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#### **ADVERTISERS' INDEX**

a quick reference guide		
	Ad Ref	Page
A&F	407	15
ALS	408	28
Antonio Carraro		
	409	26
Atterton & Ell	lis 7	20
<b>Bob Andrews</b>	381	24
Brian D Pierse	on 40	19
Claymore	315	21
Complete Weed Control		
	403	17
Cotswold Communications		
	410	28
C&P Soilcare	46	14
Dixon & Holliday		
	214	17
Eric Hunter	73	42
E&S	248	16
Hayter PLC	90	43
loG	365	18
Lely (UK) Ltd Toro		
	61	44
Nabishi	411	28
Ransomes		
Rhône Pouler	ic 59	19
Seward	45	16
<b>TIL Irrigation</b>	412	6, 28
Tillers Turf	292	26
Trelleborg	137	8
Undergear	67	10
<b>Buyers Guide</b>		34-38
Classified		38
Recruitment		39-41



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Official publication of the British & International Golf Greenkeepers Association **JULY 1993** 



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Greenkeeper International is the official mag-azine of the British and International Golf Greenkeepers Association and is published monthly at BIGGA Headquarters, Aldwark Manor, Aldwark, Alne, York YO6 2NF. Tel: 0347 838581 • Fax: 0347 838864. Please address all advertising, subscrip-

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Circulation is by subscription. Subscription rate: UK E34 per year, Europe and Eire E44. The magazine is also distributed to BIGGA members, golf clubs, local authorities, the turf industry, libraries and central government.

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All magazine contributions should be sent to: The Editor, Greenkeeper International, 13 Firle Close, Seaford, East Sussex, BN25 2HL. Tel: 0323 891291. Fax: 0323 895593. Although every care will be taken, no responsibility is accepted for loss of manuscripts, photographs or artwork. Opinions expressed not necessarily those of the Association and no responsibility is accepted by the Asso-ciation for such content, advertising or product information that may appear

ISSN 0961 - 6977 1993 British & International Golf Greenkeepers Association

#### CONTENTS

#### **Relishing the Open, Sandwich**

David White gets a taste for the 122nd Open Golf Championship at Royal St George's and discovers how Mother Nature gets a helping hand from a greenkeeping crew of seven .....Pages 21-23



#### Adventure in the land of the free

Barry Neville, Toro/PGA European Tour Student Greenkeeper of the Year, reports on seven weeks in America he's not likely to forget ......Page 6

#### Making tracks: tyre options

Recognising that tyres are a major contributor to soil compaction, Hugh Tilley looks at the options available .....Page 8

#### **Grass identification**

Jim Arthur takes a worm's eye view of the leaves which cause the hard work and heartache, in the first of a two-part special report ......Pages 24-25

#### Are you receiving me...?

Michael Bird finds out that Citizens Band radio is the 'crazy golf' of the intricate world of communications on the golf course ..... Pages 27, 29

#### DEPARTMENTS

**Faces and places** 

**BTME Update** 

**Around the Green** 

MBE for former BIGGA chairman; appointments, mergers, new businesses - it's the page which keeps you in touch ......Page 5 The work on the show of the year never stops ... more news and this month's big question for a chance at an even bigger prize ......Page 11 Regular updates from our correspondents. Find out what's going on .....Pages 31-33, 42

**COVER PICTURE:** 

Bunkers at Royal St George's: 75 have undergone restoration and now face the ultimate challenge

#### **Greenkeeper Education** and Development Fund Launched by Viscount Whitelaw at BTME 1992, the Fund provides the key to the future for greenkeeper, golf club and game. Individuals and companies can join the Golden Key Circle and Silver Key Circle. For details, contact BIGGA on 03473 581. GOLDEN KEY CIRCLE COMPANY MEMBERS: BIGGA Hardi Ltd • Hayters PLC • ICI Professional Products Jacobsens • Kubota UK Ltd • Lely UK Ltd • Ransomes Rigby Taylor Ltd • Risboro' Turf • Toro Irrigation **GOLDEN KEY** and SILVER KEY CIRCLES

WIN £50 CASH IN **OUR FUN** COMPETITION - TURN TO **BUYERS** GUIDE P34

International



**Faces and places** 



Rolawn Ltd have appointed Andy Church, latterly with Lawn Technology Ltd and formerly chief grounds manager with Tottenham Hotspur Football Club, as their area manager for London. Andy will cover an area extending northwards to Milton Keynes.

