mountain, our President, has made arrangements for this tournament to take place on Monday, 24th June, and will be played at Howley Hall Golf Club, Batley. Starting time will be from 3.30 p.m. Details will be sent out in due course.

### **February Meeting**

This was held on Wednesday, 7th February in the clubhouse of the Horsforth Golf Club. Despite bad weather 35 mem-bers turned up but, unfortunately, owing to snow which blocked roads across the Pennines the speaker, Mr Howe of SISIS

Ltd., was unable to make the journey. A quickly reorganised discussion took place and a wide range of subjects ranging from Chlordane to etiquette of golfers gave members a chance to air their views — some in no uncertain manner. After a couple of hours the session was brought to an end by the Chairman, Mr D. Roberts. A most interesting evening was had by all.

**March Lecture** 

Mr F. Robson of Blakesley Reid Ltd., lawnmower grinder manufacturers, was the speaker at our meeting held on Wednesday, 6th March, held as usual in the clubhouse of the Horsforth Golf Club. Thirty mem-bers attended, to hear of a subject "Mower Grinding" not dealt with previously. This we found most interesting and not such a simple operation as many members visualised. Many questions were asked and ably answered by the speaker. A vote of thanks was proposed by Mr W. Mountain and seconded by Mr D. Roberts.

# EAST MIDLAND

Chairman: J. BURNHAM

By S. Fretter Hon. Secretary: 20 Woodcote Road, Leicester, LE3 2WD.

### **Annual Spring Tournament**

THE ANNUAL SPRING TOURNA-MENT will be held at the Belton Park Golf Club, Grantham, on Wednesday, 8th May 1968 by kind permission of the captain and committee. First tee 12.45 p.m. Will those wishing to play and also to have a meal, please notify me by the 2nd May 1968.

### Congratulations

I would like, on behalf of this Section, to congratulate D. Warrington, on his pro-motion to Head Greenkeeper at Birstall Golf Club, and wish him every success.

Turf cutting machines. Flagstaffs everything and Flags. Hose reels. Tee Mats. for the Golf Mud brushes. Drag brushes. Sprinklers. Gang rollers. Harrows. Line Markers. Course Tools. Machines of all types for everything concerned with Golf courses. Send for catalogue.

H. PATTISSON & CO. LTD. STANMORE MIDDLESEX Telephone: 01-954 4171

16

### **New Member**

We would like to welcome to this section of Greenkeepers, A. J. Whyman, 155 Leyton Crescent, Beeston, Notts, who is employed at Chilwell Golf Club.



Chairman: J. K. GLASS (Thorpe Hall)

Hon Secretary: Salcombe Gardens Mill Hill, N.W.7 68

F. W. Ford

March Quiz THE EVER-POPULAR QUIZ, ONCE again, brought to a successful climax our winter programme and as our chairman remarked it was gratifying to see such a good gathering with such a lot of eager young faces among them. Not so young Bill McKean, who has not graced us with his presence for many years, was in a very lively mood and was on his feet with the question "Why is grass green?" almost before our Quiz Master could sit down. This started things off and a long discussion started on the destruction of moles and which weedkillers were most economical to use, etc. Another question asked was why weed seeds germinated on patches of ground previously sterilised to the depth of 6 inches or more by the heat of a bonfire.

A hearty vote of thanks to our Chairman-Quiz Master for the way in which he conducted the meeting and for the way in

which he kept his fellow countryman under control. Welcome back "Mac" and the best of luck with your "chock soil". Thank you to Jack Stobbs for all the

good work he has done for the Section as a committee member and we all wish him the best of luck in his new appointment in France.

Best wishes also to G. E. Steggalls who has moved from Cannons Brook, Harlow, to Brentwood Municipal Course, Essex, and to D. Campe who is now Head Greenkeeper at Rochford Hundred Golf Club, Essex.

### **George Barnfield**

Dear Mr Ford,

The kind message of sympathy and generous tribute at the recent sad loss of my husband was very much appreciated.

It was a typical action of a fine organisation from which my husband derived great pleasure and help during his many years association. May you long continue to promote this good cause.

### Yours sincerely,

### KATHLEEN BARNFIELD.

### St George's Hill

The Spring Tournament will be limited to 60 competitors, first come, first served! And as stated in the March issue of the Journal there will be a mini-bus laid on from the station to the club but only if there are



sufficient members requiring it. So will you please let Mr Cooke know as soon as possible.

### **New Members**

We welcome to the Section the following new members: S. F. Harrison and R. F. Baker.

### A.G.M.

The Annual General Meeting will take place at the Stirling Castle, London Wall, Moorgate, at 6.30 p.m. on Wednesday, 5th June.



Chairman: F. HALSTEAD (Bury Golf Club) By H. M. Walsh Hon. Secretary: 78 Hadfield Street, Oldham, Lancs.

