

Update



BOOKINGS FLOOD IN FOR 1994 BTME

A MASSIVE 74% of the total space sold for the 1993 BTME has already been taken up for the 1994 show – and there's still seven months to go!

More and more new companies have confirmed stand spaces, including Amazone, Charterhouse, Philip York, ALS, Brian D Pierson and John Deere. In fact, John Deere have secured one of the largest stands occupied to date. "This is due to our continuing development in the golf and turf industry in the UK and Ireland," says John Deere's Groundcare Division Manager Graham Williams. "We consider the BIGGA exhibition to be the right exhibition to promote our full range of golf course equipment."

A large number of the 1993 exhibitors are increasing the size of their stands – some by twice as much. Hardi, Rhône Poulenc, ADAS and Lloyd & Co have all booked double the amount of space they occupied last year – and in some cases, more.

The event's international flavour continues to grow with enquiries coming in from Europe and the USA.

The 1994 education programme is almost finalised and details will be announced soon. Workshops take place before the show opens and informative seminar sessions run concurrently with the exhibition.

Halls are filling fast for the Harrogate event. By 18th June, 76 companies had already paid their deposits to secure their stands. Bookings will be accepted through to the date of the show itself – but the longer companies leave it, the less choice of space will be available.

Call Louise Lunn on 0347 838581 if your company would like more details and a BTME information pack.

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THIS MONTH'S BIG QUESTION

★ Who is John Deere's Groundcare Division Manager?

Keep your answer to this month's Big Question – and the three from last month – in a safe place. There'll be a question next month and a final one in September, together with full details of where to send your entry.

Note: competition not open to BIGGA staff. No cash alternatives. Full entry details in September 1993 edition of Greenkeeper International.

BLAZERS

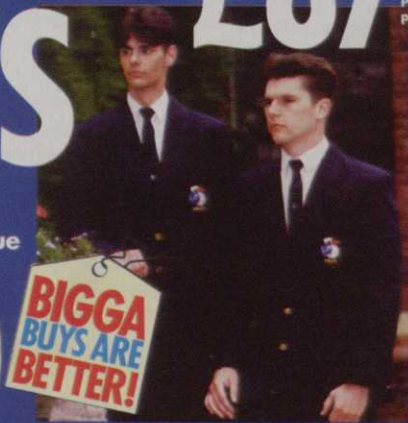
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THE NEED FOR SPEED

Has your club ever suffered from post-Augusta syndrome? Sometime within a few weeks of the great event you arrive at work, bleary-eyed, at six o'clock on a Sunday morning to do your duty and cut for the day's competition. Arriving at the sheds you find a note pinned to the door which reads: 'Greens are too slow. Lower cut. Green Chairman.'

Knowing that you will shortly have a horde of members champing at the bit, ready to fill the course with some terrible golf and cheerful expletives, the last thing anyone would want is to have to start ripping units from machines and messing around with height bars. It is little wonder then, that in the post-Augusta days, greenkeepers have been known to roundly curse televised golf in general and Americans in particular.

One might ask at this time if the rest of the US suffers from the same backlash, or is the need for speed a driving force in American golf? Following the words of Dr Robert Brame (USGA Green Section) delivered at this year's BIGGA Education Conference, the latter would seem to be true. Not only do our American colleagues accept this, they boast to each other about speeds achieved and will go to extremes to effect improvement. For instance, cutting at one eighth of an inch has become widespread. In an effort to dissuade courses from doing this, agronomists have endorsed the use of powered ride-on rollers, recently introduced, to produce good speeds with a raised cutting height. The findings have been, however, that course superintendents are using the rollers and still cutting at one eighth to produce ever-faster surfaces. Further, grass species for greens are being selected purely for their ability to produce fast surfaces. As a result, Dr. Brame tells us that the fine courses at Pebble Beach and Pine Valley are growing stands of pure *Poa annua* because it gives the best results.