■ I was sorry to learn that Dennis Archer, a valued friend and latterly a member of the board of management until ill-health dogged his mobility, had fallen foul of the surgeon's knife and is now slowly recuperating following the loss of a limb. Reportedly swinging his way around the surgical ward, in a wheelchair, just days after the operation, this lion-hearted man never did know the meaning of quitting – he's a fighter – and we applaud him. Come through safely, Dennis – we're all pulling for you!



■ Brendan Duffy has been appointed supervisor of the new Golf Practice Centre at St Andrews, which opens this month. The centre boasts specialised areas for pitching, bunker play and putting practice, and is also equipped with video equipment to facilitate swing analysis.

■ Fore! – Construction of golf playing facilities at Oaklands College, Hertfordshire, (contractors Brian D Pierson and Watermation Irrigation) is well underway. Finance for the project (£30,000) has been accumulated from golf club donations, a 'matched' funding arrangement through the local Training and Enterprise Council, a BIGGA training award of £500, and college funds. Oaklands is a GTC approved college.



■ Only two colleges run HND courses in Golf Course Management at present, and it is appropriate that a golf match should have taken place between them. Using the home advantage, Reaseheath College used a fist-

ful of trump cards – escaped bullocks on the fairways, hailstorms, rain, and a low flying hot-air balloon – to scrape home winners from a hard-pressing Cannington College.



■ Following the acquisition of Lawn Technology in January, The Inturf Group has announced the appointment of Chris Bradshaw to its management team. Chris, who held a directorship with the company that invented the Big Roll turfing system, will be responsible for all technical and marketing

aspects of turf sales and installation work throughout the south of England.

■ An internal promotion at Sleaford-based Sharpes International has resulted in Wilson Hendry being appointed assistant to Paul Billings, who is the company's amenity grass seed product manager. Prior to joining the amenity grass seed department, Wilson worked as a seed analyst at Sharpes licenced seed testing station – the largest commercial station in the UK.

■ Four former Maxwell Hart staff, made redundant when Maxwell Hart was bought by rival T Parker recently, have joined forces to set up a new company – Driving Force Leisure. The company will supply a comprehensive list of products for the greenkeeper, distributing from premises in Maidstone (Tel: 0734 266130) and Oxford. Also formed to operate in tandem with Driving Force Leisure is a sister company – Easy Picker Europe – an exclusive agency for the American 'Easy Picker' range of driving range equipment.



■ The first of the Hayter Challenge Tournament regional finals, held at Stirling, proved to be a double bonus for Kim Macfie, Hayters' sales and marketing director. First, he was mightily pleased to see all of Stirling's greens cut with a Hayter T93 triple, expressing the view that whilst overt commercialism is not what they would wish from the sponsorship it was gratifying to see some of Hayters' products in prominent positions. Second, he played a round with Murrayfield's Jimmy Neilson and managed to actually

beat him – as Kim put it, Jimmy was playing a diplomatic game! Declaring the day a great success, Kim now hopes to attend all five of the Hayter Challenge regional finals. He's pictured left, with Jimmy Neilson.

Alresford GC's Mark Webb took delivery recently of 20 tonnes of Boughton Loam's Sterilised Turf Dressing, won in the Boughton Loam prize draw organised at BTME. Declaring himself well pleased with the 'windfall', Mark found the dry material a pleasure to apply and was impressed by the speed in which it integrated into the sward.



After many years of mutual co-operation, Charterhouse Turf Machinery and Redexim BV of Holland have decided to forge closer links by merging. Redexim BV has extensive interests in hotels, leisure, management consultancy, real estate and turf machinery manufacture. Amongst other products they

produce the Verti-Drain machines which Charterhouse Turf Machinery introduced into the UK market back in 1982.

Throughout the '80s Charterhouse has developed a comprehensive range of its own equipment, mainly in the areas of top dressing, spiking and overseeding, and these products have a natural synergy with the original Verti-Drain and other Redexim products. The joint company will still function much the same as before with the addition of Mr Ruud Francissen (*pictured*) to the Charterhouse Turf Machinery Board of Directors.

Two grass machinery manufacturers, Hayters plc and Ransomes Sims and Jefferies, have announced their with-drawal from this year's IoG show.

This follows examination of the benefits derived and is based on three major factors.

