

the Golf Course

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AUGUST 1989



On the Course

How the American designed Collingtree Park is progressing

Management

Jim Arthur looks at the proper use of the Verti-drain

Review

A look back at Royal Troon, on and off the course

Topical Tip

Patrick M. O'Brien of the USGA Green Section gives advice on how to put shape into fairways



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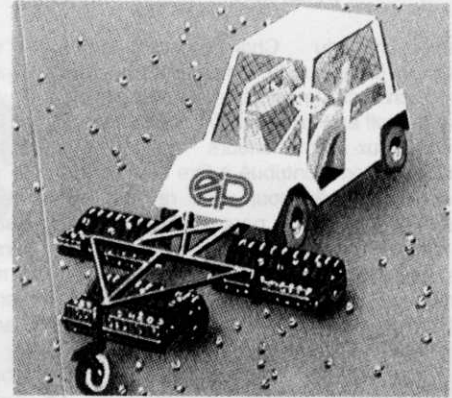
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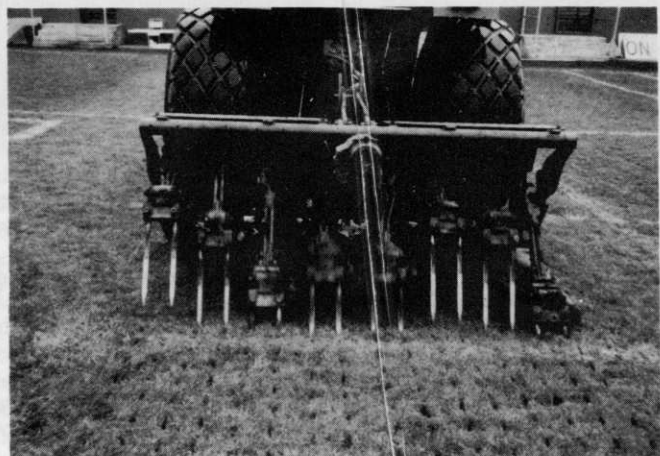
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RESUME



FRENCH

L'organisation du Championnat International en juillet sur le terrain écossais de Royal Troon reste le principal événement en matière de golf au Royaume-Uni cette année. De nombreux entreteneurs de terrain britanniques y ont contribué à titre bénévoles, prenant des congés pour venir ratisser les banquettes et aider le personnel du Royal Troon dans l'entretien général du terrain. Leurs efforts ont été félicités publiquement lors de la remise de la Claret Jug, la coupe de rigueur, à Mark Calcavecchia.

L'intérêt suscité par le golf dans toute l'Europe implique que le nombre de terrains disponibles ne satisfait plus les besoins des adeptes, et ceci au Royaume-Uni comme ailleurs. A Collingtree Park, près de Northampton, à une heure de route de Londres, un nouveau terrain de golf de luxe sera bientôt terminé.

John Lelean, le rédacteur en chef de Golf Course, présente un reportage sur l'avancement des travaux de ce complexe unique, où un terrain plat agricole a été habilement paysagé par des bulldozers pour reproduire les dénivellations naturelles que l'on pouvait trouver sur les premiers terrains de golf des bords de mer et des landes.

Les huit lacs qui y ont été creusés ont fourni la terre pour modeler les tertres et les parcours. On a semé du Pencross, cette graine de gazon dont il est fait usage considérable aux Etats-Unis, sur une couche de sable fin de quelque 30 cm de profondeur. Le terrain de golf ouvrira ses portes en avril prochain.

Le "Vertidrain" est le nouvel équipement qui a le plus révolutionné l'entretien des terrains de golf au cours des dernières années. Cette invention hollandaise permet d'effectuer à la machine cette opération fort coûteuse en personnel que représentait jusqu'ici l'action de fourcher à la main le gazon pour aérer convenablement le sous-sol.

Un collaborateur régulier de notre magazine, Jim Arthur, explique que bien que cet engin n'offre pas une solution totale aux problèmes d'écoulement des eaux et de compactage du sol, il peut être un outil précieux s'il est utilisé à la bonne époque de l'année.

A l'origine l'herbe des "greens" était tondue par les lapins et les moutons qui y erraient, mais depuis, l'évolution des parcours a fait que l'on accorde beaucoup plus d'attention aux méthodes de tonte.

Patrick M. O'Brien examine les façons dont les parcours devraient être conçus afin de pourvoir à tous les niveaux d'expertise des golfeurs.

Il estime que les parcours sont améliorés par une tonte fréquente, notamment par l'utilisation de tondeuses extra-légères aux abords des "greens". Il devrait également exister une zone de semi-long entre les bordures du parcours et l'herbe longue, afin que les golfeurs ne soient pas pénalisés à l'excès pour une balle manquée.



SPANISH

La representación durante julio de The Open Championship en el campo de golf escocés de Royal Troon ha sido el principal evento golfista en Gran Bretaña este año.

Muchos encargados británicos de los campos de golf también han jugado un papel como voluntarios sin paga, tomando vacaciones rastrillando hoyas de arena y ayudando al personal del campo de golf del Royal Troon en el mantenimiento del campo. Sus esfuerzos fueron reconocidos cuando se presentó el Claret Jug a Mark Calcavecchia.

El interés en el juego de golf está sobrepasando rápidamente el número de campos de golf disponibles en toda Europa y esto es muy obvio en Gran Bretaña. En Collingtree Park cerca de Northampton, a unas cuantas horas de viaje de Londres, está a punto de terminarse la construcción de un nuevo campo de golf.

John Lelean, el editor de Golf Course, informa acerca del progreso de este desarrollo único, cuyo terreno agrícola plano ha sido esculpido mediante bulldozers para reproducir las colinas y depresiones que se encuentran originalmente en los campos de golf originales al lado del mar y los cursos de golf en los brezales.

Se han excavado ocho lagos y la tierra se ha empleado para construir y dar forma a los tees y fairways. Los greens se han plantado con Pencross, una especie de semilla para césped usada ampliamente en los EUA, sobre una profundidad de 30 centímetros de arena pura. El campo de golf se abrirá en abril del año que viene.

El artículo más exitoso entre el equipo para el mantenimiento de campos de golf en los últimos años ha sido el Vertidrain, una invención holandesa que reproduce mecánicamente las técnicas de trabajo intenso de airear con el biello la superficie verde para proporcionar aireación del subsuelo.

Un contribuyente regular, Jim Arthur, indica que aunque no es la respuesta completa a los problemas de drenaje y consolidación, es una herramienta útil si se emplea en la época correcta del año.

Puesto que el césped había sido pacido por ovejas y conejos en los campos originales, el desarrollo de fairways ha provocado mayores consideraciones sobre el cortado de contornos.

Patrick M. O'Brien analiza qué forma deben tener los fairways para servir a todos los niveles de golfistas.

El sugiere que los campos mejoran mediante el cortado frecuente del césped, particularmente mediante el uso de podadoras ligeras cerca de los greens. También deberá haber un área semisalvaje entre el borde del fairway y el césped más largo, para que los golfistas no sufran sanciones demasiado fuertes por un tiro perdido.



GERMAN

Die im Juli auf dem Royal Troon Golfplatz in Schottland durchgeführte Amateurgolfmeisterschaft war die Hauptveranstaltung im diesjährigen britischen Golfkalender.

Manche britische Platzwarte machten als freiwillige Mitarbeiter einen großen Beitrag und gaben wertvolle Urlaubstage auf, um beim Rechen der Bunker und der allgemeinen Unterstützung des Royal Troon Wartungspersonals Hilfe zu leisten. Ihre Anstrengungen wurden mit der Verleihung des 'Claret Jug' in Mark Calcavecchia anerkannt.

Das zunehmende Interesse am Golfspiel übertrifft langsam die in Europa verfügbaren Golfplätze, und dies ist besonders in Großbritannien deutlich sichtbar. In Collingtree Park in der Nähe von Northampton, nur eine Fahrstunde von London entfernt, nähert sich deshalb ein neuer exklusiver Golfplatz der Fertigstellung.

John Lelean, Chefredakteur der Fachzeitschrift 'Golf Course', berichtet über den Fortschritt dieser einzigartigen Entwicklung, bei der flaches Ackerland von Bulldozern umgeformt und mit den Hügeln und Tiefen versehen wird, die man auf herkömmlichen Golfplätzen in Küstengebieten oder auf Heiden von Natur aus vorfindet.

Die beim Ausgraben von acht Seen entfernte Erde wurde zum Gestalten der Abschlagstellen und Fairways angehäuft. Die Grün wurden auf einer 30 cm starken Schicht Reinsand mit Pancross, eine in den USA in großem Umfang eingesetzte Grassorte, besät. Der Golfplatz wird im April nächsten Jahres eröffnet.