### Lectures

THE LAST OF THIS WINTER'S series of talks was held on Monday, 11th March and took the form of an open debate. Once again there was a very good attendance, seventeen members turning up. Some very interesting questions were asked and answered. A very interesting evening was had by all. At this point I would like to say "Thank You" gentlemen for making this series as successful as last year.

### **Spring Tournament**

All the details for this event were in the March issue of the *Journal*, the chief of them being the venue — The Royal Birkdale Golf Club, times from 8.30 a.m. The A.G.M. starts at 7.15 p.m. and the date 2nd May, Thursday. DO NOT forget the catering, please.

### Subscriptions

Subscriptions are due on the 1st May. Please see the March *Journal* for the new rates.

### Obituary

It is with regret that I have to inform members of the death of Mr S. Beavens of Crewe, an honorary member for a number of years. On behalf of all members I would like to express to Mrs Beaven and family our deepest sympathy in their sad bereavement.



Chairman: M. GEDDES (Royal Porthcawl) By S. A. Tucker H/Sec. and Treasurer: 36 Chase Road, Morriston, Swansea, Glam.

### Spring Meeting

YOUR SPRING MEETING IS BEING held by kind permission of the captain and committee of the Radyr Golf Club on the





# Will your club be next?

Forget the idea that pop-up's are a luxury! Every week another club asks B.O.I.L. to install a TORO popup system because they acknowledge that pop-up's are essential to any club wanting to provide its members with the best possible playing conditions. Not only do pop-up's improve the holding and putting qualities of greens, fairways benifit too. Pop-up's water automatically, at night, so play can commence as early as the earliest bird – even before the greenkeeper arrives! TORO pop-up sprinklers are the modern way to water greens – once installed (there's no interference with play) they save time and labour costs and enhance the reputation of **your** club. Write for details now – the queue is growing!



British Overhead Irrigation Limited Upper Halliford · Shepperton · Middlesex Telephone 09–327–85177 Telex 917220 24th April. When you read these notes will you please write and let me know if you are coming to the meeting, by the 15th April, as this will give me only just enough time to make arrangements for the catering, etc. We shall be playing 9 holes before lunch and 18 holes after to make a 27-hole aggregate. There will also be a competition of 9 holes for the over 60s with two prizes, if there are enough entries.

I would like to report to our members that Dai Lord is in hospital. He has had an operation on a lung, but I am pleased to say that when I visited him this week he was looking better. If any of you wish to drop Dai a line I think it would be best if you send letters to D. G. Lord, 87 Old Road, Skewen, Nr. Neath, Glam., as I am hoping he will be out of hospital by the time you read these notes.



Chairman: G. HERRINGTON (Lindrick)

By H. Gillespie Langsett Avenue Sheffield, 6 63

#### Lecture

IT WAS A BIG DISAPPOINTMENT that more members did not take advantage of the very interesting evening of 29th February when only 23 members greeted Mr Lock of Berk Chemicals Ltd., and his colleague, Mr Bailey. For someone to retain the interest of an audience for approximately three hours is proof in itself what an enjoyable and educational evening this was.

I would also like to take this opportunity of thanking Messrs S. Beaumont Ltd., who provided the refreshments.

#### A.G.M.

The Section Annual General Meeting will be held at the Brunswick Hotel on Thursday, 25th April. This is the time when you can make your suggestions and offer your criticisms.

#### Retirement

Mr D. Sadler, Head Greenkeeper at Lees Hall Golf Club, has retired after 43 years' service with that club, and club members gathered on Sunday, 3rd March, to show their appreciation to a very fine servant, and to make a presentation.

Denis has not enjoyed the best of health and we extend our good wishes for a long and happy retirement and a return to better health.



Chairman: G. HART (Gay Hill)

By R. Goodwin Hon. Secretary: 167 Birmingham Road Lichfield, Staffs.

Spring Tournament THE SPRING TOURNAMENT WILL be held at the Blackwell Golf Club, Nr.

Bromsgrove, by kind permission of the captain and committee, on Thursday, 25th April.

This event will be played over 27 holes, 9 holes in the morning, and commencing at 9.45 a.m.

Please let me have your entries by Thursday, 18th April, so that catering arrangements can be made.

**New Member** 

We welcome to the Section, Trevor Morris, from the Whittington Barracks Golf Club.



J. SIMPSON (Ponteland G.C.)

By D. Earsman Arcot Hall Cottage Dudley Newcastle on Tyne 3

### **Spring Competition**

OUR SPRING COMPETITION WILL be held on Tuesday, 23rd April, at the Gosforth Golf Club, with the kind per-mission of their captain and committee. This will be an 18-hole Medal Event, commencing at 1 p.m.

### New Member

We welcome J. R. Clark, of the Blyth Golf Club, to the Section.

(Continued from page 20)

on buttered toast or cold piled in the centre of a green salad.

-- Until May . . .



