et's see now, we're titled the British and International Golf Greenkeepers Association, with the accent on the 'International' greater than ever seen before during our brief but meteoric rise. Yes, we also run a 'National' education conference that has grown in stature and appeal, one that attracts attendance from all corners of the globe. It's fame has blossomed and it now could accurately be called an International conference. All this was brought home to me when at an informal gathering held before the beginning of Keele '93, a table set for just twenty saw the following nations represented: Germany, Czechoslovakia, Switzerland, Wales, Scotland, Ireland, England and the good ol' U.S. of A! Anyone still nursing doubt that BIGGA is an international force to be reckoned with needed look no further than the Keele lecture theatre, for no less than eleven nations were represented, the aforementioned topped up by representatives from Holland, Norway and Australia - our very own greenkeeping United Nations was in session!

It has been written before that three days of incarceration in a classroom is not something greenkeepers necessarily undertake voluntarily, yet the proof that BIGGA conferences are different - as

EDUCATING



Conference luminaries, from left, Iain Ritchie, Sandy Anderson, John Crawford and Gary Grigg

much about learning through social intercourse as sucking in great chunks of knowledge in the lecture room - was brought forcibly home to me when I received a letter from an English delegate now resident in Lausanne, stating: 'I think I learned more in the few hours spent in the company of Professor Noel

Jackson than I have in the last few years here, talking with my fellow Swiss greenkeepers!' The truth is that greenkeepers are not only happy to learn, but in many cases are dedicated enough to pay their own fees, even though it is their club that reaps the benefit of their improved knowledge and tech-

It was Noel Jackson, formerly an STRI biologist and now a professor in plant pathology at the University of Rhode Island, who began the proceedings, discussing 'Cool Season Turf Diseases'. I hope Noel will forgive me if I refrain from summarising his talk, but I became mesmerised by his accent - as English as Yorkshire Pudding yet nevertheless adopting so many Americanisms - not unlike hearing Freddie Truman impersonating George Bush. I honestly couldn't concentrate, though I could tell from audience applause that his message was well received!

Few will deny that our members are the new, rising stars on the BIGGA lecture circuit and our next speaker was one such winner, Ian Tomlinson revealing the horrific problems associ- 12

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'As Bob Brame summarised, it pays to amplify your strengths and develop an appropriate strategy for improving your weaknesses'

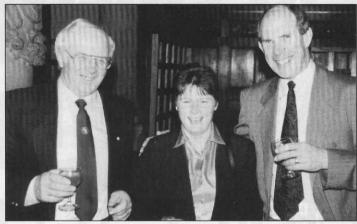
11 - ated with maintaining turfgrass at 2800 feet above. In truth his slide show was more than just an overview of Swiss roll-overs such as snowmould, collapsing greens and uprooted trees, for Ian had embarked on several mammoth renovation programmes which he explained just had to be squeezed in between the meltdown and the time his members expected perfect playing conditions - calling for the skills of a juggler cum magician!

Tony Mears followed with a fascinating view on the wild side golf that is - interspersing his illustrated lecture with anecdotes that left the listener in no doubt that wildlife and its preservation is something that we all should take to heart. It is encouraging to note that more and more courses are becoming special for reasons other than mere play, positive havens of natural beauty that we should vehemently fight to preserve.

The remaining sessions were taken by Dr Peter Hayes and Robert Brame, representing the STRI and the USGA Green Section respectively. It was interesting to compare the roles undertaken by these two bodies, for example the STRI are proud now to include golf course architecture among their expanding list of services whilst the USGA are hesitant to embark on such activities (save advising on such simple things as reconstruction of bunkers or tees) for fear of antagonising the American golf course architects. Interesting also was Bob Brame's revelation that Poa annua is as much of a problem on the far side of the pond as it is here - they manage it equally well, hate it just as much, but it just won't go

Restricted space prevents a full precis of every speaker and subject, but I must single out Patrick Murphy's re-building of a golf green - the clever fellow did it in just 16 days and had it back in play on the seventeenth, though one question remained in my mind - why the rush? Would the green not have been better, given longer to recover?

