

FUSARIUM

Early diagnosis is essential for fusarium patch control, says the STRI's Kate York

Don't let THIS happen to you

Fusarium patch is the most damaging and disfiguring fungal disease to attack fine turf in the UK.

Good management techniques can go a long way towards minimising the effect of this disease but no system can guarantee fusarium-free greens, according to Kate York, plant pathologist at the Sports Turf Research Institute, Bingley.

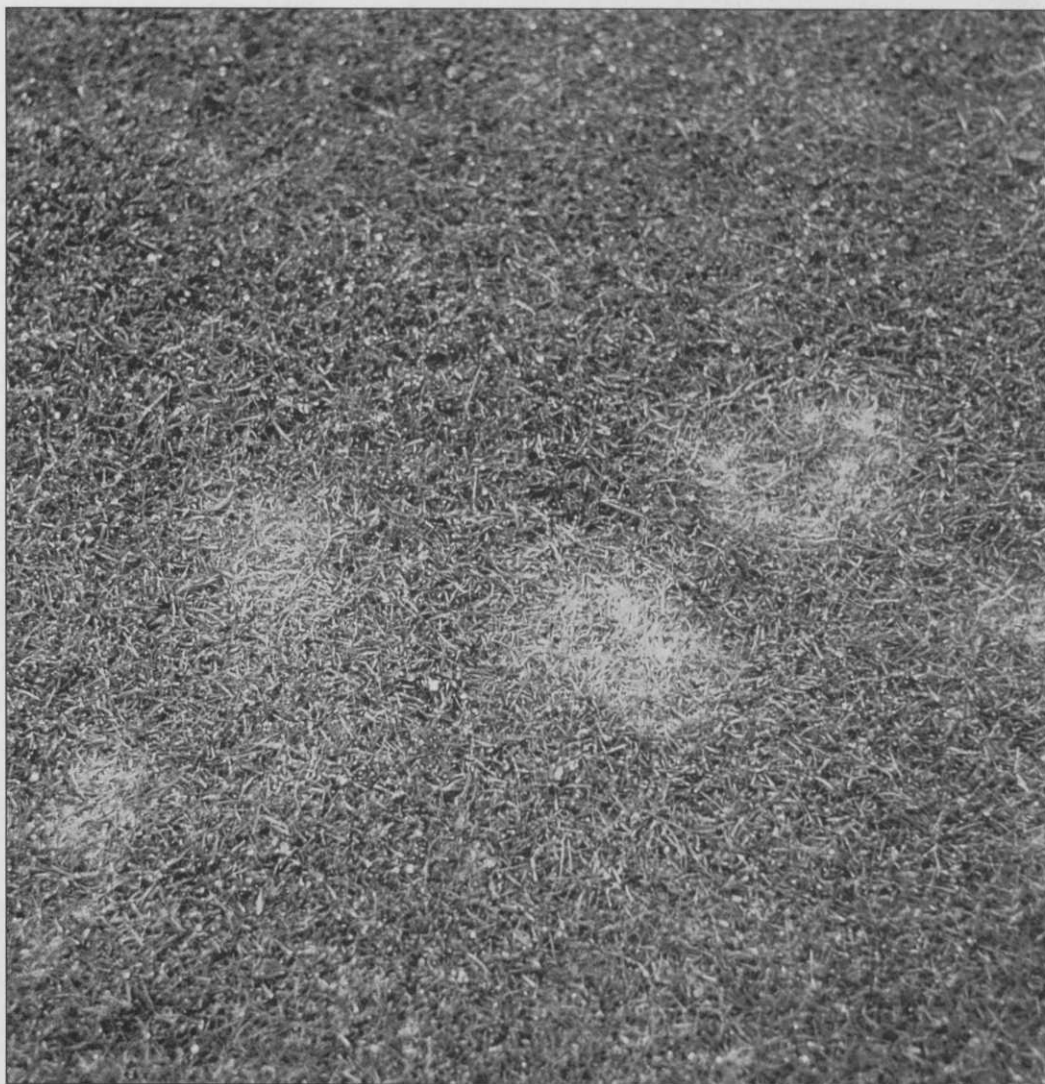
"The key to minimising fusarium patch damage is accurate diagnosis of the first symptoms of the disease. Almost all Britain's golf courses have a fusarium patch problem to some extent, so every greenkeeper should be on the lookout for early signs, especially between October and March when the fungus is most active," she says.

"Fusarium patch starts off as small orangey-brown circles of about 5cm in diameter. If left untreated once observed, the disease can rapidly spread in a very short period of time.

"These small patches increase in size and coalesce, eventually growing into larger dark-edged circles with straw-coloured centres which, when the disease is active, are slimy to the touch. This is the face of fusarium that all greenkeepers will recognise.