Firstly, an analysis of last year's figures suggested that the quality and quantity of visitors who took an interest in goods on display did not measure up to the expenditure made.

Secondly, marked changes over recent years, partly as a result of CCT and the proposed changes likely to be introduced with the arrival of the new Unitary Authorities, have led to an alteration in the expectations and requirements of customers. These, combined with the Peterborough location, have all made an impact. Hayters' sales and marketing director, Kim Macfie, said: "We believe the point has been reached where we can no longer derive sufficient benefit from our investment".

Ransomes will introduce UK regional launches under the title *Total Turf Plan*, these taking place closer to customer locations and beginning this month.

New and current models will be demonstrated, service support programmes more relevant to the changing market will be launched and a new 'Ransomes Bouncer' software package will be displayed.



Our beartiest congratulations are extended to BIGGA ex-chairman (1988) Jack McMillan. former course manager of Sunningdale Golf Club and now a director in the consultancy firm McMillan-Shiel Associates, on his receipt of a Royal 'aona' in the 1993 Honours List, His accolade, an MBE, is believed to be the first awarded to a member employed in the fine turf industry.



**SISIS Equipment** (Macclesfield) Ltd have announced the appointment of **Jason Griggs as** their area rep for Humberside, South Yorkshire. Derbyshire, Nottinghamshire and Lincolnshire, taking over from Eric Burgess, who retires after 27 years with SISIS. Jason worked for Leicester Horticultural **Engineering after** completing his City & Guilds in the subject (with distinction) at Evesham Horticultural College.

## Adventure in the land of the free

n the day I won the Toro/ PGA European Tour Student Greenkeeper of the Year award, together with a Toro sponsored trip to the USA, I was dumbstruck. In truth, I had never expected to win anything; leave alone the Toro Student Greenkeeper title, and certainly never realised the magnitude of the prize. The shock didn't really begin to 'sink in' until I received my November '92 issue of Greenkeeper International. On the front cover, there for all to see, was the proof – my photograph!

Quite apart from the great kudos attached in winning such a prestige award, the trip to America was a great adventure in itself, begun in early January. After a time span of some 17 hours, which included two air flights and a bus ride, I arrived at the motel that was to be my base for the next few weeks. It was a dark night and very cold. Over the next seven weeks my colleagues and I experienced some very cold conditions indeed, with temperatures down to minus 30° centigrade and lots of snow!

Attendance at the Winter School for Turfgrass Managers, University of Massachusetts, started at 8am the very next morning, which alone should have indicated that I was in for some pretty hard work. Our timetable dictated attendance to 35 hours of lectures each week, studying such diverse subjects as: Turfgrass Management; Irrigation and Drainage; Machinery; Turfgrass Diseases; Soils and Fertilis-Turfgrass Calculations; ers: Turfgrass Physiology; Trees and Shrubs; Personnel Management and Golf Course Architecture. We crammed in a deal of work over the next seven weeks, for example, on one occasion we were called upon to design a complete computer-controlled irrigation



What would you do if the evening before an important competition, a sudden leak in your irrigation system threatened to flood a green – panic?

Hope it would go away? Pray that your friendly service engineer could get to your course in time?

You could gamble, switch the entire system off and hope that the greens wouldn't dry-out too quickly...

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#### Each Irrigation Emergency Repair Kit contains a choice of applications, protective gloves and full DIY instructions.

Every Golf Club should have one! Pick-up that telephone now, order from your nearest Toro Dealer or mail a cheque for £64.50 (inc VAT) direct to:

Emergency Repair Kit TIL Irrigation Limited Unit 7, Millstream Trading Estate Ringwood, Hampshire BH24 3SD Telephone 0425 476261 system. As past winners have often intimated, the terms and titles used by our American

cousins are often quite different to those common to the UK. I came to

terms with most of them quickly enough, though the hardest to use and understand were the American units of measurement – yards, fluid ounces, US gallons (not Imperial) etc., which were confusing to such as me, brought up on metric scales.

The university (and the Turfgrass course in particular) has an international reputation, though most of the 65 students attending were from the USA. In addition, students came from Canada, Argentina, Austria and France, along with one other Englishman, Londoner David Cluggie. As an example, one student visitor was the Frenchman Eric Alber, who had won the title of 'Best Young Superintendent' in his country and Toro had sponsored him also with a trip to the USA as his prize. I was amazed at the sheer size of the university, which seemed to be like a town built specifically around a population of some 25,000 students and staff.