Ed McCabe and Arthur King, respectively course manager and green chairman at Brockenhurst Manor, proved a good double-act



Gordon Child, Carol Borthwick and **Nick Rigden**

Right: George Brown. Jane Ryan and **Bob Brame**



and enlightened the audience to the necessity of communicating with members - here I found myself wishing that all clubs would adopt the Brockenhurst way, a case of greenkeepers educating members by telling 'em everything, even the unpalatable!

Gary Grigg, a GCSAA board member, continued in similar vein, of the opinion that greenkeepers must above all else cultivate the ability to communicate that this universal weakness is more to blame for greenkeepers losing their jobs than any other, certainly more than the practical implications of course management that often are so unpopular he urged delegates always to explain, be first with reasons before a single complaint becomes a thunderous roar. On the basis of what America does today we (possibly) will do tomorrow, Gary also told of the rapid growth in turf iron and Hydroject machinery usage in America - will we, I wonder, see these tools in every workship in the next decade?

We learned from Seve Schmitz how computers aided the course manager, aided and abetted by Fred Robinson, and we listened to Ian Thomson's plea for sensible tree preservation and intelligent choice of species indigenous to our native habitat, all this before anticipated a serenade from Anthony Davies. His title, 'Right or Wrong - I Did It My Way', evoked ideas of a Frank Sinatra style rendition - but we were robbed, no such song forthcoming, though his talk was highly original, hugely entertaining, and jam-packed with common sense observations.

The George Brown comedy half-hour nicely rounded off proceedings on day two, and though George took his audience on a slide tour of Turnberry, whilst also explaining the intricacies of managing such a high profile Open Championship site, he delivered in such a way that the audience was in no doubt - should he ever feel the desire to change his career, agents are waiting to sign him as the latest comic discovery!

From one comic to another, delegates were later entertained at dinner by Kevin Connelly, a clever impersonator who, whilst having the British contingent in stitches, must have baffled our American friends, for his act centred largely around British footballers!

I hesitate to suggest that Neil Thomas actually planned to keep the best till last, but whilst it is not unusual for folks to look at their watches during the final performances at some three day events, on this finale the feeling was that the few hours remaining were just not enough. Noel Jackson excelled in his discussion of 'Patch Diseases in Cool Season Turf Grasses', prompting one delegate to opine that Noel's information was alone worth twice the total conference fee!

'Follow that' might have been the thought after Jackson's rouser, but we all know that Gordon Child can follow anyone and command rapt attention every time. Gordon revealed to this observer a side I'd not seen before: the philosopher, the comedian, and the man of the future. Sure, he's no longer a spring chicken but he thinks like a youngster and has the wisdom of age - a wonderful combination! Interspersed with clever cartoons drawn by our own John Moran, Gordon's 'Past, Present and Future' was, for me, the most down-to-earth home spun philosophy I'd heard in a very long while.

Yet more classic stuff followed, with Iain Richie describing his three years at Portmarnock, and at the risk of boring I'll declare that Iain's course would be the one above all others where I'd elect to play, given a single choice. If the layman has no idea how such a course can fall into disrepair, we were privileged to see how much Iain has achieved in his short time - it is not for nothing that he is thought of as a

wizard by his grateful members! Bringing down the curtain, Bob Brame made a welcome return to the rostrum with his 'Ten Pitfalls of Turfgrass Management' and to round off this report, let me repeat them: 1) Failure to communicate. 2) Overwatering. 3) Fast green speeds. 4) Unnecessary use of pesticides, 5) Lack of continuity in club personnel, especially at green committee level. 6) Inadequate maintenance buildings. 7) Tree management. 8) Amount of play, i.e. too much. 9) Not enough or under qualified labour. 10) Not enough or poor quality equipment. As Bob summarised, it pays to amplify your strengths and develop an appropriate strategy for improving your weaknesses. The alternative is to continue hitting your head on the same rock 'Failure to study and learn from the past leaves us doomed to repeat it!'