"Once the disease has become so firmly established that grass at the centre of each patch is dead, new spores are being released. These spores can be spread across the affected area causing a rapid rise in disease levels. Immediate fungicide treatment at this stage is imperative."

The fungus causing these problems is called *Microdochium nivale*. It is present in turf all year round, thriving particularly in cool, humid conditions. Although fusarium patch is generally considered to be a winter disease, it can occur throughout the year if



environmental conditions are suitable.

"Wet greens with a high level of *Poa annua* and a history of fusarium patch are most at risk every year," says Kate.

"To minimise the spread of fusarium patch greenkeepers should nominate one or two more susceptible greens and use them as 'indicator' greens. Shaded or sheltered areas, where the turf surface stays wetter for

longer, are ideal for this purpose.

"As a general rule, if fusarium symptoms are spotted on the 'indicator' greens, the disease is likely to appear on others within two weeks if there is no significant change in weather conditions. Using these greens as a guide will allow fungicide applications to be correctly timed, containing the problem and minimising turf damage.

"To maintain good control after the initial treatment, greens should be regularly monitored and repeat fungicide treatments should be applied as and when necessary."

If early action is not taken, the price can be high. The disease is extremely vigorous and spreads rapidly. If fusarium patch is allowed to establish itself, scars will be left on the turf surface and will cause further problems

FUSARIUM

even after the disease itself has been controlled.

"Although turf will grow back into the bare areas, weed grasses like *Poa annua* will recolonise the scar more quickly and increase the overall weed burden of the affected green," adds Kate.

Here are some management techniques she says could help tip the odds in the greenkeeper's favour:

"Keep the green surface as dry as possible by 'switching' to remove dew and rain. If greens are continually retaining excessive amounts of water, reconstruction of these areas should be considered.

"Avoid late fertiliser applications. Nitrogen applied late in the year will stimulate grass when growth rates should be decreasing. A quick, weak burst of growth will create a plant that is much more susceptible to the fungus.

"Keep an eye on the thatch. If the thatch layer gets more than half an inch deep it will retain moisture and provide an ideal environment for fungal growth and over-wintering. If the thatch is reduced, the inoculum which has the potential to cause problems the following year will also be reduced.

"Topdressing applied at too high a rate or left on the surface of the turf will also cause problems, smothering the turf and incubating the fungus.

"Finally, always be alert to the danger signs. When out mowing take a few moments to carefully examine the most susceptible greens.

"Both the STRI booklet and the recently published BIGGA guide on disease identification could prove to be invaluable tools in the early diagnosis of fusarium patch. Once the disease has been spotted, act immediately by spraying all greens to avoid further problems.

"Every greenkeeper knows his own greens and can best judge the problems he is likely to face," she concludes. "The key to successful control of fusarium patch is to take action as soon as it is seen. Applying fungicide sprays on a calendar basis, whether or not the fungus is active, will only waste time and money."

Treated seed is an effective way of keeping fungal attacks at bay

Greenkeepers using perennial ryegrasses are being advised to buy treated seed to ward off fungal attack.

Geoff Taylor, technical officer at Johnsons Seeds, warns that the arrival of the autumn with its warm moist soils, ideal for speedy germination, can often be interspersed with cold nights and heavy dews – predisposing factors for attacks by fungal disease on emerging grass seedlings. The seedbed if poorly prepared, especially when lying too wet (or even too dry), is the cradle for numerous fungal pathogens.

Renovation of thin turf is a prime case for treated seed. Serious losses can occur from

the earliest stages – with attacks on ungerminated seeds through the phases of pre- and post-seedling emergence.

Whilst recommended seed rates are designed to allow for these and other causes of seedling mortality, treatments such as Apron T treatment with its potent duo of thiabendazole and metalaxyl provide a relatively economical extra measure of protection against severe seedling losses. New sowings can be devastated by the well known 'damping-off' disease which involves a complex of fungi – the two main culprits being fusarium and pythium, respectively associated with excessive dryness

and wetness.

"Rapid and even seed development is a prime requirement in autumn to ensure that a new or renovated sward is well established before conditions deteriorate and growth ceases," says Mr Taylor. "Delayed sowings, therefore, are another obvious instance where seed treatment is an essential precaution.

"Faced with the risk of fungal disease, we believe treated seed is a prudent assurance policy that avoids the significant losses of time and money associated with sub-optimal sowing conditions."

For further details call Geoff Taylor on 0205 365051.

Fungicide dressing helps grass germinate quicker, saves money

A trial at Writtle College has shown that many amenity grass species will germinate quicker if treated with a certain fungicide dressing or polymer coating. The trial was set up in conjunction with Rhône-Poulenc to investigate the effects of non-mercurial cereal dressings on the germination and establishment of a range of five amenity grass species: creeping red fescue, browntop bent, smooth stalked meadow grass, chewings fescue and perennial ryegrass.