Das erfolgreichste Neuprodukt der letzten Jahre für die Golfplatz-Wartung ist das Vertidrain, eine niederländische Erfindung, die die arbeitsintensive Methode des Handstichelns des Grüns zur Belüftung des Unterbodens mit mechanischer Kraft ausführt.

Jim Arthur, ein regelmäßiger Beitragsleister, meint, daß das System zwar keine vollständige Lösung auf Entwässerungs- und Verdichtungsprobleme darstellt, aber bei Einsatz zum richtigen Zeitpunkt ein wertvolles Hilfsmittel sein kann.

Seitdem die Fairways nicht mehr von Schafen und Kaninchen abgegrast werden, spielt das Konturenmähen eine zunehmend wichtige Rolle.

Patrick M. O'Brien erläutert, wie man die Fairways zweckmäßig formt, um Spieler aller Fähigkeitsstufen zu berücksichtigen.

Er empfiehlt zum Beispiel ein öfteres Mähen, besonders durch den Einsatz von Leichtbau-Rasenmähern auf den Annäherungsflächen zum Grün. Weiter schlägt er vor, den Boden zwischen dem Rande des Fairway und der Tiefgrasflächen kürzer geschnitten und weniger uneben zu halten, um Spieler für einen verirrten Ball nicht übermäßig zu bestrafen.

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By The Mower

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"With more Rolawn depots opening all the time, we intend to cover the country within the next two years," says Operations Director Guy Longbottom, who opened the first depot as a trial run in Glasgow three years ago.

"Air-shot" of the Month

THE final round of the Open Championship produced the most compelling TV viewing this year and all credit to the BBC who kept the action alive to a world-wide audience throughout the day.

But what prompted the controller to cut off the programme at the moment Mark Calcavecchia received the Claret Jug and held it aloft?

At least we did see amateur Russell Claydon receive his Gold Medal and hear the tribute to Norman Fergusson, but when everyone wanted to join Calcavecchia in his moment of glory, someone decided we had to view a repeat programme of bikini clad Brazilians on the beach of Copacabana!

Johnny Walker backs golf "down under"

RYDER Cup Sponsor, Johnny Walker, the world's number one Scotch Whisky distiller is to sponsor the Australian Golf Classic with a \$1m prize fund, making it the biggest deal in Australian Golf. Played at Royal Melbourne in November it is likely to be screened for British T.V. viewers.

Monro takeover

DAUNTON Hunt Ltd, acquired by George Palmer of Peterborough last year, have been taken over by Monro Horticulture, who have acquired the lease on The Heathfield premises Don and Elizabeth Hunt are joining the new company.

Battle at the Belfry

BEFORE a ball has been struck off the tee, the PGA and ticket agency Keith Prowse have been involved in a legal battle with Company Director Marcus Evans and his two companies, over falsely representing themselves as authorised and entitled to sell hospitality and tickets for the 1989 Ryder Cup.

The High Court have ordered Mr. Evans not to use the name Ryder Cup in any of his ventures or to offer tickets and hospitality facilities at the Belfry.

Executive Director, John Lindsay at the PGA said those companies who had already booked through Evans will be helped if at all possible.

SISIS invitation golf tournament

FOR many years SISIS EQUIPMENT (Macclesfield) LIMITED have sponsored an annual Golf Tournament for greenkeepers in the North West but have now decided to hold the competition as an Invitation Tournament to include their customers in all sportsground maintenance.

The first Invitation Golf Tournament was played at The Cavendish Golf Club near Buxton on 20th June and competitors came from as far afield as Prestatyn, Birmingham and Leyland. The weather was glorious and a good time was had by all.

The eventual winner was Terry Adamson of Wrexham Golf Club and he also received a set of cut crystal glasses and a replica of the trophy.

Practice for perfection

FOR those that revel in statistics a visit to the practice ground at Troon produced some sets of figures which were quite astounding.

The complete facility, provided by Golf Equip (GB) Ltd of Littlehampton, is responsible for setting up practice bays for all the Open Championship competitors, who are hitting balls from dawn to dusk in an effort to keep the groove in their swing.

Two Honda, four wheel bikes drive up and down the practice area all day pulling an automatic golf ball collector, covering an astonishing 600 miles, over the week of the championship.

The R & A provide 6,000 golf balls to be hit at a rate of 30,000 a day though the number falls towards the end of the week when the cut eliminates those who miss out on the final two days.

The balls are later donated to the Golf Foundation for the benefit of Junior Golf.

Royal Troon

THIS year's Open Championship not only provided one of the most exciting climaxes ever in the three way play off between Mark Calcavecchia, Wayne Grady and Greg Norman, but was a masterpiece of organisation.

The weather helped of course, though the staff in the Exhibition Tent sweltered in temperatures of over 100 degrees. Out on the links the unseen work took place when play finished and before dawn when Norman Fergusson's crew groomed tees and greens to produce the perfect surface, despite emerging dry patch, a course condition that most golf courses has suffered.

Talking to Sheffield professional Peter Cowan on the 18th after he had missed the cut, his first words were - "There is not a bad hole on the course - I just played badly". For someone that must have been choked with disappointment it was a generous tribute.

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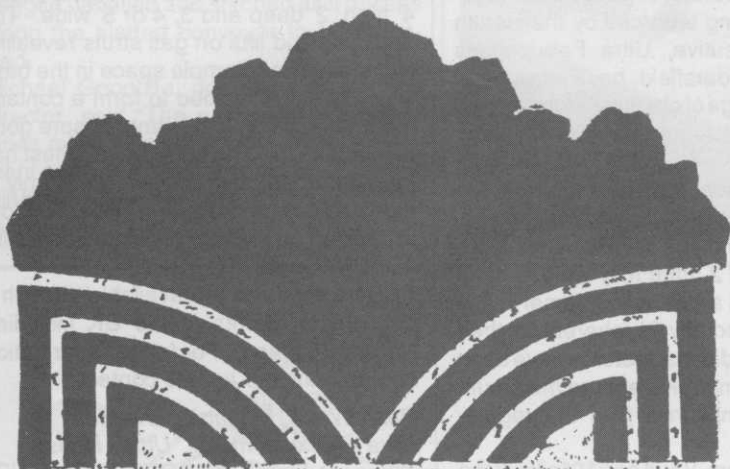


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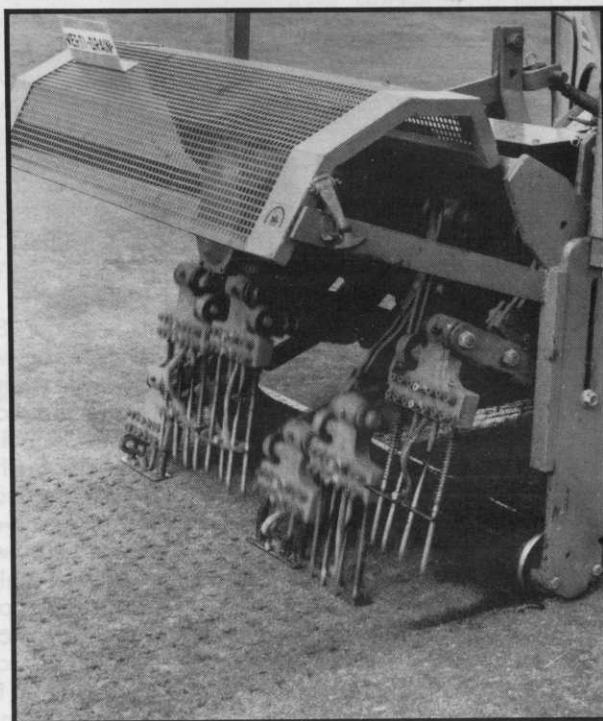
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OUT AND ABOUT

TWO NEW RYAN ROLLERS FROM VICTA

Victa (UK) Ltd distributors for the Ryan range of turf care equipment, are to market two new rollers.

Over 20 years of experience has gone into the design and development of the Ryan Rollaire and the Riding Rollaire. Fine turf protection and elimination of ridges have been the main concept behind the rounded design of the new water filled drums. Power is provided by a 5hp Honda engine coupled to hydrostatic drive system.

The unique steering system and clutchless transmission of the 24" Riding Rollaire make the machine extremely manoeuvrable with the minimum amount of operator fatigue. Roller weight is 495 lbs (224 kg) empty, and 1,107 lbs (502 kg) loaded.

The 30" pedestrian operated machine priced at £2,700 plus VAT. Empty roller weight is 425 lbs (193 kg), and 840 lbs (381 kgs) loaded.

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Ultra offer a wide choice of sizes within three main design types, Chem-Vault, Chem-Chest and the Mini Chem-Chest. All are made of 2.5mm fully welded steel plate finished in a synthetic enamel in any B.S. colour. Security is inherent in their pedigree but additional features have been added to each model to ensure maximum safety and compliance with the regulations.