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Golfing hedven on the Island of

DAVID WHITE gets a taste for Indonesia and meets a greenkeeper with a staff of 100

greener. Bali, the 'Island of the Gods', is one such place where last year I had the privilege of spending several days with golfing journalists from around the globe competing for the coveted Publishers Cup. The nature of this trade orientated magazine precludes this feature from falling into a travelogue - though if any reader has a day or two to kill I willingly will bend their ear on why they should allow themselves to be pampered by Garuda Airlines whilst flying to Indonesia's foremost tourist destination, there to enjoy the fabulous beaches, the climate, the people, the food, the ambience, and, of course, the golf - all are out of this world! I must restrict myself to writing about the golf, essentially the way golf maintenance is practiced in this tropical dream location.

here can be few who have not at some time dreamed of

here can be few who have not at some away to far-casting off the shackles of routine to scuttle away to far-

flung lands where the grass is perceived always as being

In Britain we are always banging on about the benefits of education, rightly so as so many plum jobs seem destined to fall into the hands of those who have broken the craft mould and moved into the technological age. It is significant therefore that I should find in Indonesia one man who had cut free from Uncle Sam's umbilical as a direct result of being college trained. His name is Mark Isley, he's just thirty and he is an

Mark has been the superintendent at the Bali Golf & Country Club, Nusa Dua, for just under three years, arriving in the

> now time-honoured tradition before the course was complete, indeed when the course was little more than roughed-out and long before contouring took place, the better to oversee installation of the irrigation and the sodding, seeding and subsequent nurturing of Bali's now delicious greens and fairways. Though far removed from being the typical British way, Bali G&CC's bunkers were sodded, as were those areas prone to erosion during the rainy season, whilst the rest of the playing surfaces were planted with 328 Bermuda grass 'sprigs' and roughs seeded with common Bermuda

> Quizzing Mark on how the 328 performed, he was honest enough to admit that, in hindsight, it would have perhaps been wiser to plant the fairways with a sturdier variety, say a 419 Bermuda, as 328 doesn't handle cart traffic well and tends to compact, also it reacts poorly in the drought conditions that often pre

vail. To cap it all 328 is greedy and demands a lot of fertiliser - in a nutshell, its a very high maintenance turf. "We used 328 to keep it simple", he told me, "after all, we brought the grass all the way from America and a single variety seemed to make sense at the time, now we live with what we've got!"

It was ever thus, the golf course manager having to live with the whims and foibles of the architect or designer and I found myself thinking, 'I've heard this before a thousand times.

Mark's transformation from college kid to fully fledged golf course superintendent was something of a fairy tale in itself. He'd worked as an assistant in Florida for several years, he'd been an irrigation technician and worked also on commercial chemical spraying before making the purposeful decision to go back to school. At first he entered an ornamental horticulture programme and then made his big move - to Lake City College, famous in the States for turning greenhorns into expert greenkeepers - there to undergo four years training, interspersed with practical golf course work, whilst studying Turf

Examinations concluded, Mark was considering several jobs in the offing when a fax arrived at the college, sent by Mike Martin, the constructor of Bali G&CC, calling for the services of a superintendent and seeking the college principal's advice. In Mark's own words, "right there and then I knew I was going

Confidence breeds confidence and sure enough our footloose and fancy-free hero was hired, soon to be whisked away to the Paradise Isle - over 24 hours flying time from his native Florida, to a culture and life style that was completely alien to