The seeds were dressed with a fungicide seed treatment containing guazatine plus imazalil, with and without a polymer film coat developed by Rhône-Poulenc. Guazatine plus imazalil is supposed to be particularly effective against seed and soil borne pathogens such as fusarium. The polymer coating, which is water insoluble, controls uptake of water into the seed, resulting in improved syn-

chronisation of seedling emergence.

"By retaining the active ingredient within the polymer and reducing leaching into the soil, it maintains a level of disease protection well into the early stages of seedling development," says KB Seal, senior lecturer in crop protection at Writtle College. "The polymer also allows the seeds to be more evenly dressed, which reduces the danger of overloading active ingredient on to the treated seed and its subsequent possible phytotoxic effect on either the seed or the emerging seedling. In addition, the polymer film coating increases the seeds' resistance to abrasion during handling and sowing and reduces dust."

After the trial, Mr Seal said: "All the amenity grass species except perennial ryegrass, which failed to respond to any of the treatments, showed both an increased rate and percentage germination with either fungi-

cide seed dressings, polymer or combinations of fungicides plus polymer 13, 14 and 19 days after sowing."

He concluded: "While the individual grass species showed varying responses to the different seed treatments, there was an overall trend of an initial boost to both the rate and increase in germination 13 days after sowing. The majority of the seed treatments commenced germination 2-3 days ahead of the untreated controls with this difference in growth also being reflected up to the two leaf stage. These differences were achieved with no apparent turf diseases evident on the emerging seedlings of either the treated or untreated controls. Neither was there any evidence of phytotoxicity on any of the seedlings from the seed treatments. The increased rate of germination, even by 2-3 days, could be of considerable economic benefit to golf courses."

Former welder heralds start of greenkeeping career with an award

Former steelworks welder Carl Price, pictured, has made an award-winning start to his new career as a greenkeeper.

Carl, who lives in Shotton, has just been presented with the 'Hortiplay' award for excellent achievement at the Welsh College of Horticulture in Northop, Clwyd.

He worked at the new Northop Country Park Golf Club during his training and has now been permanently recruited as an assistant greenkeeper. This marks the successful end of a country-wide trawl for work.

After being made redundant from Shotton steelworks in the early '80s, Carl travelled all over the UK as a contract welder, but found it increasingly difficult to find work as the recession bit.

Eventually he returned home to North Wales and saw the greenkeeping course advertised in his local paper.

Carl was one of 11 students



who undertook the NVQ Level 2 course at the Welsh College of Horticulture, supported by the Training and Enterprise Council for North East Wales.

Carl is one of a seven-strong greenkeeping team which looks after the 6,680 yards course at Northop Country Park, which is set within 247 acres of carefully tended parkland.

Noel Hynes, course manager, said: "We are delighted with Carl's success and have found him to be a very productive member of the team."

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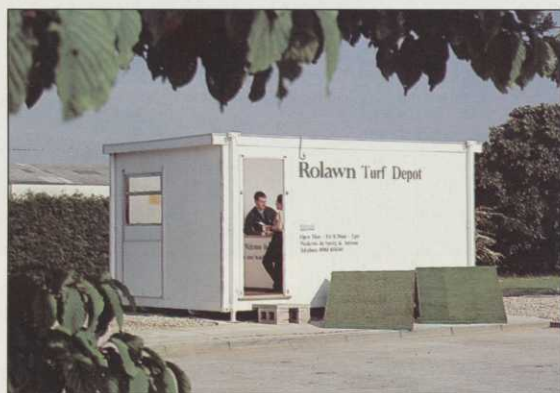
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ADRIAN SIMM



Former Myerscough College student Adrian Simm assisted on about eight golf courses in the north of England before becoming a Maxwell Hart rep. One day he went for an interview in Belgium. He didn't get the job but when that firm bought a golf course in Holland he was offered the chance to show them what he could do. He started at the 27-hole Golfclub de Purmer championship course, about 40km north of Amsterdam, in June 1990 and stayed there until January this year when he moved 30km to Amsterdamse Golf Club. This is an 18-hole parkland course built on polder (reclaimed land). It has 750 members and has been open six years. He came in as course manager over the head greenkeeper which has caused problems but not as many as you might think.

Following a recent remark by BIGGA president Viscount Whitelaw that in years to come it may be difficult to keep the top greenkeepers in this country, Chris Boiling went to Holland to see what it's like for three Brits working abroad.

BILL GARNER

Bill Garner hasn't worked in the UK for ten years. After 16 years at Wilmslow (six as head greenkeeper), he became course manager at The Grange in Dublin. Then he saw a job advertised and in March 1988 became course manager at Hilversumsche, Holland's fourth oldest course.