The walk-in Chem-Vault has 10" sills at the base of the doorway to form a tank capable of containing even a major spillage. Two rows of lipped heavy duty steel shelves are fitted to the walls and supported also at the front. Electric lights and a thermostatically controlled heater are protected by PVC conduits and an E.L.C.B. Internal ventilation is provided by high and low level, vermin and weather proof vents. The heavy, Chubb-locked doors can be opened a full 270 degrees and held open by chains. Chem-Vaults are 6' wide by 7' high with four standard lengths from 8 to 16' but larger 8' wide units are available up to 24' long. Even the

smallest has a tank capacity of 250 gallons.

More suitable for the groundsman with less storage need, the Chem-Chests are 4' high, 2' deep and 3, 4 or 5' wide. The padlocked lid lifts on gas struts revealing two shelves and ample space in the base which is seam welded to form a containment tank. High level vents ensure good air circulation. The Mini Chem-Chest has the same base dimensions but is only 2' high and opens like a chest freezer. Both are raised on skids to facilitate access for a fork lift truck.

All Ultra products are available through a network of agents in the UK including Northern Ireland. For further information on products and agents contact.

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OUT AND ABOUT

MASSIVE NEW INVESTMENT IN GRASS SEED CLEANING AT JOHNSONS

A massive new grass seed cleaning plant, the only one of its type in the country, has been installed by Johnsons Seeds at their Boston headquarters.

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Uncleaned seed is taken straight from bulk bins or sacks by a belt feed intake on the ground floor and conveyed to the top floor into a bulk holding bin. From there it passes into the pre-cleaner and on into a large screen cleaner and indented cylinders, with a special brushing machine incorporated in the flow line.

The seed then passes into the 'cleaned seed' hopper where it undergoes automatic sampling. Finally the seed moves in to the 'weighing off' machine and is then bagged, labelled and stitched as it passes along the slatted conveyor to be palletised.

Michael Goodliffe, Johnsons production director, said "The new plant is several times more efficient than previous equipment and has a greater capacity. This one will break down the 'doubles' and re-clean the 'overs.'"

NEW NATIONAL 84" PTO GANG MOWER FROM ALLEN

Built for users of compact tractors is the new National PTO driven triple mower: by Allen Power Equipment.

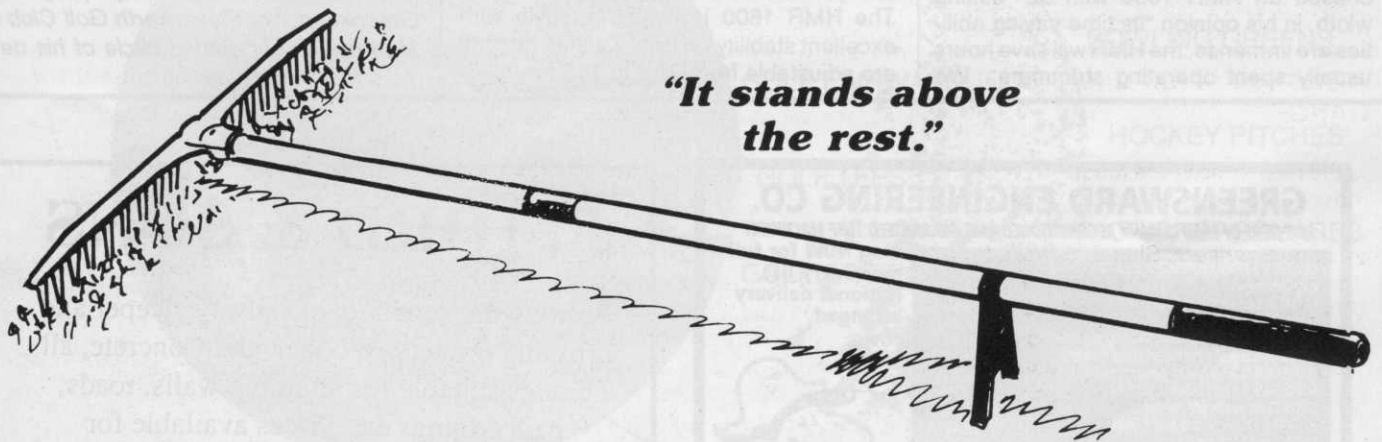
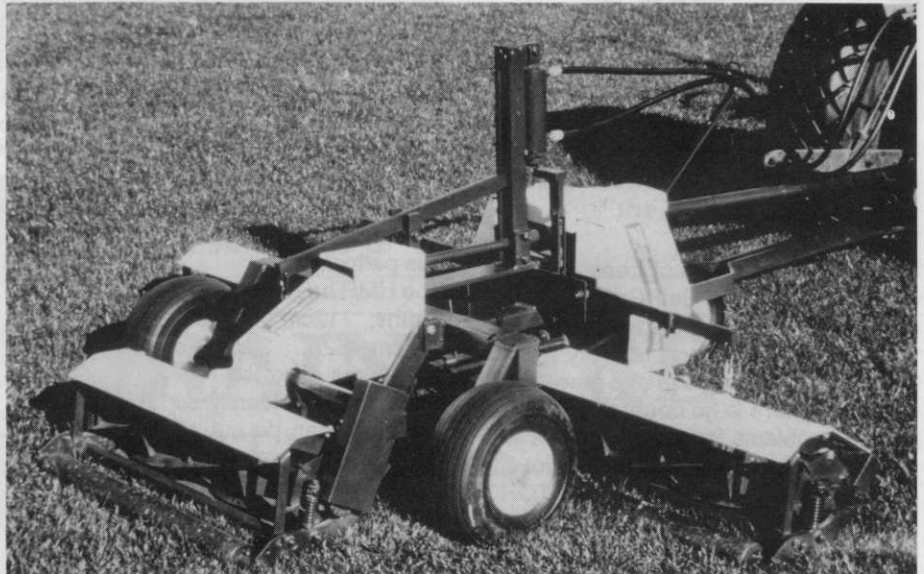
All that is needed is a minimum 15 PTO hp tractor unit hooked up to this high performance cutter and you are ready to mow an 84" swath at a rate of up to 3 acres per hour.

Equipped with a high efficiency drive system, heavy-duty right angle gear boxes and final belt drive engage/disengage the mowers via the PTO clutch.

Because the cylinders are belt driven there are no wheels to lock and scuff the turf, if a foreign object becomes jammed in the reel. With no outrigger wheels, cutting units reach out over kerbs and sand traps to minimise additional trimming.

This new addition to the Allen range has hydraulic raising and lowering of cylinders, six bladed 8" diameter cylinders running on adjustable Timken bearings and joins the highly successful National 68" and 84" triple mowers already established in the U.K. market place.

The price of the Allen National PTO Gang Mower is £3995.00 + VAT.



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OUT AND ABOUT

ROYAL DUTIES FOR A HUXLEY THREESOME

The Royal Parks Division of the Department of the Environment has bought three items of professional turf equipment from Huxleys Grass Machinery to help look after formal grass areas within the Royal Parks and gardens.

The Huxley 358 Greensmower, has been supplied to maintain Royal Lawns' together with a three wheel Cushman Turf Truckster vehicle fitted with a tipping Long Box with detachable sides and tailgate.

Supplied and equipped with a rear-mounted Huxley H44 Fine Turf Scarifier, the combination is used for regular aeration of Lawns, removing thatch and other material to encourage healthy grass growth



Edward Huxley (left) with area sales manager, Ron Rose, checking the new machines prior to delivery to London's Royal Parks.

ROUGH CUT ROTARY SAVES STRIMMING TIME

Trees, trees hundreds of trees! Just the thing to enhance a Golf Course. Many golfers would argue there is no finer sight than a tree lined fairway, all very well for the player but what about the greenkeeping staff. There is no doubt that trees do present problems for greens staff as well as the occasional wayward drive. Not any more though, the new HMR from TORO has the ability to leave uncut circles as small as 8" diameter.

Don Major, Head Greenkeeper of Bletchworth Park Private Golf Club has purchased an HMR 1600 with 52" cutting width, in his opinion "Its time saving abilities are immense, the HMR will save hours usually spent operating strimmers. We

can use the machine around 200 or so trees on our course and on numerous pathways."

The HMR has two cutting widths; 112cm (44") and 132cm (52:). Separate gearboxes drive the rear wheels independently so that drive can be cut off from the inside rear wheel when turning sharply. This prevents scuffing or marking the turf and because speed is automatically reduced on sharp corners the operator can cut to edges more easily. The HMR 1600 is highly versatile with excellent stability on hills. Cutting heights are adjustable from 37.5 to 112.5mm.