Consider this: Mark has a maintenance staff of 100 full time employees, yes - 100! Twenty two work on landscapes, still more on common areas such as roads and areas that pass through the course, whilst twenty ladies pull weeds by hand, also sweeping paths and trimming edges. The rest are full time golf course personnel. Labour is not expensive, though Mark pointed out that at \$3.50 a day his course crew are well paid by Balinese standards, drawing a comparison with, say, a road builder who may only earn \$1.50 for digging limestone rock! The ladies make \$1.75 for their weeding, and in every case local opinion suggests that Bali G&CC are very good employers indeed, without destroying the local economy. Never believe, however, that everything is roses in paradise. Mark loves his staff, gets on well with them, but does not expect them to perform with quite the same enthusiasm as, say an American or European crew. For one thing, golf is a novel experience and they can't quite understand it, don't entirely

Mark Isley, superintendent: would you leave?





the Gods

share our enthusiasm. For another, the way of life is very laid-back and if they feel like taking it easy – the Balinese way – then they take it easy and no amount of whip cracking will produce a full head of steam. It's the natural way of life and Mark is not about to change it.

Living in Bali has made Mark quite a philosopher, causing him always to count his blessings. He has his own house, he's well insured, has a vehicle at his disposal and earns enough to save. "It makes me feel specially fortunate," he told me, "for there are many Indonesians who have nothing and yet remain blissfully happy – this is a happy island!"

Communication in the local tongue was a problem, but Mark has grasped the language nettle, attending classes in Bahas Indonesian, learning fast, gradually overcoming the difficulty. Naturally, he relies on his secretary and a few key Balinese staff who also speak English to relay many of his needs, especially to his crew of seven mechanics, who work shifts. They listen to the interpretation of any problems voiced by native operatives – 'it's got a funny knocking noise' – thus ensuring that machinery stays in pristine condition.

Maintenance is not without its share of headaches at Bali G&CC, for the course is constructed on miserably poor land, mostly sand over lime rock and as porous as any in the world. Though lush and inviting, the course demands constant aerification and this means a monthly routine of slitting and tining, though a major need, a Vertidrain, is still on Mark's wanted list. Added to this would be lightweight fairway mowers rather than the five-gang's he uses and he would certainly welcome a fully automatic programming system for his Rainbird irrigation. Currently this is controlled by 44 field clocks, each hand set and each liable to regular resetting, for Bali's electricity grid is known to flip-off at the least provocation – somehow it doesn't seem to matter and life just goes on...

Greens are loosely based on the USGA spec but minus the choker layer, which Mark would have preferred, for as he pointed out "the USGA is a proven system that works on this type of layout and I would have liked to have gone the whole nine yards!" Disease is not a major problem, despite a pH as high as 8.1, though there are occasional outbreaks of the heat stress induced Curvularia lunata on the greens. This responds well to treatment with Daconil, which he swears by. Other fertilisers are not easy to obtain due to monstrous shipping costs, and Mark is every bit the chemist in mixing his own magic brews. He would prefer to use slow-release but this is on the 'can't afford to ship' list and he therefore blends his own numbers of N P and K suitable to Bali's unique conditions. What Urea he obtains locally is of inferior quality and he cites occasions when such 'extras' as a shoe and a bag of old clothes were found within the exceedingly fine, dusty powder! Apart from solids he also concocts various liquid cocktails in storage tanks and these are applied in carefully metered quantities through the irrigation system.



A Balinese yardage marker

Mark dresses his greens with pure sand, chuckling as he explained that the original organic mix used in construction was compiled using sawdust brought in from the local mills, this mixed with fertiliser and nitrogen, turned and watered multifold – a laborious three month process that somehow proved very effective.

Bali is indeed a sunshine paradise for the tourist, especially during the months of May through October, though to a golf course manager the dry, humid and often droughty conditions present a constant challenge which must be tackled with frequent watering. During construction three deep wells were bored and these fill the lakes, subsequently providing 500,000 gallons each day – the maximum that local water extraction permit will allow. Mark monitors his supply on a daily basis, taking samples of the moderately salty aqua – about 800/900 ppm during the summer season, lower during the rainy season, which in theory should start in November or December, though only two inches fell throughout last year.