When I met him, Bill and his staff were busy preparing the 18-hole wooded heathland course for the Dutch Open. He says his aim is to "make it the best course in Holland." He has no plans to return home yet: "The longer it goes on the harder it is to go back."



Holland

Where the grass is greener

The grass is greener for greenkeepers on the other side of the North Sea. After a quick tour of three Dutch clubs maintained by Brits, it's easy to come to the conclusion that:

- Their maintenance facilities rank alongside the best clubs in Britain;
- Their machinery inventory would be the envy of most British greenkeepers; and
- They are treated better. They are treated as professionals by

their employers and by club members, and are paid accordingly.

BIGGA's former education chairman, Huw Parry, the former course manager at Bristol and Clifton who accompanied me on the lightning tour of The Netherlands, agrees: "Their facilities are certainly much better. They seem to be regarded more – especially the expats – as professional people. They certainly have a way of life that is far better than in the

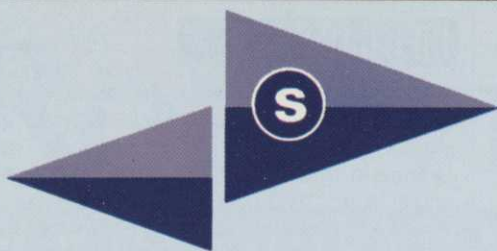
UK, but they seem to be under less pressure at the same time. The standards are different so the pressures are different. The standards in the UK are much greater, generally. I think they've got a much better working environment. They seem to have the machinery to do the job, they seem to have the money to spend on fertiliser, seeds and top dressings.

"I think at the end of the day as long as they're producing a good

product then the money is there for them, whereas back home many greenkeepers are fighting for everything they can get."

Budgets

At the 5859m par 72 Hilversumsche Golf Club Bill Garner says he has a budget but he gets what he wants. "The course comes first here. If I need a machine then it's planned." He even has his own Hydroject 3000 and two Verti-drains. He spends



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COLIN FAIRLEY



Colin Fairley – pictured centre with his team – joined Vereniging Golfclub Almeerderhout six and a half years ago and helped with its extension in 1990. The club now has three loops of nine holes, a nine-hole par 3 course and driving range. Although it is situated below sea level on land won back from the ocean, the forest has a very natural look. With several water hazards and an extensive tree-planting scheme they are “working towards parkland”.

Colin, 36, was recommended for the job by the pro whom he had met while greenkeeping in Edinburgh. Colin started as an apprentice at Harburn and worked his way up to first assistant before becoming head greenkeeper at Uphall, where he stayed for six years.

about £80,000 on grass seed, sand and fertiliser.

Colin Fairley says he now spends more on servicing his machinery than he had in his budget at his previous clubs. “It’s a new club run by company managers who realise you get what you pay for,” he adds.

Adrian Simm says at his first club “machinery and money were no object”. He says he had £1m worth of machinery and spent £120,000 a year on grass seed and fertiliser (although you have to bear in mind tax is paid on seed and fertiliser).

Size of team

Bill Garner has seven staff to maintain his 18-hole course. Colin Fairley has a staff of nine looking after 27 holes and par 3 course.

We were shocked when Adrian Simm said the greenkeeping staff at Amsterdamse comprised three greenkeepers and the course manager. Then we found out their only responsibility is the 18 greens, aprons, bunkers, tees and the tee bankings. Everything else is contracted out. The contractor has about 50 employees and looks after several courses and

parks. They cut the fairways, semi rough and rough and carry out other tasks such as verti-draining and overseeding. “It takes a lot of pressure off me,” says Adrian.

Bill adds: “The staff have been good to me. There were some difficulties in the beginning but you could get that going to Scotland.”

Greens committee

Hilversumsche has a greens committee of three who stay for five years. Bill Garner has had the same greens chairman for six years and, he says, “he backs me all the way when it comes to machines.”

Colin works with five other people on his committee, each has his own function. They meet every six to eight weeks.

Amsterdamse has a greens committee of one whom Adrian sees for ten minutes every Monday morning with the general manager.

Life abroad

The course managers we met had a higher standard of living than many of their UK counterparts and their money was far superior, although it’s an expensive place to live. Health insurance is partic-

Where the grass is greener

AMSTERDAMSE



ularly expensive. They also have to pay 50 per cent tax on everything earned over £17,000.

"Compared with Scotland, the standard of living is far higher, otherwise I wouldn't be here," says Colin Fairley.