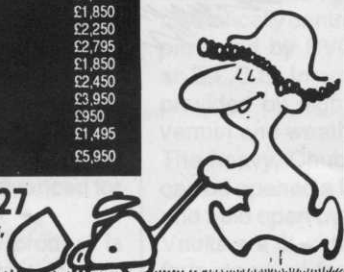
Picture above shows Don Major (left) Head Greenkeeper of Bletchworth Golf Club is shown the tight cutting circle of his new Toro HMR 1600.

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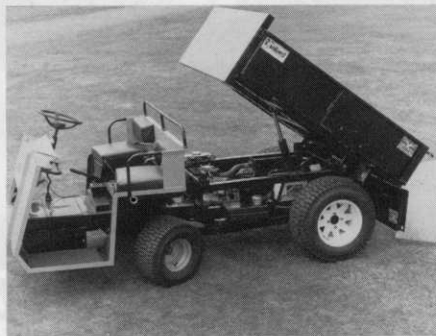
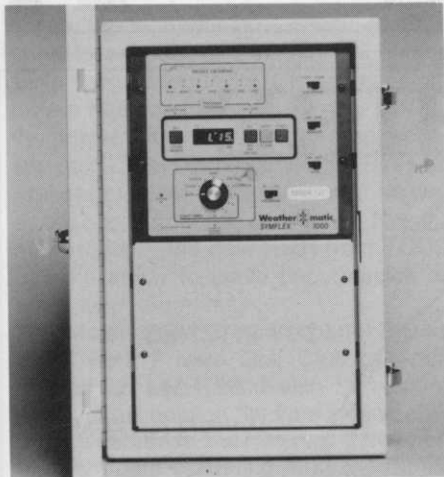
OUT AND ABOUT

WEATHER MATIC LAUNCH NEW WATER CONTROL SYSTEM

Weather-matic has introduced an affordable and versatile irrigation water management system designed specifically for golf courses.

The new Command Satellite system features MK12C Command units and MK12S Satellite units. The communications link requires only 24 V.A.C. with 2 wires common from each Command to all associated Satellites.

The Symflex System also features a pump interrupter circuit which provides remote sensing of mainline pressure and flow to assist in pump protection; a system shut-down alert circuit to prevent pressure surge damage caused by rapid valve closure; and a remote sensor circuit to monitor special water management conditions such as wind, rain, soil moisture and temperature.



KUBOTA ENGINE FOR MALLARD TRUCK

A new Kubota air-cooled diesel engine has been chosen to power a new British built all-terrain light truck.

The engine has a remarkably low fuel consumption, using some 40 per cent less per hour than an air-cooled petrol engine of the same power, and is much quieter. Until now all Mallard designs have had front-mounted engines located between the seats for the driver and his mate, but truck designer David Brown was searching for an engine which would be compact enough to fit under the load body of his new Mallard Mark V so as to give less noise for crew and bystanders alike. David Brown said, "Our Mallard Trucks are produced as true multi-purpose vehicles and can have 3 point hydraulic linkages fitted at front and rear to carry a wide range of equipment - so the engine has to be able to drive an hydraulic services pump as well as deliver sufficient power to the rear wheels. The OC 60 does this comfortably, it just 'sets its teeth' into the load and keeps going".

GOLF COURSE EUROPE 1989:

On 4, 5 and 6 October 1989 a new trade exhibition will take place in the Rhein/Main Halls in Wiesbaden, West Germany: Golf Course Europe '89, also known as G.C.E. Golf Course Europe is the only European Exhibition and conference to specialise on the viability research, the design, construction and maintenance of golf courses and on golf club management.

GCE will be the central marketplace for anyone involved in the rapidly expanding market of golf courses in Europe. In the next decade between a 1000 and 2000 new golf courses will be added to the existing 4,500, while the number of golfers is expected to triple.

Because of the mid 70's recession many golf projects ran into serious financial difficulties. The main causes of failure were mismanagement and inadequate research into a project's economic viability.

The range of expertise required in a large golf estate project is formidable. Many disciplines are involved in building a golf course. This is why at the GCE '89 conference a large number of topics will be addressed by more than 25 speakers from various countries.

The exhibition will be visited by exhibitors from all over the world. There will be between a 100 - 150 exhibitors, mainly from Europe and the USA. They will exhibit all products and services needed to plan, design, construct and maintain a golf course. The visitors of GCE '89 will find the latest developments in irrigation techniques, drainage systems turf care, mowers, equipment and many other products. The exhibition is only for visitors who professionally deal with golf courses.

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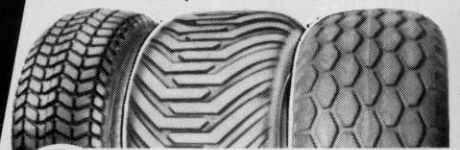
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OBITUARY

MR WILLIAM H, BOWLES, BEM, FOUNDER AND PRESIDENT OF THE INSTITUTE OF GROUNDSMANSHIP



William 'Bill' Bowles, Founder and President of the Institute of Groundsmanship, died at Wexham Park Hospital, Slough, after a short illness, on Wednesday, 19th July 1989, at the age of 89.

Bill Bowles founded the National Association of Groundsmen in 1934 whilst working as Head Groundsman to Westminster Bank in Norbury. In 1916 Bill moved to Eton College on his appointment as Head Groundsman and retired in 1985, after having served 72 years as a turf care expert of great repute. In 1947 Bill was invited to serve on the National Playing Fields Association's prestigious Ground and Layout Committee. He has given talks and practical demonstrations at the request of the MCC, with the aim of improving the standard of wickets generally and in all his working life never declared a pitch out-of-play due to inclement weather. An acknowledged expert in turf culture, Bill's expertise is known throughout the world and is best summed up in an extract from an article in the Eton College Chronicle, printed when Bill retired in 1985 aged 85 *"Despite his eminence in the profession, he always put Eton first - no man in the history of Eton College can have given longer or more devoted service than Bill Bowles. We may be sure that if he ever dies... that W. G. Grace himself will at once appoint him Head Groundsman of the Elysian Fields."*

This sentiment is carried through in the work Bill has tirelessly carried out for the Institute of Groundsmanship. His aims to bring groundsmen together, give opportunities for training, hold examinations and courses, raise standards of sportsground

**FIRST GOLF COURSE FOR POLAND
(A Golf Course - Exclusive)**

An 18 hole golf course with a driving range is to be built in the grounds of luxury hotel, converted from an Old Bishop's Castle at Pultask, a medieval town some 60km north east of Warsaw.

The project has reached the design stage to plans drawn up by the Swedish architect, Jan Sederholm who has been responsible for a number of golf courses in Scandanavia.

It is understood that the finance is to be provided by a group from Sweden with Polish connections backed by a Polish Government Agency, to cultivate links with those of Polish origins, but living abroad. The hotel with a recreational complex opened last month, the course will follow, constructed by a local civil engineering firm under the management of Richard Gacke, a Pole who has worked in Nigeria for 15 years, where he acquired his golfing interest as a member of the Ikoyi Club in Lagos.

Richard confesses to be a "lousy" golfer, but says that he is keen and does at least know something about the game! Once the course is finished, there is an

option to build a further 9 holes.

It seems there is an immediate demand for at least 20 golf courses in Poland just to cater for the tourists who take their clubs to West Berlin and Vienna and then move on into Poland to continue their holiday. That takes no account of the local population, who are at present unable to take up the game.

Estimates point to over 40,000 people waiting to join a club in Stockholm, many quite prepared to join the new club at Pultusk and fly in to stay at the hotel.

In fact the Swedish partner has already reserved a number of membership cards and when ready, the course will also be available to hotel guests.

Once constructed, Richard Gacke will take over as Course Manager and will then be faced with the task of training a greenkeeping crew. Purchasing the right equipment for course maintenance is likely to be a major problem as there is nothing of suitable manufacture in Poland.

However as one of the current subscribers to 'the Golf Course', he is sure to pick up a great deal of the information he requires.

maintenance and to improve the status of groundsmen and the profession have all been achieved and the Institute will carry on his good work. The sell-out of this year's annual IOG Sports & Leisure World Trade Exhibition to be held at Windsor Racecourse in September with 450 exhibitors is fitting tribute to his memory.

Bill Bowles was an extremely popular, highly respected and much loved figure. His contribution at local, regional, national and international level, his vast experience and wonderful personality will be sadly missed by the entire turf care and leisure industry.

Deepest sympathy and condolences are conveyed to all of Bill's family.

4 WHEEL DRIVE FOR JACOBSEN FAIRWAY MOWER

The Jacobsen LF-100 5 gang fairway mower is now available with four wheel drive. This option allows the LF-100 to climb hills without damage to the turf caused by wheel spin and slippage.

At the touch of a knob, the operator can go from two wheel drive to four wheel drive and back, without stopping.

The 100-inch cut and mowing speeds of more than five mph mean high productivity. The up-front placement of the outside reels allows the operator to see the trimming edge without looking behind, for a cleaner mowing line.