This tourist did not find insects a problem, certainly none that nibbled. Nevertheless, Mark assured me that insects are a mega problem on the golf course, mostly 'no-see 'em' varieties that leave humans untouched whilst being a pig to control on turf, but he's getting there. In truth his whole job has been a continual learning process, seen at its best in his 'back to basics' improvisational approach, for as he explained "Bali is a real eye-opener in that nothing is typical - it is quite unique and I'm learning just by being here, the feeling is time-warp, a bit like turning the clock back some ten or twenty years. I've made mistakes and gained by learning from them, and I've never lost a green! In the USA I would have trained staff to back me, here I'm very much the hands-on teacher - encouraging, nurturing, bringing my staff forward. I've instituted an 'employee of the week' cash award, I teach my key people everything - I have to - and I'm actively bringing my head man forward to a point where, one day, he'll be a superintendent proper.

Frustrations? "Well, I'm ultra-light on herbicides, pesticides and fertilisers, though perhaps the biggest one is spare parts. I can wait as long as four months for a spare and as everything is shipped from America parts are hugely expensive. It's frustrating to have a machine down for the want of a minor part and on occasions I'll 'phone direct to the States and have something shipped UPS – this can turn a \$10 part into a \$100 part with shipping and duty so it's not likely to become a habit!"

I asked the inevitable question – will he stay? "Well, I've fallen in love with this fabulous place and I cannot envisage leaving. I've a beautiful girlfriend from the nearby island of Lombok, I love my job and I sleep like a baby every single night! Visiting golfers are generous in their praise for the golf course and I'm truly blessed with good fortune – I'll ask you the same question – would you leave?"

Not me, I never wanted to leave, but let me close on a personal note of misery and woe. The Publishers Cup is the brainchild of Parker Smith, a former senior editor with Golf magazine who now masterminds this and other media events world-wide under the Sports Opportunities International banner. Parker's

fabulous promotions enable selected journalists to visit great golf locations in exotic places, to exchange views and ideas and, inevitably, to write about their experiences, whetting the appetites of those who will want to follow. People ask how I fared in the Publishers Cup and in a single word I answer – 'depressingly'! I arrived with a miserably sore back and immediately developed man's worst disease – the shanks. Three rounds of visiting the boondocks brought me nothing but grief. In this event the winner automatically returns to defend his title and in 1993 my friend Mike Takamori, publisher of Japan Golf Report, will play on the Grand Barrier Reef in Australia. Me? I'm wearing the booby prize – a Mickey Mouse watch that plays 'It's a Wonderful World'. That just about sums it up – Bali on all counts is the glittering star in a very wonderful world – whilst I finished as the damp squib!



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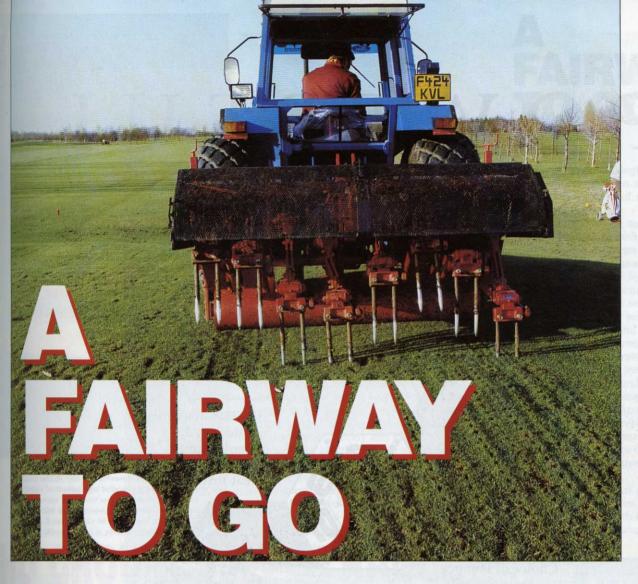
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nless you've been working in some foreign clime for the past few years, there should be little need for a reminder about the difficulties that the British weather is creating for turf professionals, particularly over the last 12 months. A parched summer, followed by an uncommonly wet autumn and winter, and then a return to near drought conditions in most parts of the country during early spring, have played havoc with many a well-planned course maintenance programme.