Adrian Simm says he earns £38-40,000. With holiday pay (equivalent to a month's money) and a Christmas bonus (another month's money) he gets 14 months pay a year. He also gets a travel allowance and his phone bill paid. He works nine hours a day in the summer (7am-5pm) and seven hours in the winter. "The standard of living is much better," he says, "We seem to be able to afford more."

The language

If the signs on the courses are anything to go by, there should be no language problems. The 'ground under repair' and 'next tee' signs were all in English.

Bill speaks Dutch, Adrian doesn't but he says all of his staff speak English. Colin speaks a little Dutch but says half his staff are British anyhow – "there's a shortage of qualified staff in The Netherlands," he says, so he has employed several Brits.

Casper Paulussen, Colin's Dutch deputy, says: "Most Dutch people speak English so there is no problem with language."

Family life

Living abroad is easier for the greenkeeper because he's doing a job he enjoys. The key to success is how the wife and children adapt. "I think if my wife wasn't happy we'd go back, but she is happy. She's made some nice friends – Dutch and English," says Bill Garner who is married with three children – girls aged seven and four and a boy who is nearly two. He says his family have adapted well to life abroad. His children – two of whom were born in Holland – all speak "perfect" English and Dutch.

Adrian is also married with three children (aged eight, five and three) who are learning to speak Dutch.

Colin has a 15-year-old son who speaks fluent Dutch and a 14-month-old girl. His wife works in Amsterdam for Greenpeace, an international organisation that operates in English. "I think working abroad is more attractive to single people or couples with young families. The Dutch seem

to keep themselves to themselves," he told me.

Greenkeeping differences

The greenkeeping practices and problems in Holland are fairly similar to the UK. But, generally, they're a few years behind.

The weather is similar to the Midlands but probably more extreme in the winter and hotter in the summer.

Holland is a 'greener' country than the UK so there are more regulations concerning pesticides, the use of nitrogen and how much water can be used.

Adrian says the maintenance practices are very similar but "we've got more money to play with and full control of the budget."

Recommend it?

"It's a confidence booster – to be able to learn the language, drive on the wrong side of the road. When you can survive abroad you think 'Yeah, that's good'," says Bill.

Colin says: "Yes, but you need commitment."

● *This trip was sponsored by Barenbrug, which provides the seeds for the three courses.*

In 1990 the 60-year-old Amsterdamse Golf Club was forced to move to a new site when a new railway was built on nine holes. The remaining nine holes became the Amsterdam Old Course and a new course – with penncross and pure sand greens – was built in Halfweg. A year and a half after being built they were condemned by club members, the STRI's Jeff Perris and Walter Woods, St Andrews' links superintendent. They agreed the greens would never meet the required standard. The main cause was the very high pH level, a sandbed where the depth ranged from 20-60cm and the almost missing upper humusbed.

A decision was made to start again – at a cost of £100,000. "But we had no choice," said club member and golf course architect Gerard Jol, who was commissioned to redesign the greens and direct the project.

His starting point with the new greens was more pin positions. He also made them smaller (from an average of 690m² to 550m²), "more interesting and harmonised them with their surroundings. They also took the opportunity to add some bunkers around the greens and on two fairways to make "two rather dull holes more challenging."

The new greens were sewn with ordinary fescue, fescue with fine offshoots and ordinary bentgrass.

The work started in August 1992 and was finished two months later. Because the fairways were already sewn with fescue and bent grasses, good temporary greens were constructed on the fairway, so disruption to members was kept to a minimum while the new greens were built and grown-in.

The greens were open for play at the beginning of September 1993 with the mowing height kept to 8mm. In October, two years after the greens were condemned and one year after the reconstruction started, the Netherland Golf Federation gave the club the 'A-status' it desired.

The new products that caught our eye at the 1994 Saltex show at Windsor Racecourse

WHAT'S

Turfmech Accumulator 7/7



Staffordshire company **Turfmech Machinery Ltd** has produced a frame that will enable one tractor to pull two seven-gang mowing units simultaneously. The Turfmech Accumulator 7/7 frame enables one man to mow 30ft (9.5m) in one pass. Turfmech tells us: "The Accumulator's frame geometry has been designed so that mowing performance both in a straight line and when turning at the end of a run remains at peak levels without risk of turf scuffing or the mowers interfering with an adjacent unit." To that end, all PTO drive shafts have wide angle joints to accommodate tight turns and both they and the unit's oversize gearboxes are rated to match the recommended tractor power input of 40-60hp required to tow and operate the 14 individual mowing gangs.

Hydraulic pipework and quick release couplings are provided on the Accumulator's frame to enable lifting of the mowing units for transport. The frame is supported by four large castor wheels and has fully-floating arms to ensure precise, level mowing on undulating or uneven turf. All pivots are provided with greasing points. Price is £5,900.