Returning to the UK, it would be fair to say that most club golf is not played under these constraints. I wonder however, how many agronomists in this country are fed up with being called to judge (to borrow a biblical expression) 'the quick and the dead'? The agronomist's consensus on cutting height for greens would seem to be as follows: a quarter of an inch is desirable; three sixteenths if you must; any less – a sharp intake of breath and 'don't tell anyone I advised it'!

It is understandable that when a sensi-

ble programme of aeration, nutrition, watering etc, has been recommended, to find greens that are nearly white through close mowing and scalped down to the soil on the smallest undulations, any agronomist may begin to despair.

Nevertheless, the stimpmeter is with us. The simple inclined-plane device that at the correct elevation causes a ball to roll more than eleven feet across a green at Augusta may now have become the short yardstick for us all. Many older greenkeepers consider the implement is only fit for testing marbles – if the user has any! Perhaps, however, the owner of a Mini may be forgiven for wanting to drive a Porsche, and the golfer likewise.

So where does this leave the greenkeeper? Opinion seems to vary on what is the balance point on cutting height to give optimum speeds and maintain a healthy sward. Some would hold that they can cut at three sixteenths all year round with no adverse effects. Others cut closer for major competitions only and allow the greens to recover afterwards. Cutting aside, it is becoming increasingly common to use other management techniques to adjust green speeds, these being multi-cutting, grooming, rolling and irrigation control.



by **TONY HOWARTH**

To offer a brief comment on each – cutting greens twice or more in different directions can increase speeds, but this follows the law of diminishing returns. Grooming aims to give speed by thinning the sward. Rolling, with the turf-iron type ride-on machine, is claimed by manufacturers to increase green speed considerably. All of the above may be helpful in achieving faster green speeds without closer mowing. I wonder, however, what the compound effects will be in terms of compaction? Even grooming means units with extra weight running over the greens.

At one time cricket wickets and golf greens were diametrically opposed in the turf management spectrum. Will we next see the introduction of the sarel roller to golf green maintenance to enable water

to penetrate the surface? Returning to the last alternative – irrigation control – this method may, if miscalculated, prove the most costly. To use the cricket analogy again, it is a requirement that a wicket is allowed to dry out in preparation for a match to inject pace. The same approach may be employed with a golf green. But at what cost? The green could become unreceptive to the approach shot and leave the golfer with an unfair challenge irrespective of his putting ability. The worst scenario could also include loss of sward due to drought stress.

All techniques designed to increase green speed may have their pitfalls, but if Curtly Ambrose turns up at your eighteenth green one day and expresses a desire to bowl on it, I think it's a fair bet that there is something wrong.

I think it is important also to look at green speed from the point of view of the golfer. If most of us could ride a docile old nag, not many would fancy his chances with a racehorse. So, it is not surprising on the day after the big competition to find the club regular standing slack-jawed on the first green as his putt snakes two feet left of the pin and ends up six feet past. His game is not set up for this level of green speed, and I would ask, is anyone's?

Augusta is a marvellous spectacle set out to test the best in the world. But when we see top golfers using cross-handed grips and chin-high putters, ostensibly to control the putting 'yips', are we doing the right thing? When a stroke becomes a nudge and a good reading becomes a good guess, I wonder.

■ As an interesting aside, the committee at Augusta National posted the cutting regimes undertaken during this year's Masters as follows: "Our fairways are now being mowed at 7/16", the tees at 3/8", the greens at 1/8", and these levels are to be maintained until the conclusion of the tournament. All mowing schedules are, of course, subject to weather conditions." Augusta's greens are Pennncross bentgrass, tees and tees Bermudagrass. The course is closed for play between May and October. – Editor.

What do you think? Do you feel the need for speed? Do you have any good techniques? Letters to The Editor, Greenkeeper International, 13 Firlie Close, Seaford, East Sussex BN25 2HL.