However, do not believe that the trip was all work, for upon completion of our course Eric and I went to Minneapolis, thereafter visiting the Toro factory at Tomah in Wisconsin to witness the actual manufacture of Toro turf equipment. On the day we arrived the new Toro Workman 3200 was being constructed in petrol engined versions, along with Greenmaster 3100s. Needless to say, this was extremely interesting, it being obvious how much attention is paid by Toro personnel to the quality of their machinery, with each person on the production line carrying out numerous quality control checks.

The day following we visited Toro headquarters and enjoyed a guided tour of the facility, including the design, development and testing cells. Following this we were taken to the 'Mall of America', the biggest shopping centre in the world, with some 10,000 retail outlets under one roof and crowned – smack in the middle – by a theme park!

From Minneapolis we flew to California, discovering that 28 inches of rain had fallen in the past four months compared to only 8-12 inches in a normal year. In this State we visited the Toro irrigation plant at Riverside, about an hour or so by car from Los Angeles, and here we saw sprinkler parts being constructed, assembled and tested - again a most informative and interesting diversion. Touring of the plant completed, the following day saw us on the fairways of Moreno Valley Ranch GC, playing golf in the rain!

To finish, we had two 'free' days during which Eric and I elected to visit Hollywood and the Universal Studios – an unbelievable trip to the world of celluloid makebelieve – this before returning to Riverside and taking the long flight home.

Looking back, I can declare it an absolutely fantastic trip, a once-in-a-lifetime experience. There are so many people to thank that it is impossible to mention them all individually. That stated, the Toro people in both America and Britain must be singled out for praise, for making me feel so welcome. Follow these good folk with praise for BIGGA, for arranging and running the event, and also to my new-found American friends and everybody at home and at my workplace.

I'm sure that anyone lucky enough to have attended such a trip will echo my sentiments – that it is a wonderful learning experience, a fantasy, an amazing and overwhelming prize. Future winners, for the moment, must content themselves with mere dreaming!

#### **BARRY NEVILLE**

Toro/PGA European Tour Student Greenkeeper of the Year 1992-93.

AD REF 412

Doug McClymont, estates manager of the Elephant Hills Golf Course, Zimbabwe, describes the joys of managing a golf course where big game hunting begins in the air...

#### so you think you've got PROBLEMS?

## Living with a pain in the grass

The article which appeared in Greenkeeper International March '93 touched a very tender spot. The only missing link at our course here in Zimbabwe is the Marx Brothers – we have every other ingredient essential for an excellent comedy-cum-farce.

Ever since the old Elephant Hills Hotel was 'shot down' by a SAM Seven anti-aircraft missile – the only hotel in the world to be shot down in full flight, as the heat-seeking device locked neatly on to the hotel kitchen chimney – the adjoining Elephant Hills Golf Course has been a source of some amusement and much comment.

The old course, laid out by Gary Player, was over 7,000 metres long with each nine holes requiring what seemed like a three-day safari. The new masters of the new Elephant Hills Hotel complex decided to make things a little easier and appointed a committee to design a shorter course. This was done according to plan and the new course design is excellent.

Enter the substitute Marx Brothers, stage left! The construction was placed in the hands of an engineer and sub-contractors whose experience hitherto had related only to landscaping small gardens. All soil samples were sent to the sampling laboratory at the Ministry of Roads and decisions were made on their analyses alone. Needless to say, the Ministry of Roads sample soils essentially to determine how best they can be compacted – and that is why we have the most compactible soils in the world on our greens.

The person who laid out the greens was a real brain surgeon and the engineer was in much the same class, having written figures on the plan without identifying measurement units. This resulted in the first two greens being constructed with humps and hollows laid out in metres rather than centimetres and with the first green being cleared to almost three hectares before someone noticed and called halt! Each diagram was separately drawn without reference to corresponding diagrams and none displayed a northern compass point. When I arrived I discovered six greens facing backwards. As one golfer pointed out, this made stopping the ball somewhat akin to pitching off the tail-board of a station wagon whilst hoping to stick the ball on the bonnet.

Tees were another huge joke. All par three tees were carefully landscaped to face down toward the green and were laid out for a full surface area of 5m x 5m. Fairways were carefully graded for the length of the hole but were not planed (the engineer in charge insisting that a land plane was the same as a tractor-mounted mini-grader) so that all Elephant Hills fairways have 10cm ridges running along their length. Mowing with a five-gang Jacobsen means that we have light rough on our fairways (in strips) about every two metres.