The LF-100's five 22-inch reels deliver a tournament-quality cut. Pedal-operated reel lift helps the operator cross-cut fairways effectively. A tight turning radius and power steering provide extra manoeuvrability and comfort.

ICI DONATION TO AQUATIC WEEDS RESEARCH UNIT

HRH The Duke of Gloucester has received a cheque on behalf of the Aquatic Weeds Research Unit for (1318) from ICI Professional Products.

The cheque, presented by Patrick Goldsworthy was a donation based on the sales of the ICI publication 'Aquatic Plants - A Guide to Recognition' by David Spencer-Jones and Max Wade.

The book is still available at a cost of £7.50 inc p&p from Borcombe Printers Ltd., Publications Department, Unit 6, Budds Lane, Romsey, Hampshire, SO51 OHA.

THE DUTCH INVENTION THAT HAS TAKEN OVER FROM THE FORK

Jim Arthur extolls its virtues but warns it is not the complete answer to compaction



The Verti-Drain is in regular use at St. Andrews

THE Vertidrain, invented by the de Ridders in the Netherlands specifically to emulate the old raise forking technique – insert and prise back, which was used on golf greens at my instigation on Dutch courses, proved very difficult to introduce into Britain but thanks to the efforts of a few enthusiastic contractors in the early eighties – and it really is a contractors' weapon unless more than 18 holes are involved, it has been regarded as the answer to all compaction problems.

Of course, it is not! Only where there is a permeable situation, within the reach of the tines will it improve drainage and persistent use on wet sticky clays aggravates problems, as has been discovered on some poorly drained football pitches.

Timing is also vital if disturbance is not to be intolerable. This naturally does not just mean avoiding Vertidrain-ing a few days before Captain's day, but primarily choosing a time when surfaces are firm enough to avoid wheel marking and subsurfaces dry enough to be friable and so break up on lifting. The use of flotation tyres initially eliminates wheel tracking even (or especially) with the larger models.

Depth is as vital as lifting. There is no point in Vertidrain-ing 6" deep with no lift – we have cheaper machines with less potential for disturbance. It is vital to go down to the drier less compacted areas and to penetrate any pan formation.

Closer spacing avoids the rippled effect and this means slower operating speeds. Since the whole green (or tee) is lifted, hopefully uniformly, some settlement is inevitable.

Many greenkeepers have found it saves many grumbles to run a hand machine over the greens immediately afterwards, with the reel set up and

MANAGEMENT

the box weighted with sand bags. It is definitely a very bad idea to sand greens after Vertidrain. If it is desired to keep the holes open to provide a pattern of vertical drains, then use clean uniform 4mm screened 'gravel' screenings from sand quarries. It is available! This either goes down the holes or is swept off. The sand layers, even under dry conditions and we do not want to resurrect the heresy of shallow tining and massive sand dressings, causing severe root breaks and layering and reduced drought resistance and in consequence gross over watering.

Above all, if in doubt leave the holes open. Only if the weather is suitable and there is still growth to absorb it use the normal (mid seasonal) top dressing. Many a greenkeeper has suffered from listening to members moans and going out on a wet winter's day with a Cushman fully laden with sand, putting almost ineradicable deep tracks across all the greens as well as smearing greens.

Timing is therefore vital and in consequence early booking with Contractors, who naturally want to spread their contract season. I would rather see greens Vertidrain in July and August than in November, but the weather is the final arbiter.



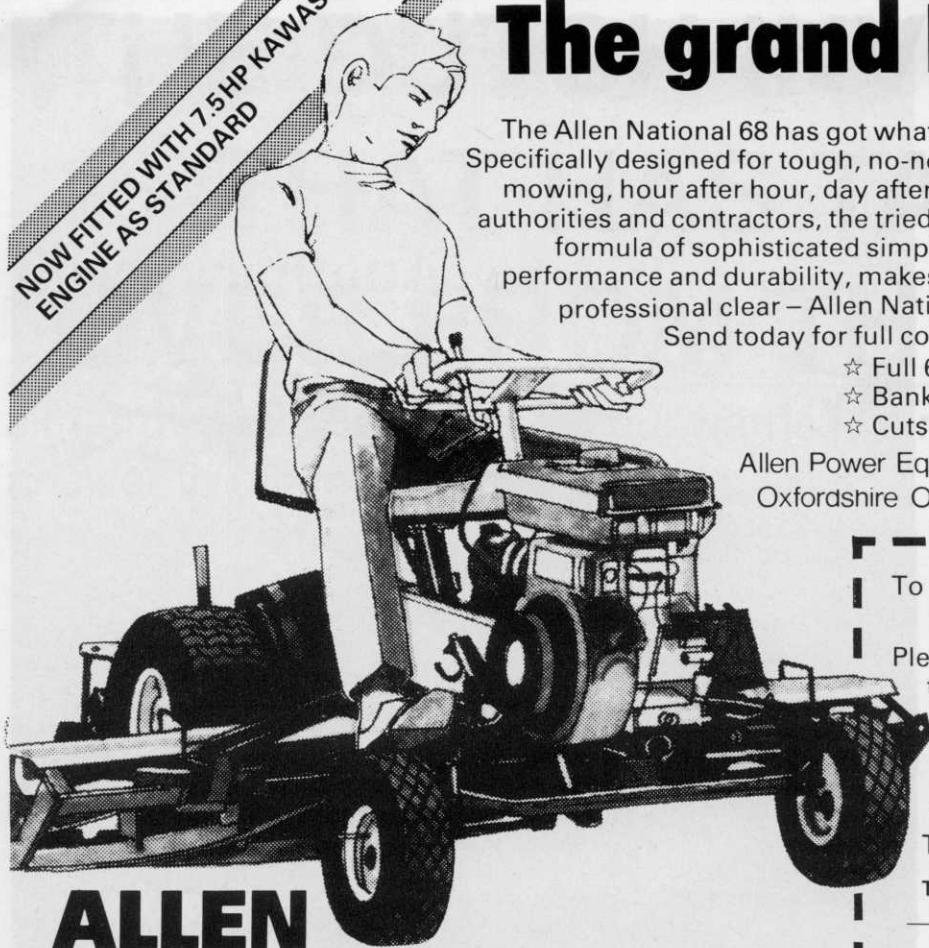
Above: Weather is the final arbiter as damage can occur, but this is unlikely with an operator with proven experience.

Left: The forks enter the greens surface and then whilst under ground move laterally.

Vertidrain only where there is a drained or potentially drainable layer below, though this can include uncompacted dry friable clay! Vertidrain only under suitable 'soil' conditions, which includes weather! Vertidrain must be backed up by regular aeration, deeper in winter but frequent in the growing season (to encourage penetration of rain and irrigation).

Do not fall into the trap of thinking that this is the solution to all problems it isn't, but it is a very valuable weapon and greenkeeping owes the de Ridders a vast debt of gratitude.

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ROUND UP AT TROON

New Zealand Greenkeeper

Course management at Royal Troon had an international flavour this year with a twenty-three year old New Zealand greenkeeper as the team's twelve man for the preparation of the Ayrshire course for the 118th Open Championship.

Last year Morgan Henton, from Hamilton on the North Island, did a six month stint at Muirfield and expressing interest to become involved with an Open Championship came to an arrangement between the two Scottish clubs to join Norman Fergusson's staff.

He returned home for three months at the back end of last year and arrived back in Scotland with his wife at the beginning of the season.

Accommodation was impossible to find in Troon on a greenkeeper's wage so they moved down the coast to Ayr travelling in six miles each day on the bus, Morgan to the course and his wife to her job in the nearby Marine Hotel, so both were close to the action.

Talking to Morgan in the greenkeeper's sheds during his lunch break, he told me that New Zealand almost rivals Ireland in the number of courses per head of population. Every town has a golf course. His home town, Hamilton with around 100,000 people has five. There are no links type course, most are parkland based on the American design, with bent and fescue greens and some pennecross, though they also have their fair share of poa.

Training for greenstaff is a mixture of the British and American style. They serve an apprenticeship of 4,000 hours, combined with a correspondence course and block release at a technical college, extending over three years.

Each year the student has to sit two exams and pass before moving on to the next stage. The final examination will provide the trainee with a Trade Certificate in Golf Course Greenkeeping.

If successful there is the opportunity to study for an advanced course to qualify for a Diploma in Turf Culture.

Morgan said he started as an appren-

tice and when he left Hamilton Golf Club after four and half years at the course, he had obtained both his Trade Certificate and his Diploma.

He intends stopping on at Royal Troon for a few months after the Open Championship and then continue his working holiday in Britain until the end of the year, perhaps breaking his journey in New York where he spent a couple of weeks last year with an American Golf Course Superintendent.

For recreation he plays a little golf over the Royal Troon links and the adjacent Portland course. "Its mainly in the evening", he added, "keeping well clear of the members".