Kubota's L4200



Kubota unveiled a three-strong range of tractors in the 30-40hp class with features that include fully synchronised transmission, creep gear box and independent PTO. All three models in the Grandel range – the 35.1 (SAE) hp L3300, the 38.5 (SAE) hp L3600 and the 45.3 (SAE) hp L4200 – are powered by Kubota E-TVCS indirect diesel engines which, according to Kubota, "have been designed and developed to meet the world's toughest emission standards and engineered to combine high torque with low noise and vibration."

One of the main attractions of the new tractors for greenkeepers is the fully synchronised transmission. This should facilitate smoother gear changes, allowing the driver to change gear between any of the four speeds in the main transmission whilst on the move. In addition, the hydraulic shuttle allows direction changes between forward and reverse.

The transmission with a range of 16 forward and 16 reverse gears incorporates creep gear box as a standard feature on all three models and is ideal for operations such as verti-draining, planting and trenching.

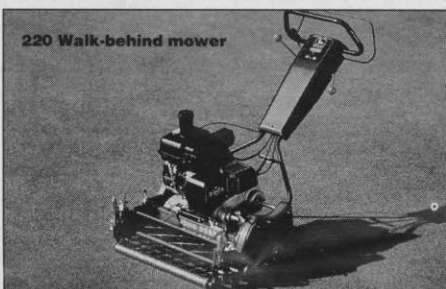
A hydraulically activated independent PTO is common to the range and ensures that

attachments can be easily and smoothly engaged and disengaged to reduce possible attachment damage. It also means that the operator can engage and disengage attachments either on the move or when static.

The Grandel tractor range also has a powerful lift capacity up to 1050 kgs. Prices, excluding VAT, are: L3300 – £13,350 fitted with rollbar, £16,810 fitted with 'Q' cab; L3600 – £17,600 fitted with 'Q' cab; L4200 – £18,740 fitted with 'Q' cab.

John Deere launched the 220 walk-behind greens mower which features a 3.7hp Kawasaki air-cooled engine and an 11-blade, 56cm (22in) reel for improved frequency of cut, at 4.9mm/cut. With an optional speed kit, this figure drops to only 3.9mm/cut. Standard cutting height with a 3mm bedknife is 3.2mm or, with the optional tournament bedknife, only 2.8mm. Attachments include a vertical cutter and rotary brush. Price is £2,611.

Also on show was a new Mauser cab that can be fitted to the John Deere 3235 lightweight fairway mower introduced earlier this year. It will provide the operator with extra comfort and lower noise levels.



Of great interest to our readers in the local authority sector is **Hayter's** latest rugged workhorse triple mowing machine – the Beaver LT312.

The LT312 combines the power of a 29hp Lombardini water-cooled diesel engine with a closed loop, hydrostatic, 2-wheel-drive transmission system to give a variety of grass cutting and transport speeds.

Features of this British-built machine are sturdy construction and a high mowing rate up to 7mph, depending on ground conditions. The 8in cutting reels are offered in 4-, 6- or 8-blade configurations and can be used in either floating or fixed mode for maximum versatility and performance. Cutterheads can be used independently and the overall cutting width is 2.13m (84in).

For added traction in wet or steep conditions a differential lock is incorporated. For travelling between sites it has a road speed of 14mph while the cutterheads lift to give a transport width of 1.4m (55in).

The latest in the Condor line-up, the Condor Hydrostatic, was also on display. This mowing machine complies fully with all the latest CE specifications and boasts a Honda GX340 engine with an output of 11hp. The 36in (91cm) Rotary head featured on the display machine has dual rotating cutterheads, each fitted with cutterbars, variable height of cut and swivel castor wheels for extra manoeuvrability.



The Beaver LT312

Nottingham-based **Rake 'N' Lift & Co** now has more than 100 different types of rakes. There are rakes that look more like shovels with teeth and there are plastic bunker rakes that go by the name of Parthenon and The Zeus.

For courses where vandalism and theft is a big problem Rake 'N' Lift have developed the Caddy Bunker Rake which golfers can take round in their golf bags. There are also rakes for removing water off greens. The Liquid-sand Rake and Squeegee Rake are manufactured in aluminium and have detachable rubber and plastic blades.

NEW

Dennis displayed its new FT610. With a 24in cut, this machine features an interchangeable cassette system and full range of cassette heads. A total of nine different cassette options are available, so you can cut, comb, scarify, de-thatch, brush, roll, sorrel roll and spike with this machine. Other accessories include a non-powered transport carrier and backlapping kit for use on the removed cylinder cassette. Also new is a verti-cutter system that fits into the shell of Dennis' 36 and 30in Premier mowers.