If we are to believe the meteorologists and environmentalists, the situation is unlikely to improve until positive steps are taken to minimise the level and nature of industrial and domestic pollutants being discharged into the atmosphere. In fundamental terms, the world's climate is believed to be undergoing a small, but measurable, change, with the four seasons as known by our great-grandparents becoming less clearly defined. This change is being accompanied by more extremes in weather patterns than have ever been discussed on a course in basic turf management techniques.

However, despite the gloom in some quarters, there is no reason why greenkeepers should not cope comfortably with the climatic change, if that is indeed what is taking place. It simply requires a little more flexibility in planning and a need by golf clubs and players to be more understanding of the difficulties that weather extremes can bring.

The one area of a golf course which suffers perhaps the greatest in all weathers are the fairways. Tramped by hundreds of pairs of feet

When it comes to fairway maintenance, greenkeepers need to be just that bit more flexible, says **MICHAEL BIRD**



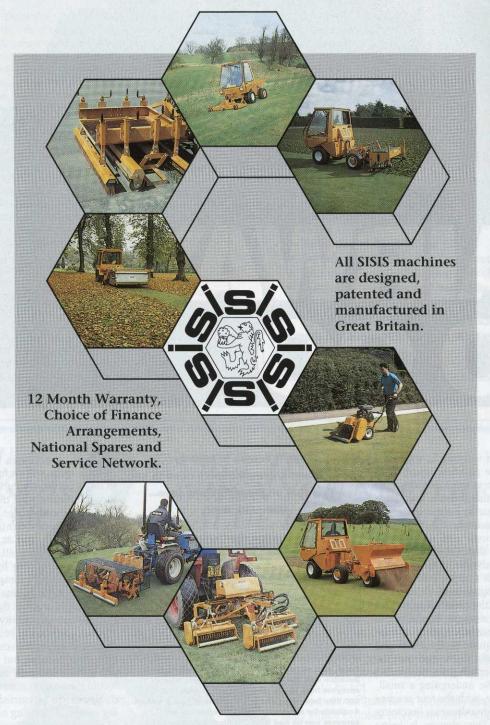
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throughout the year, their sheer size means that they cannot receive the same level of attention as paid to the tees and greens. In any case, fairway maintenance has traditionally been left to times of the day and year when minimum inconvenience or disruption is caused to those playing a round, irrespective of the fact that the turf or subsoil may not be at its most receptive or responsive to the treatment being carried out.

A strong case for 'spare' fairways could be put by most greenkeepers, citing the example of winter tees and greens. However, with space at a premium on most established courses, there will be few who get the chance to rest a fairway and provide it with the necessary full recuperative treatment. A dense, uniform, tight grass cover should be the aim on all fairways, comments Peter Smith, greenkeeping course tutor at the Warwickshire College, Moreton Morrell, "Ideally, a golf ball should not be sitting light on the surface, as this will only encourage the taking of large divots," he says. "A small, tight divot is a clear indication of a good, tight sward." The condition and growth of fairway grasses need to be maintained with the help of appropriate nitrogen feeds during the season. Smith always recommends carrying out a soil analysis before the first dressing in mid to late March. He would then expect a maximum of three further treatments to be carried out during the growing season, depending on the weather, the rate of growth and whether clippings are boxed or returned to the turf. If clippings are returned, then routine fertiliser treatments are not considered necessary and decisions on timing should be made according to the condition, vigour and appearance of the turf. Only on intensively-used areas subjected to high wear will localised applications of nitrogen be helpful, applied in two or three dressings of around 4g/m2. These can be given as ammonium sulphate or in a mini-granule, if conditions are particularly acidic. However, no fertiliser should be applied to bare ground until reseeding has been carried out or new turf laid.