This young man is typical of the younger breed of greenkeeper now coming into course management. Ambitious, realising the advantages of world wide travel, he knows his experience in Scotland will pay handsome dividends when the time comes to settle back in his home country.

Another recruit to 'Arnie's Army'

A lonely figure walking up the par five 16th carrying a single wood was recognised immediately as Arnold Palmer on his way to find a wayward shot.

As he passed a middle aged lady leaning against the fence, Arnold smiled, raised his hand to his forehead and said "Good Afternoon".

She looked in stunned silence for a second or two, then rushed across to her husband and said "He spoke to me - he actually spoke to me - Arnold Palmer said good afternoon!".

Arnold has made a great many people happy over four decades of competition. He has just added another fan for life.

Smoothing the sand in the dunes

Greenkeepers from all parts of the country came to Royal Troon to assist with bunker raking. This year, on the drought stricken Ayrshire course their duties were totally confined to smoothing the sand, unlike last year at Royal Lytham when it was all hands to the pump to make the course playable, following hours of torrential rain.

It was so dry, at Troon the wispy rough was like a tinder box and it was inevitable someone would drop a lighted cigarette into the dead grass and start a fire.

When it happened at the Prestwick end of the course, spectators were quickly evacuated and the fire brigade were on the scene within minutes to bring the blaze under control.

Cheers!

Events such as the Open Championship always produce a captive gathering of people with money in their pockets. Hand in hand there are those with the sole objective of getting it out.

Although one can understand the necessity of covering the cost of the stand rents charged by the R & A, the prices demanded by some of the food and drink suppliers were quite obscene.

No names, but the two organisations to whom we will raise our glass in a grateful toast are the Golf Club Stewards Association for their friendly welcome and bar prices equal to those charged in most clubs.

Coupled with those thanks is one to the members and committee of Royal Troon who also dispensed hospitality, without inflation, in the club bar.

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J.E.L.

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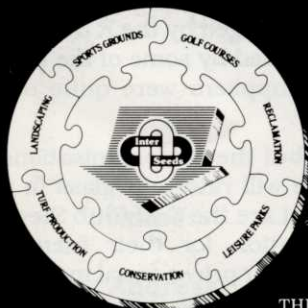
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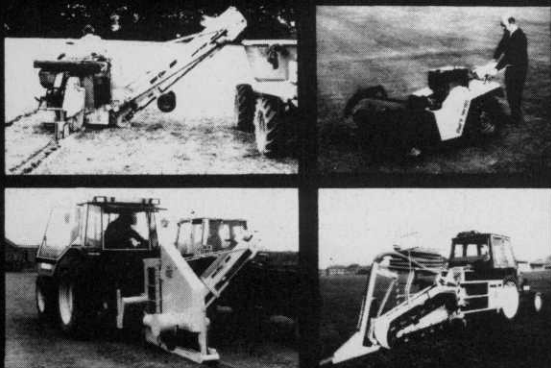
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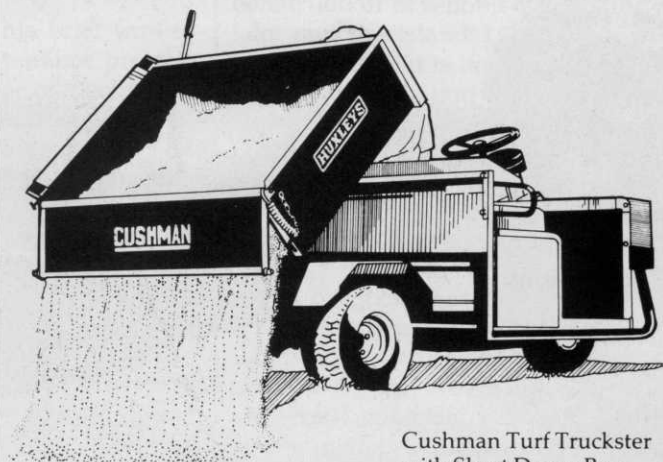


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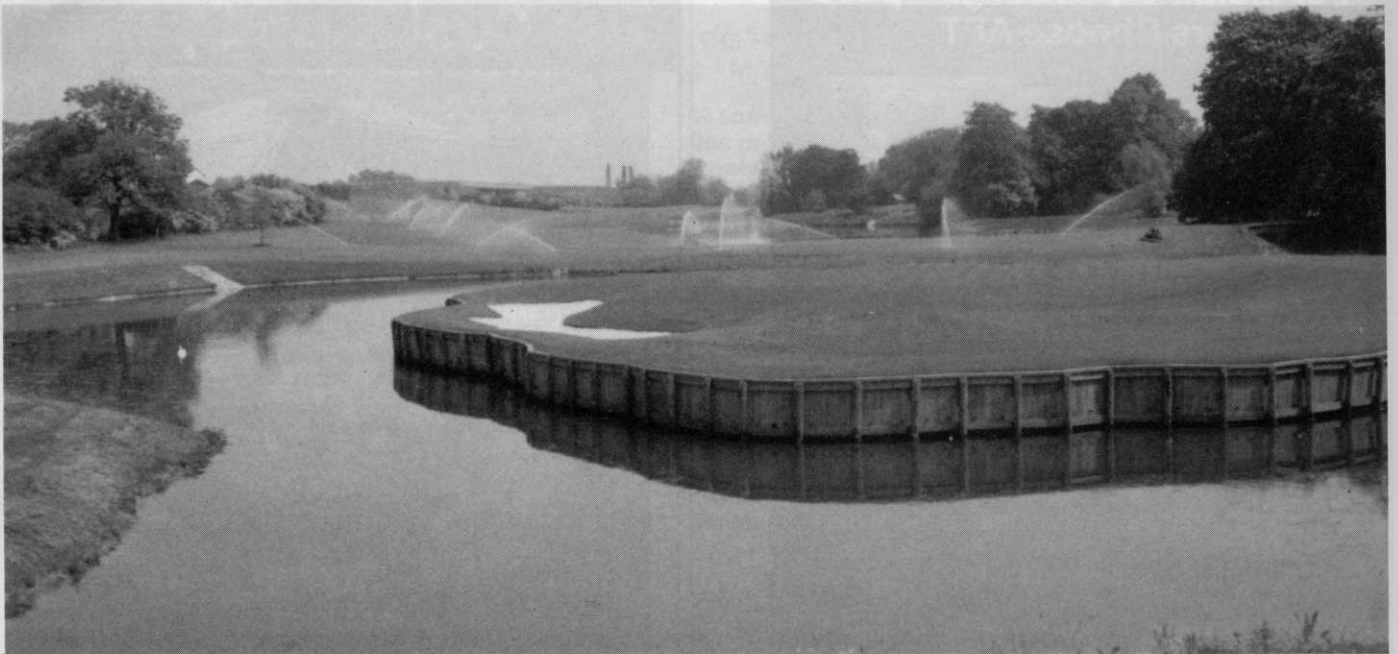
The GR Pick-up Mower (available in a range of sizes from 98cms to 207cms) is a versatile machine ideal for golf courses, sports grounds, and estates. Based on the 'G' series flail mower, the rotor has closely spaced back to back flail blades which leave a fine finish. The Wessex GRD mower is really a flexible system which adapts to the changing requirements of the seasons, offering a choice of rotors, grass collection facility, and scarifying tines for clearing thatch from golf course fairways, cricket outfields and similar areas. Cut material can be dumped from the tractor seat.

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Fairway irrigation keeps the grass growing on the final approach to the 18th green

Collingtree Park, the executive course that brings a new dimension to golf in Britain

John Lelean has a privileged pre-view of sculptured fairways in a lakeside setting

Just two years ago, work commenced on the outskirts of Northampton to develop one of the most exciting new golf course projects anywhere in Europe.

Now, spot on schedule, the first stage, the 18 hole golf course is nearing completion to a standard that even a hard bitten golf writer who has attended many a press conference announcing a new venture, must confess has more than lived up to the smoked salmon, white wine publicity launch.

To sum up this latest addition to a golf starved country - its a Cracker!

There have been some internal management changes since the project was first devised and now International Resort Holdings, have sole controlling interest, but this has not affected the building of the golf course to a signature design, by former Open Champion, Johnny Miller. Sited partly in the grounds of a former stately home and incorporating surrounding farmland, the course now known as Collingtree Park has been laid out with meticulous design skill over every inch of its 275 acre site.

Mature trees within the old parkland have been cleverly incorporating in the sweep of the fairways, the flat, partly boggy meadows, completely reshaped to provide not only a fine test of golf, but a vista which is unrecognisable to previous owners of the land.

It is a golf course, designed with imagination and sculptured by bull-dozers.

Much has been written by the purists that the "American Concept" of man made courses based on the original Scottish links or the later sandy heathlands in the Surrey stockbroker belt is pure heresy. But golf has become a truly international game and in the same way that golf courses developed in parkland when the linksland was exhausted, so other tracts have needed to be developed to satisfy an every increasing demand for somewhere to play.