Selection of cassettes available for the Dennis FT510/FT610



Toro's leading greens mower, the Greensmaster 3100, is now available in a three-wheel drive model, the 3100-3WD. Toro sales manager David Cole told us: "The three-wheel drive feature allows operators to reach and mow very difficult areas where additional traction is required to get the job done, such as sloped or stepped greens or steeply elevated tees." He added that the Greensmaster 3100-3WD will especially benefit the many newer golf courses which frequently feature elevated greens or very hilly areas.

Toro also introduced a more powerful replacement for the company's leading lightweight fairway mower and a smaller version of the high capacity Fairway Aerator, for use with smaller tractors. The Reelmaster 5300-D replaces the RM 5100-D and comes with a 32hp Mitsubishi S3L engine, a larger radiator to cool this three-cylinder, 1318cc diesel engine, larger hydraulic reel motors, and larger hydraulic pump. The HC4000 is a mid-sized aerator which can be used with tractors of 25-45hp.

Rolawn's new Minster greens turf, officially launched at the show, has already been laid at Wentworth.

"The cultivars in the new turf exactly match those on our new greens," says course manager Chris Kennedy. The fine textured turf comprises 40% Bargreen (chewings fescue), 40% Barcrown (slender creeping red fescue) and 20% Bardot (browntop bent).

The turf has been installed on the club's new two-tier putting green in front of the new clubhouse.

Pro-Seed Equipment Ltd showed the new Prosweep which has been designed and developed to brush topdressing into the base of the sward quickly, to stripe fairways, and to sweep light leaves and rubbish into rows for speedy collection.

The £17,000 **Ransomes E-Plex**, the world's first all-electric triple greens mower which we featured last issue, attracted a great deal of interest. Greenkeepers from several top clubs were seen pawing over the machine which has no engine and no hydraulic system.

Zeneca Professional Products, formerly ICI Professional Products, celebrated its name change by launching two new publications, a product manual and a product label manual, and two new products: Cleanrun, a feed and weed mini granular conventional fertiliser with an NPK analysis of 9:7:7, and a non-residual systemic herbicide called Touchdown LA for control of annual and perennial grass and broad-leaved weeds in non-crop areas.

Claymore Grass Machinery introduced the Columbia Parcar range of golf cars, people movers and utility vehicles. There is a choice of either 3.2hp electric or 8hp two-stroke petrol models. Both have continuous variable transmission, which eliminates a gearbox. For strength, all the units are of tubular frame construction, and the dual coil springs and shock absorbers help provide a

smooth ride. A camber adjustment system keeps the front wheels flat on the ground to reduce turf compaction or the formation of ruts. To reduce noise, the petrol powered version has foam-lined engine compartment and wheel-wells, plus a tuned exhaust system. In addition, the engine has anti-vibration mountings. A feature of the Columbia Utilitruck is that the shell and frame components are manufactured separately to reduce replacement costs if there is an accident.

Dixon & Holliday Ltd says its new Alpina VIP42 knapsack brushcutter is designed for the professional user who requires a machine which can be operated for extended periods on power demanding operations. Powered by a 41cc two-stroke motor which is made by Alpina themselves, the unit is said to have excellent torque back-up which allows it to be operated at well below maximum revs. The power unit, which is carried on the operator's back in a well padded frame with wide straps, weighs under 7kgs (15lbs). The straps have a quick release clip for ease of putting on and taking off. A 1.5 litre (2.7 pint) fuel tank extends working time, and the captive cap ensures that it cannot be mislaid. A diaphragm carburettor, priming bulb and solid state ignition are designed to ensure easy and reliable starting. The machine is supplied with a 2-line trimmer head and a slasher blade with guard as standard plus tool kit and flexible shaft lubricant.



After years of development, **Major Equipment Ltd** has launched two gang mowers. Both the three and five gang models are land drive with a range of cylinder options. The five gang Ranger has a cutting width of 11ft 4in, cuts at 10mm to 40mm, while the six blade reel cuts at 38 cuts per yard. Features include freewheel sprag type clutch, rear rollers, 18in or 20in spun steel wheels with renewable studs, gang suspension system with adjustable spring pressure to allow the cutting units to follow the ground contours accurately, individual gang steering system to eliminate skidding over turf, and wide low profile carrier frame tyres to prevent marking of turf. Price of the three gang starts at £5,250 and the five gang Ranger with hydraulic lift starts at £11,800, the five gang trailed version starts at £8,900.

The mechanisation revolution of the past 20 years has had a dramatic effect on the daily work routines of today's golf greenkeepers and their staff.

As staff numbers on the majority of courses have declined, equipment complements have gone up, bringing a host of helpful, clever and innovative ideas to ease daily work schedules in the face of more and more rounds of golf.