The unwashed bunker sand (chosen by the engineer whilst on a fishing trip up the Zambesi River) was laid 4cm deep in every bunker. It was analysed recently and to our great joy we found it corresponded to just 20% of the STRI spec, though in truth we had expected it to meet course to look blue when viewed from the hotel. When I arrived, root growth had established only to about 5cms and it has taken nearly a year to get the root system decently established. The system introduced to mow the greens was totally flummoxing - it took each mower nearly three hours to creep across each green. This caused such a problem that in order to cope, more mowing machines were indented for. This has been fine for me, for with extra machines I now have plenty of spares, which in this corner of the globe is vital as spare parts availability is undoubtedly one of our bigger problems. How envious we are when we see those magical adverts in Greenkeeper International for Toro, Sisis, Ransomes, John Deere, Hardi, Kubota and the like. Most of our stuff is home produced in Zimbabwe and



less than 5% of the requirements. The smaller fraction has eroded and blocked all the drains, leaving precious little sand above the 'engineerdesigned' polypropylene bags into which the graded gravel etcetera was enclosed for bunker drainage. The local polypropylene is almost waterproof, so how he imagined the water would drain through, heaven only knows. Being a conservation conscious person, he also planted the water hazards (eleven of our holes have water) with sedges and chobe papyrus and within three months there was no surface water - all the hazards had filled with vegetation.

We have a fully computerised GAL irrigation system with Hunter pop-up sprinklers. Following planting the engineer insisted that the whole course should be watered every day, as he didn't want the repaired right here in our work-shops.

It has taken a year to rectify the mistakes that were made, mistakes that in my opinion could have been avoided by a single reading of "The Care of the Golf Course' from the STRI. As I observed to one member of the construction committee, 'election or appointment to a green committee does not immediately endow a person with encyclopaedic knowledge of golf course construction or operation, in fact, quite the reverse is true, as such people tend to lose what little knowledge they ever had'. This truism did not go down well.

Now the course is up and running we can concentrate on simple 'golf course' problems, which in a National Park means that we have a full range of wild animals with which to contend. A Buffalo or hippopotamus can ruin a green within minutes, so we have installed electric fencing to keep them at bay. Other small game animals include kudu, impala, waterbuck, bushbuck, baboons (other than those paying green fees), jackals, the odd lion (which enjoys killing impala on or around the third tee) and the worst warthogs in the world. They in particular cause the most damage. grubbing up the tees and surrounds and then wallowing in them as soon as it rains or as soon as irrigation water is applied. Impala, pretty creatures that they are, also create damage as they gather on a green in the evening. The sight of these creatures, with the setting sun shining on their super red coats, is really lovely, but the urine from the ewe impala is five times more potent than sheep urine, so we get these strange yellow patches that kill the grass, followed by a vigorous revival that produces dark green areas that need mowing four times a day! In addition, we have crocodiles up to 1.5m in length in our pools.

Our only other real problem, although some people wouldn't think of it as such (and knowing your weather in Great Britain, it's a problem I wouldn't swop), is the extreme dry heat (Maximum 42°C, minimum 22°C, with relative humidity at 15-20%), which prevents bents and fescues from doing well. This means that we are obliged to follow the Bermudagrass route, which has its compensations because to keep Poa annua at bay we spray with propyzamide (Kerb) annually. It certainly makes fertilising much less of a problem, though in reality our basic principles don't change much and we find something of interest applicable to our circumstances in every issue of Greenkeeper International.

Should any members of BIGGA happen to visit nearby Victoria Falls, they will be made most welcome here - just contact the Elephant Hills Hotel and they will radio me. I would welcome the opportunity to talk 'shop' with a kindred spirit who knows what he is doing without declaring himself an 'expert'. Isolation is a problem which I guess is not easily appreciated by most greenkeepers, but I can tell you that when I see all the splendid training courses, seminars and opportunities for social intercourse available for you people over there, my mouth really waters.