In very dry summers, such as those - 19

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FAIRWAY TO GO

17 experienced in recent years, Smith recommends minimal fertilising and the use of clippings as a mulch to retain available moisture within the turf. "This may mean raising the height of cut a little to prevent possible scalping, giving the grass more opportunity to recover after a cut," he comments. "However, on some courses, particularly those with freedraining soils, there may be no need to cut the fairways for weeks on end. In such areas, the grass varieties are normally extremely hardy and are able to withstand long periods without water."

Where clippings are left as a protecting mulch, keep an eye open for any build-up of thatch. If localised thatch does manifest itself, then scarification is the most effective answer, taking care to avoid over-energetic action, particularly in dry periods. Properly adjusted, a rotating vertical blade or rake can remove the offending thatch quickly and efficiently without uprooting healthy growth or causing an unsightly mess, enabling air, light and water to enter the soil. Clearing up can be equally speedy using a brush collector, turf vacuum or even one of the new generation of fan-assisted collectors linked to a rotary mower deck. For more widespread thatch, a spiked chain har-

row is highly effective, although it may be better to postpone the work on a complete fairway until the throughput of golfers reduces later in the year.

Problems with disease are normally few and far between on fairways, although excessive soil nitrogen carried over into wetter periods can lead to infection with fusarium patch disease. This can be countered by adding potash to any late summer treatment, accompanied by a soil analysis for safety's sake. Other treatments may include spot or selective spraying against daisies, dandelions and thistles.

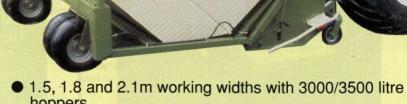
In Peter's experience, three of the biggest nuisances on fairways are rabbits, moles and foxes, resulting in untold wear and tear to mowers and leading to ground being continually under repair, to the dismay of greenkeepers and golfers alike. Apart from sound fencing in vulnerable areas, rapid repair of damaged turf and humane control methods, there is very little that can be done to deter turf predators, especially where a course borders heath-

The heavy, prolonged rains during last winter brought drainage problems to the notice of many turf professionals, with run-off, blocked pipes and outfalls, surface ponding and - 20





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Above: Two hollow coring patterns can be selected on Toro's Fairway Aerator to deal with most turf aeration, thatch control and drainage needs across large turf areas. With a working width of 63in (1.6m) and workrate of 1.5 acres/hour, the machine can be set to work a maximum of 5in (127mm) deep behind tractors of 35 to 45hp.

Right: Suitable for removal of thatch and dead material across large, open areas of turf, the Wessex grassland chain harrow comes in 8ft and 9ft (2.4m and 2.8m) working widths to suit tractors of 20hp and 30hp respectively. Both models have folding wings for transport and have adjustable tension chain links to suit conditions.

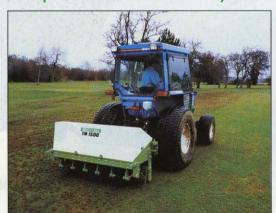


A FAIRWAY TO GO

19 → soggy patches highlighting those areas where remedial treatment is needed. Summer is the time to clear ditches and drains, although excavations are best left until the autumn. If the greenkeeping staff do not notice a drainage problem, they can be sure that any golfer who has to retrieve a ball from a puddle will quickly bring it to their attention. For that reason, Smith advocates that all fairways be walked regularly through the year by those charged with their maintenance. An even better solution is to play the course regularly oneself.

Most surface and sub-surface aeration and deeper drainage work is left until the spring or autumn when the need is greatest and it is hoped that the soil will be in the most receptive condition. However, there are certain aeration treatments which are more effective if carried out in a drying soil rather than one subjected to wetter spring or autumn weather. These include sub-soiling, moling and slit drainage, where shattering of the compacted sub-surface layers can help dramatically in the percolation of surface water. Great care needs to be taken, however, to avoid work which leaves slits which open up as the soil dries out, producing gaping holes which will be • 22

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