What has been done at Collingtree Park is the forerunner of the fourth stage in golf course development in the British Isles. If the land is unsuitable, then move it about until it is. Mechanisation has provided the

opportunity to build today the equivalent of the Hanging Gardens of Babylon, the Pyramids of Egypt or the Great Wall of China. The architects in ancient times had at their disposal an army of dispensable labour, modern designers use one man at the controls of an earth moving machine.

Management trainers advance the theory that problems do not exist. Every problem they say, presents an opportunity. Certainly there were plenty of opportunities at Collingtree Park.

Local residents expressed the view that part of the site was quite unsuitable for a golf course because low lying wetlands frequently flooded and a slow flowing stream, burst its banks at the mere hint of a storm.

In conjunction with the local water authority this "opportunity" was examined with the result that eight man made lakes, were incorporated into the course design, inter linked and controlled by stone weirs. They not only come into play on eleven of the holes, but it has solved a potential flooding problem for the surrounding area.

ON THE COURSE

The sluggish stream has been opened up, silt traps constructed, the banks landscaped, picturesque waterfalls add aeration, encouraging a thriving fish population. Black and white wagtails skip across the stones, herons patrol the banks and both flora and fauna, are flourishing.

The contractors, Southern Golf have now left the site, leaving only the arborists to plant new trees and shape those around the fringes of the fairways. In the words of Course Manager Peter Jones, "We are now growing the course in".

Peter joined Collingtree Park just over two years ago and has seen it take shape as the months progressed. Originally involved in golf course construction at Woburn with the development of the Dukes Course, he gained further experience in the building of nine holes at Harrow School and the Abbey Hill course at Milton Keynes.

Later he joined the greenstaff at Woburn and was involved in the re-

construction of ten holes and the "in-house" laying out of the subsequent Duchess course.

At Collingtree Park his brief was to prepare a total maintenance budget, negotiate the purchase of machinery, recruit and train a greenkeeping crew and have the course ready for play by the Autumn. All this he has achieved. His greens are Pencross, sown between July and September last year on 12" of pure sand and all are in magnificent condition. It is possible to find a stalk of poa annua, but it is almost like searching for the four leafed clover.

Admittedly the only putts currently stroked over the surface are those played by the greenkeeping staff, but as the opening of the course has been put back until Spring next year, to coincide with the opening of the first tee complex, there is still another nine months of grooming and maturing to come.

The original plan was for 185 luxury houses on 60 acres skirting the fairways and this development is now

underway as is a block of sheltered housing and nursing home. The construction of a hotel overlooking a lake and the island 18th green, will start shortly but is not expected to be ready for occupation until 1992.

However, in time for the April opening of the golf course, the Golf Academy building will be completed, to dual as the temporary golf house in addition to its main role as an indoor teaching school.

Three outdoor specialist "Academy" holes, now maturing, will complete the training complex, backed by a grass two tier driving range, and sheltered cubicles on astro turf, illuminated by floodlighting.

The greenstaff, headed by Robert Gilbert, previously at Billingham Golf Club in Cleveland are with one exception not far out of their teens, but all show a keenness and enthusiasm that Peter has little difficulty encouraging.

Two of the staff, working on equal terms with the men are Paula and Angela. Both in their 20's Paula has a background in horticulture and Angela is fast acquiring an intimate knowledge of the complex Watermation irrigation system.

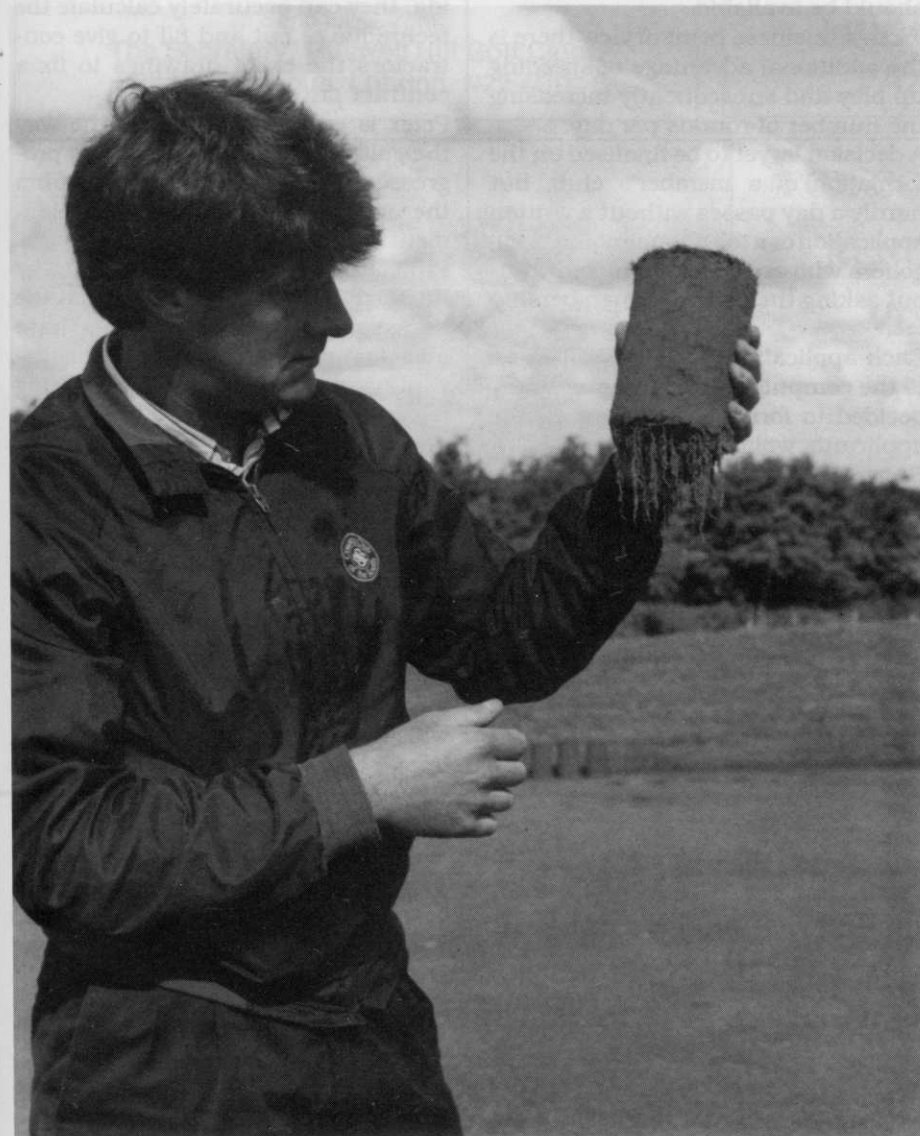
In the sheds another young man, Dominic is the course mechanic, responsible for keeping all the machinery in top class working order. As little as possible goes out for repair and all the grass cutting machinery is sharpened in house on their own grinding equipment.

Last month he recruited four school leavers to the staff. They will they gain maximum benefit from on job training, but will receive a first class greenkeeping education, attending a block release course at a college to be chosen.

Peters Jones said, "We are developing a team each responsible for achieving part of the overall jig-saw. Irrigation and mechanical problems are full time jobs for two of the staff, they in turn are training colleagues responsible for other tasks."

Peter added, "I am pleased with the way the greenstaff communicate with each other and I am sure there are worthwhile career prospects in greenkeeping for those who have shown an enthusiastic approach to the job."

The policy of International Resort



Left: Collingtree Course Manager, Peter Jones inspects the root growth on the Pencross sand greens. The seed was sown twelve months ago on 12 inches of pure local sand

ON THE COURSE

Holdings is one of growing and developing their own staff to be available for the future expansion of the company's interests.

Just prior to the Open Championship at Royal Troon, BBC sports commentator Renton Laidlaw chaired a discussion with Jacklin, Norman, Floyd and Nicklaus, all of whom have moved into course design in varying degrees. The "confession" extracted from Jack Nicklaus is particularly pertinent as he admitted that in his early days of architecture, he laid out a course to suit his own game, not necessarily playable by golfers of indifferent ability.

How many of us can drive 250 yards from the tee with a slight fade? His more recent designs cater for all levels of golf, by a judicious siting of a number of tees for each hole, each one lining up a variety of approach shots to the green.

Such is the concept of Collingtree Park, where a minimum of three tees for each hole have been placed in such a way the course can be set up for any type of event, from a professional tournament to an enjoyable day out for a category four golfer.

The short par threes have up to five teeing off grounds, demanding anything from a full blown drive to nine iron.

They have also moved away from the square or oblong tee areas to shaped tees, visually attractive but low cost maintenance, as all can be cut by machine. There is also the advantage of taking one or more tees completely out of play for essential remedial work.