The Twin GT by Trelleborg is a low pressure tyre. It has a large air volume and can be driven at very low inflation pressure. The large contact area, combined with low pressure, gives minimum soil compaction. The pores of the soil are not pressed together so the soil remains loose, the grass is able to absorb nutrition. and the drainage is unaffected



If the soil is compacted the roots do not have the space they need to absorb water and nutrition. The grass becomes weak and less resistant to damage or disease

# Making tracks

HUGH TILLEY reports on tyre options for vehicles on the golf course

Realisation that tyres are a major contributor to soil compaction has resulted in a change in the types of tyre used on golf courses, while the risk of soil compaction has been increased by greater volumes of traffic as clubs become more mechanised and use heavier equipment, typically with the use of tractor-mounted slitters and corers replacing pedestrian machines. Furthermore, it is not just greens and tees which are getting increased traffic, fairways and rough get more traffic too.

The concise dictionary definition of tyre is 'a rubber ring placed round wheel of vehicle to prevent jarring', however this only reveals one single function. Most tyres are required to transmit traction or steering forces and spread the weight of a load as well as acting as shock absorbers. Tyre technology and reliability have developed very considerably in the last few decades but then so have the demands placed upon them.

Greenkeepers give low ground pressure and minimum grass damage their highest priority and this usually takes precedence over grip. Nevertheless, grip is often required and without it smearing of the grass or soil surface is likely – a problem which may be no less important than compaction when it comes to reducing air and water permeability.

There is a direct relationship between tyre and ground pressures and most vehicles designed specifically for turf have wide low-pressure tyres, typically with pressures under 15 psi or 1.0 bar. These tyres will also have a non-aggressive tread pattern, which will not impress or cut in, thus further minimising the danger of soil and turf damage. A useful way to assess ground pressure and damage potential is to run over some loose sand such as the edge of a bunker and measure the impression. It will be seen that traditional traction tyres such as those used on agricultural tractors are likely to leave marks fully one or two inches (25mm-50mm) deep. Ribbed steering tyres may be even worse, and because they are narrow they are liable to produce even higher contact point loadings. The worse culprits of all are two-wheel drive loader tractors with conventional single rib steering tyres.

Vulnerability to damage is also effected by soil conditions, when wet poorly structured soils such as clay are easy to compact and deform, as are some of the finer sands. Thus care needs to be taken in these circumstances. Similarly, wet conditions are also likely to produce lusher grass which is more easily smeared, and of course wet conditions reduce tyre adhesion and so make slipping more likely. All tractors and most mowers are offered with various tyre options, the cheapest inevitably being the narrowest and potentially the most damaging.

Unfortunately there is a direct relationship between ground pressure and grip: greater weight provides greater grip, hence agricultural tractors which are loaded up with weight to gain traction. Fortunately grip and traction can also be increased by increasing the ground contact area or footprint, hence the market for very wide low ground pres-







There is contention over exactly what is low ground pressure, with some tyre manufacturers maintaining that their low profile tyres fitted to standard rims and operated with low inflation pressure have a low ground pressure. This is something the greenkeeper should judge for himself – try the sand-pit test.

Equally important to ground pressure is tread pattern, eg. cleated, barred or ribbed tyres produce localised higher pressures on the ground with greater grass damage. Worst offenders are new agricultural tyres designed for grip, and easy options include dual-purpose road/traction tyres such as those found on diggers, which have more rubber and are less aggressive, while full road tread patterns are even better – all of these fit standard rims. However, there are a growing number of tyres with treads specifically designed for fine turf and these are likely to be produced with a wide (or wider) profile and softer sidewalls, thus further reducing damage potential. This can be done because these tyres do not need great sidewall strength as they are not designed for traction.

'Preventing jarring' is of course one of the most important aspects of a tyre as far as the golf course is concerned, as most ride-on machinery has minimal other suspension – perhaps a sprung seat – and thus depends on the air in the tyres. Obviously the greater the pressure the harder the ride.

Tyre markings provide a great deal of information and need to be quoted in full when ordering replacement or alternative tyres. Tyre developments have complicated the marking system to the extent that it can be confusing to all but the experienced, and there are a number of traps for the unwary, particularly if trying to fit non-standard sizes and tyres on wheels produced to differing standards. While the first numbers give tyre size and the nominal rim diameter, the final alphanumeric code is now likely be a speed/load indicator, which imparts detail of the tyre's load rating at specific maximum speeds – this code replaces the ply rating given in the past – still found on many older tyres.

Other problems in fitting alternative sized tyres and wheels include the possibility of altering rolling radius so that speeds vary. This is not significant if only the speedometer is effected, however with four wheel drive there is a danger that front and rear axle can be mismatched, leading to wind-up and potential damage to the drives. Specialists in this field should have tables to provide a list of the possible options.