If the initial purchase price is beyond the reach of the club, deferred payment schemes at attractive rates of interest are available from specialist finance companies, enabling the cost to be spread over several years and paid for out of future income rather than capital reserves or short-term borrowing.

This gives the advantage of immediate use, with the accompanying benefits of improved efficiency and higher standards today, rather than some time in the future when needs, expectations and price may have changed.

Alternatively, many specialist or expensive machines can often be hired for a week or more, giving even the most impecunious clubs the opportunity to use the very latest in golf course maintenance equipment, as and when needed, without high outlay.

Each year, companies from Britain and around the world develop and introduce new products designed to make the turf professionals' task that little bit easier. Some of the products gain immediate approval, while others may take time to become widely known and accepted.

There are those, also, which deserve to do well, but remain undiscovered for one reason or another. Similarly, there are others which should never have seen the light of day in the first place.

Clearing up leaves, litter, scuffed grass and other debris has long been a major consumer of time and labour for those working on large, open expanses of fine turf. One answer is to blow the material into windrows for faster, easier collection by hand, sweeper or vacuum.

Delivering a high speed blast of air at ground level, the Turfmech range of Tornado blowers comes in three versions – two suitable for mounting at the rear of tractors and one at the front of a ride-on mower in place of its out-front rotary deck.

The company's latest model is the TM 300, designed for linkage-mounting on tractors in the 20hp to 30hp class. Powered by the PTO, the blower is supported on two adjustable wheels and has an anti-scalp roller to prevent dam-

Michael Bird takes a positive view

Easy life!



Altrac wheel remover provides effortless removal and refitting of tractor tyres by one person

age to undulating turf. The 100mph air flow can be directed to the left, right or front of the machine.

Anyone who has to change a tyre on larger tractors or a digger/excavator will know that it can be a difficult job on one's own. Add to that the exacting health and safety considerations, and the need for assistance becomes more pressing.

Help is at hand in the form of the Altrac wheel remover, distributed by Burdens Lincolnshire Ltd.

Comprising a wheeled frame with adjustable gripper, the Altrac permits movement of the wheel in every possible plane, enabling it to be removed, moved and replaced without strain or effort.

The unit is ideal for those having to repair punctures, carry out their own service work or inter-

change tyres regularly for different working applications.

Of course, life would be a whole lot easier if punctures could be eliminated in the first place. A proven puncture preventive is OKO, a liquid sealant which is injected through the valve aperture into the tyre before a puncture occurs.

If the tyre is pierced, the escaping air forces the OKO sealant into the hole (max 7mm diameter) to immediately form a strong airtight seal with minimal loss of air.

Water soluble, OKO is easily washed from the tyre to enable a vulcanised repair to be effected, if necessary. The substance will not affect hot or cold cures and is suitable for virtually all pneumatic tyres. It is distributed by BasicRight Ltd and available from machinery dealers nationwide.

Cordless tools have made a great contribution to the ease and speed of carrying out repairs and maintenance to course machinery and equipment.

Claimed to produce up to 25 per cent more power than other cordless drills is the UK designed and manufactured Combi from Elu Power Tools, combining a percussion drill and screwdriver in one compact unit.

Fitted with a keyless 10mm chuck, the current top of the range model is the 235 watt SBA55K, equipped with a 12 volt power pack and 14 torque control speed settings. For ease and economy of maintenance, the drill has replaceable brushes and a fan-cooled motor.

Included in the kit box are a one hour fast recharger, two batteries and a spanner to interchange the chuck and screwdriver bit.

An alternative to the use of electricity, whether cordless or through a lead, is air. Both portable and fixed compressors are finding increasing favour in many workshops as a safe, convenient and effective means of powering tools and other equipment.

One of the largest ranges of air hand tools can be found in the Spaldings catalogue. A number of complete kits are available comprising either petrol-powered, single or three phase fixed and portable compressors complete with a host of air tools and accessories designed for every conceivable workshop task.

Items such as impact wrenches, angle grinders, ratchets, socket sets, tyre gauges and grease guns can all be purchased individually, as required.

Need to hold the work secure? The Elu Superjaws portable workbench and vice weighs just 44lb (20kg) and can be set up in less than 30 seconds. It has foot pedal locking of the fully adjustable vice, which is able to exert very light pressure or up to one tonne of force to suit the item being worked on.

The steel jaws have detachable polyurethane facings and can be adjusted to accommodate work up to (35in) 900mm wide.

For anyone who needs to set the height of cut accurately and evenly on a greensmower, the Accu-Gauge from Turf Machinery Ltd enables fast and precise measurement of cutting heights to within one thousandth of an inch.

Comprising a setting bar with depth indicator gauge, the tool is placed across the rollers and the measurement read directly from the gauge. The Accu-Gauge can be used also to check for wear in the bearings and ovality of the rollers.