Another so called American influence is the laying out of cart paths throughout the eighteen holes. Although some may believe this is a trend to be discouraged, golf has to be developed along commercial lines if anything like the necessary new courses are to be built in this country and that means developers must be looking for a maximum return on capital once the operation is underway.



A pair of swans have taken up residence on the lake guarding the 18th island green. Blanket weed encouraged by the hot weather has created a problem, but the owners are taking advice on clearing it

Collingtree Park is intended to be a golf course catering for the company golf day, society golf or hotel visitors. They require the best facilities that can be provided and if this necessitates the luxury of a golf buggy it should be available.

From a business point of view there is the additional advantage of speeding up play and subsequently increasing the number of rounds per day.

A decision is yet to be finalised on the formation of a member's club, but hardly a day passes without a written application or a telephone enquiry from golfers who are prepared to join without asking the price of a membership fee.

Each application is carefully filed on to the computer and if it is eventually decided to form a club, then all the applicants will be informed.

But to return to that superb course, mounded, grooved and shaped to sweep away from the tees, to the hole in the putting green.

The engineered drainage system not only gathers underground water, but can cope with a sudden storm when surface water runs off the moundings and channelled to the lowest point in the fairways. Here, storm gratings have been installed in the swales to pick up

surplus water to be carried away to the lakes and streams and alleviate any danger of flooding.

The developers have used designers from the USA, because with the experience of similar constructions in Florida, they can accurately calculate the technique of cut and fill to give contractors the exact drawings to fix a contract price.

Peter is enthusiastic about the way the golf course construction has progressed with little disturbance from the accompanying building development taking shape around the course. Project management, headed by Richard Skene, has ensured that the necessary roads and services have been installed with the minimum disruption to the delicate task of seeding fairways and growing the grass.

There is little doubt this privileged pre-view of one of the most exciting golf course developments in Britain has more than lived up to expectations.

Next Spring when the paying customers arrive, they too will discover a fine course with many challenges. My only advice is to bring a bag full of old balls, as many a card will show a penalty shot for a lost ball in one of the lakes.

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Fairway Contour Mowing

by PATRICK M. O'BRIEN

Director, Southeastern Region, USGA Green Section

MOST GOLF COURSES like to offer their golfers an artistic contrast between the fairways and roughs, a feature that enhances the natural beauty of each hole. This is true especially if the fairway perimeters are curbed rather than set in a straight line. This feature is termed contour mowing, and it is usually considered highly desirable by most golfers.

Historically, while the term "fairway" was understood to be the closely mown areas of the course - other than greens - the word did not appear in the Rules. Even today, the Rules of Golf doesn't use the term. Between 1700 and 1850 golfers played principally on links courses adjacent to the coastline. Their fairways consisted of the native grasses, which were bentgrasses and fescues, kept short by the first greenkeepers, the grazing sheep, and rabbits. The deep, inescapable rough on either side of these fairways was spotted with heather, a woody groundcover, and gorse, a thorny bush. The main route to the putting green was usually no more than 40 yards wide. With such narrow fairways and

difficult rough, slow play, injuries, and lost balls were an integral part of the early game. In the middle-to-late 19th century, as play increased at St. Andrews following the arrival of the gutta-percha ball, the fairways were widened, principally to prevent injuries. The heather was cut away in what was probably the first attempt to specifically shape the route between the teeing ground and putting green. The fairways on British courses eventually became even wider, for two reasons. First, the gutta-percha ball travelled further than the leather-bound feather ball, and therefore required a wider fairway. Second, since the gutta-percha ball would not dent like the feathery ball, the players now had new clubs called irons. Playing with irons killed or injured much of the heather and the fairway grasses spread into more of the links land. With more grasses on the fairways, additional men called greenkeepers were needed to help maintain these large areas between the tees and putting greens. Even in the early days of golf, the primary goal with the tee shot was to aim at, and hit the fairway. Later,

more emphasis was placed on hitting a particular side of the fairway. Position became even more important as the fairway was perceived as the defence for the putting green. The reward for a well positioned tee shot was a better angle to the putting green, and a well-designed fairway helped make the game even more interesting. The first greenkeepers didn't have enough equipment or labour for intense maintenance, they believed the fairway grasses should take care of themselves. The low-maintenance approach worked quite well, given the acid, sandy soils and the temperate climate. These conditions caused the fairway grasses to grow very slowly in beautiful patterns.

AMERICAN golfers expect and deserve top-quality fairways. With the availability of both better fairway grasses and equipment today, good quality fairway turf is within the grasp of most courses. These improvements have also allowed today's golf course superintendents to shape their fairways to almost any pattern. There is no doubt that im-

Today's mowing equipment creates dramatic patterns



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TOPICAL TIP



Contour mowed bentgrass fairway

proved maintenance standards and enhanced fairway design can make a course more pleasing and challenging.

Probably the most dramatically designed fairways in the United States are on bentgrass courses. Many golf courses with bentgrass and *Poa annua* fairways are maintained with small three-or-five-plex reel mowing units, and in many instances clippings are removed as well. Smaller mowers came into use as a response to the desire of golfers for tighter, drier fairway lies. Because lightweight mowing produces healthier turf as well as better playing conditions, both golfers and superintendents benefit from the programme.

In conjunction with this new mowing programme, fairway acreage has been significantly reduced, in part to lower costs. Though fairways have become narrower, smaller, more maneuverable mowers have led to more interesting mowing lines. Thus, these smaller mowers have dramatically improved bentgrass and *Poa annua* fairway design and maintenance. With healthier fairway turf, better playing conditions, and improved fairway designs, golfers now prefer less fairway turf and more rough on these bentgrass golf courses.

In contrast, bermudagrass golf courses have long provided the standard for excellence in fairway playing conditions.

The bermudagrasses are considered the highest quality fairway turf, particularly the Tifway hybrid. However, bermudagrass maintenance and care is radically different from bentgrass

and *Poa annua*. Bermudagrass golf courses will normally maintain more fairway acreage and use bigger and heavier mowing machines. Grass clippings are seldom removed.

There are agronomic reasons for these differences in mowing practices and care. During the active growing season, bermudagrasses require more frequent cutting than bentgrasses and *Poa annua*. Bent/*Poa* fairways are usually cut two to four times weekly, while bermudagrass fairways are cut four to six times a week. Also, the active growing season is much longer for bermudagrass golf courses. Bermudagrasses are cut nine to 12 months of the year, while the active growing season for most bentgrass and *Poa annua* golf courses is five to seven months.

Even though all turfgrasses respond positively to lighter mowing equipment lighter mowers are not generally used on bermudagrass fairways because of their faster growth rate and longer growing season. A sharp seven - to nine - gang reel mower will still produce an excellent fairway surface on bermudagrass. These are the most efficient and economical mowers for open spaces like most fairways.

Nevertheless, there are times and situations when smaller three-or-five-plex unit mowers are helpful on bermudagrass fairways. Many golf courses do maintain approaches to putting greens and par-3 holes with the lightweight equipment. These machines are more maneuverable in restricted areas, and they allow the operator the flexibility to change mowing patterns more easily. Also, these lighter ma-

chines will cause less damage to wet or poorly drained fairways.

THE PREVALENT philosophy today with any fairway contour mowing pattern on both bentgrass and bermudagrass courses is not to make the game too difficult. The primary goal of any mowing design should be to provide enjoyment for the greatest number of golfers. Fortunately, there are only a few guidelines to follow to start a successful contour mowing program at your club:-

1. Make the widest point of the fairway 170 to 210 yards from the middle tee, or wherever the majority of drives land. Fairway widths in these areas could vary from 35 to 60 yards, with the norm being 40 to 50 yards.

2. Narrow the fairway shape in the area from 240 to 290 yards off the tee in the landing areas of the scratch golfer. A 30-to- 40-yard width is desirable for these better players.

3. Start the fairway 50 to 75 yards from the regular tee. This gives everyone a chance to play from the fairway. For the golfer to see differences between fairway and rough grasses from the tee, it is important to cut the roughs at least one inch taller than the fairways for bentgrass courses and three quarters of an inch taller for bermudagrass courses. It is important to cut the roughs at least one inch taller than the fairways for bentgrass courses and three quarters of an inch taller for bermudagrass courses. It is also important not to let the rough grow too tall, especially bermudagrass rough, or the penalty for missing the fairway is too great. Many clubs now mow an intermediate or secondary rough adjacent to the fairway perimeter to reduce the penalty for barely missing the fairway. This is seen most often on bentgrass and *Poa annua* courses that have narrow fairways.

Bobby Jones felt the primary purpose of any golf course was "to give pleasure to the greatest possible number of players, without respect to their capabilities." A sensible fairway contour mowing program is one intelligent way for a golf course superintendent to implement this philosophy.

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