Few regulations apply to golf course machinery tyres unless used on the road, when they must be 'suitable' and in good order. Health and Safety requirements will apply to inflation pressures and to maintenance, especially if you have your own compressor. However, most turf tyres operate at relatively low pressure, where there is little danger of a high pressure blow-out.

Maintenance of tyres should be a simple routine of regular inspection and pressure check. This inspection should look for wear and damage, particularly to the wall  $\rightarrow 10$ 



Top: Is this really necessary? Will the added weights come off when the implement is removed from the tractor? Too much weight in the wrong place is bad for both turf and tractor

Middle picture: A decent width of tyre - but it still may leave lines

Left: Ugh! Tractor 'traction' tyres at play – is this necessary?

### Making tracks

### **Trade Topics**

 $9 \Rightarrow$  and shoulder, as early discovery can often save sudden failure or prevent premature wear and damage. Marking the correct pressure, either on the vehicle or on the wall near the pump, makes it easier to ensure that tyres are maintained at optimum pressure. Load carriers such as trailers have a range of optimum pressures, but inevitably these have to be set for the maximum load – unless you are prepared to adjust pressures frequently.

Tyres are actually designed for a specific deflection, or bulge, and the use of pressure as a measure of inflation is purely for convenience, allowing the tyre to be set for maximum loading and preventing over-inflation. Nevertheless with non-load carriers it is perfectly practical to measure the deflection rather than put a gauge to the valve.

Some greenkeepers undertake their own repair of punctures but most rely on specialist fitters. Punctures should not be a frequent occurrence unless you have bad tracks or are abusing your tyres by driving over rocks at high speed. If you have a lot of punctures, perhaps you should first look at the specification of the tyres – chances are that they are under-specified and an alternative make or pattern may provide the simple solution. Other premature failures come from misuse, abuse and under inflation, causes about which most tyre fitters readily inform you, especially if you accuse them of supplying a faulty tyre. However, tyre faults do occur occasionally and most manufacturers are happy to give a replacement or credit when this is due.

That stated, most greenkeepers get very good value from their tyres and apart from an occasional puff of air, seldom need to touch them from the time the machine is purchased until it is sold or scrapped – this makes it vital that the right tyres are fitted right from the start.





■ As part of their ongoing commitment to provide detailed product information, ICI Professional Products has produced the 'Longlife ready reckoner'. Relevant information on all the individual 'Longlife' products, including when to use, application rates, kg/ha applied, and formulation type, is presented in a novel and easy to use format. It's free. Tel: 0428 645454.

■ A new range of distinctively styled tractors has been launched by Renault Agriculture Ltd. Identified by the new name and logo – CERES – the new line-up has power outputs from 54 to 83 DIN hp. Of particular interest will be the availability of a creeper transmission and the ability to lock a spool valve in the open position.

Comprising four models – the Ceres 65 (54hp), Ceres 75 (65hp), Ceres 85 (75hp) and Ceres 95 (83hp) – virtually every aspect of the range is new, with the exception of the engine. The robust and fuel efficient MWM (Ceres 65, 85 and 95) and Perkins (Ceres 75) power units used in the former MX and PX models have been retained. All models are available with either two or four-wheel drive. Details, Tel: 0608 62727.



■ The Farmura range of Flo Gro Super Concentrates are now available with new colour coded, wrap-round sleeves giving comprehensive information on how to use. Analysis is also expressed in weight:volume, enabling the turf manager to calculate the exact amount of nutrient he wishes to apply. Packed in 10 litre containers there are two containers per outer. With a concentration of two to five times greater than ordinary liquid fertilisers, Super Concentrates claim major advantages in storage, handling, distribution and packaging. Details, Tel: 0233 76241/581. Fax: 0233 76419.

Launched for the first time in the UK in April, Supaturf's Dilute 'n Shoot has been repackaged into one litre containers. Dilute 'n Shoot is the alternative way to apply a full strength application of Aqua-Gro Liquid in a quick one-step operation. The package now incorporates lightweight container of AquaGro Liquid attached to a hand-



held spray gun that fits into the end of a standard hose pipe. The gun injects the correct level of AquaGro Liquid into the flow of water from the hose at a safe level for all turf areas. Details, Tel: 0455 234677.