EDINBURGH, 2

# Mrs Greenkeeper's Own Corner with Ann Mawson

April is a good time to buy crabs. When purchasing be sure to choose a medium-size for good flavour, with large claws, and the heavier it is the better.

### **Potted Crab**

This is excellent for sandwiches and savouries.

1 medium-sized crab — boiled,  $2\frac{1}{2}$  oz. butter, a sprinkling of anchovy essence, a little lemon juice, a few grains of cayenne pepper.

Take all the meat from the boiled crab, chop it up as fine as possible, mash it up very well and mix with it 2 oz. liquid butter, the anchovy essence, lemon juice and cayenne pepper.

Mix well and rub through a wire sieve into a jar. Stand the jar in a saucepan of gently boiling water and stir until the crab mixture is quite hot. Turn into a jar or three small jars. Melt the remainder of the butter and pour it over the paste, when the latter is cold.

(Keep in a cool place.)

### **Crab** Cocktail

1 dessertspoonful Worcester sauce, salt, 1 medium-sized boiled crab, 2 tablespoonfuls tomato soup, 2 grapefruit.

Remove all the meat from the crab. Cut the grapefruit in halves across, remove any pips. Remove all skin and cut it into small pieces. Mix together crab and grapefruit, add the tomato soup, a sprinkling of salt and the Worcester sauce. Keep in the refrigerator or a very cool place until required. Serve in cocktail glasses.

To serve four people.

### **Croquettes** (Crab)

1 large boiled crab, fat for frying, 1 breakfast cup of breadcrumbs, 2 oz. butter, a few grains cayenne pepper, salt, 1 teaspoonful tarragon vinegar, 1 egg, little flour, 1 teacupful breadcrumbs for coating.

Remove all the meat from the crab, chop it up very finely, mix the breadcrumbs with it, and the melted butter. Season with salt and pepper. Sprinkle over the tarragon vinegar and mix well. Beat the egg and add half of it to bind the mixture, form into oval-shaped croquettes, flour them, dip them in the beaten egg and fry a golden brown in very hot fat, drain well, serve hot with vegetables, or cold with salad.

To serve four people.

### **Crab Special**

1 wineglassful sherry, 3 or 4 mushrooms, 2 oz. butter, pepper, salt, 1 level tablespoonful flour, yolk of 1 egg, 2 tablespoonfuls cream, 1 large boiled crab.

Take all the meat from the crab, and be sure there are no scraps of shell. Add the sherry, cover and let stand for one hour. Peel the mushrooms and chop coarsely. Melt the butter and put in the mushrooms, cover and cook gently until quite tender — about 15 minutes. Season with salt and pepper, add the flour and stir until it thickens.

Put in the crab meat, stir in the cream and yolk of egg (well beaten) and continue stirring until well mixed — on no account let it boil. Serve very hot on toast.

To serve four people.

### Crab au gratin

1 breakfast cup of breadcrumbs, 2 oz. butter, salt, pepper, 1 large boiled crab.

Pick the meat from the crab, season with salt and pepper and put into four well-buttered individual casserole dishes. Melt the remainder of the butter and add the breadcrumbs, mix together with a fork until they are well buttered. Cover the crab with the crumbs and bake until the crumbs are well browned.

To serve four people.

And of coures there is always . . . Mock Crab

 $\frac{1}{4}$  lb. cheese,  $\frac{1}{2}$  teaspoonful made mustard, 1 teaspoonful vinegar, pepper, salt and drops of anchovy essence.

The cheese should not be dry; it should be rather on the soft side. Grate it into small shreds, mash with a wooden spoon whilst adding the seasonings. Stir in the vinegar gradually and the anchovy essence, serve hot (Continued on page 19)



a lightweight tractor, versatile yet inexpensive





# **BMC MINI TRACTOR**

Scaled down in every way except in the capacity to handle hard work the BMC Mini Tractor is exceptionally versatile. Its light weight is a particular advantage in every phase of turf cultivation. Powered by a BMC 4-cylinder diesel engine and available with hydraulics and power take-off the BMC Mini can be applied also to loading levelling, grading, and a variety of work requiring mechanical, hydraulic or pneumatic power. Ask your BMC/Nuffield dealer to arrange a working demonstration with the BMC Mini Tractor.

H.P.U. Model £585. Standard Model £512.10.0.

THE **BRITISH** MOTOR CORPORATION LIMITED (Agricultural Sales Division), LONGBRIDGE, BIRMINGHAM. Overseas Business: BMC Export Sales Ltd., Birmingham and 41-46 Piccadilly, London W.1

# Backed by BMC Service



Express, Expert, Everywhere

# STANDARDISE MECHANISE ECONOMISE BUY BRITISH- BY RANSOMES!

Ransomes put service first. National network of Sales and Service Distributors providing Regional spares stocks



RANSOMES, SIMS & JEFFERIES LTD., IPSWICH. Telephone 0473 72222. Telex 98174