Letters

Send your letters to the editor, *Greenkeeper International*, 13 Firle Close, Seaford, East Sussex BN25 2HL

Problems of us and them

May I offer my sincere congratulations on the timely editorial highlighting the situation 'greenkeeper replaced by milkman from committee.' Granted, this was seen as a 'mere trickle that could become a flood', but there are, believe me, many similar cases that do not necessarily come to the attention of the Association.

I too suffered a similar fate – at the whim of a committee member who I apparently upset over a matter of 'policy'. I had been head greenkeeper and, latterly, course manager for 26 years. I left of my own accord and compensation was paid to me following my taking legal action.

I am of the opinion that this whole 'fire at whim' situation needs careful consideration by our Association, if only to provide help and guidance for future victims. Clubs always will face problems when short-term committee members make long-term decisions – which may be altered or scrapped at a later date. The only man to see through such course-related policies is the head greenkeeper – after all, he above all has a vested interest and he usually survives longer than any committee. Please understand, I have no wish to devalue the duties of elected committees, but in so many instances a better and closer working relationship would remove problem situations. Certainly, when we arrive at the 'milkman' situation, we are on the start of a very slippery slope indeed.

My congratulations also for a superb magazine month upon month. The content and format are excellent and the editorial style especially is of the highest calibre – our gain is Fleet Street's loss. As a long established member of the greenkeeping profession, I am as proud now of my membership in BIGGA as I have ever been. Any greenkeeper who is not a member doesn't know what he's missing – though it can be likened to doing the job with only one arm!

JOHN D LOWERY
Timperley, Cheshire

Control at a distance

The editorial comment (April '93) regarding advisors setting themselves up as surrogate greenkeepers prompts me to reply.

I see my role as one of aiding the golf course developer, the golf club and the head greenkeeper. Many head men are relatively young and have good educational qualifications, but they are often lacking experience in the field.

When I was in the 'operational front-line' I always welcomed advice on any particular problem I might have. Though I didn't always heed the advice, I found it beneficial to learn of the options available. Judging by some of

the new courses I have seen in recent weeks, there are some chronic errors still being perpetrated, this at a time when we should be able to get it right the first time around.

Well paid and experienced course managers/head greenkeepers need have nothing to fear from consultants as long as the consultant is experienced in the areas for which he is being consulted – a second opinion is always worth while, especially if it saves a limb!

DAVID JONES

International Golf Course Consultant, David Jones & Associates, Chepstow, South Wales
• *The point made in the leader – growing concern that some consultants are reportedly attempting to usurp the head greenkeeper and run a golf course by 'remote control' – remains real reason for disquiet. If my comments result in just one green committee re-thinking a suspect decision, a valuable purpose will have been served.* – Editor.

Fescue's future assured

Regarding 'Future of the Fescue' (May '93 issue), may I offer the following observations? I firmly believe that the greenkeeper should be as conscientious regarding selection of grass seed varieties and mixtures as the farmer is when selecting semen from the right breed of bull to inseminate the cow.

Yes, there is a future for the fescue, but before explaining the breakthrough in the breeding of fescue I must debate the contentious comment in the first paragraph of Tony Howarth's article – "Seldom is a top quality seed mix offered without it". I question this, being of the opinion that only seldom does a seed mix contain top quality varieties. More importantly, I ask – when have top quality varieties been used? In my experience, varieties and mixtures have all too often been selected on price alone.

Howarth asks: Is the greenkeeper able to achieve a fescue/bent green? The answer is yes, right now (and certainly in the future), with the breakthrough of Barcrown slender creeping red fescue, Baruba/Bargreen chewings fescue and with good management, the greenkeeper is able to achieve a fescue/bent green and he can also control *Poa annua*.

What do I mean by 'the breakthrough in the breeding of fescue'? Ongoing discussions with greenkeepers, architects, agronomists and our breeders has enabled them (the breeders) to collect and breed varieties which are tailor-made for golf course requirements. Nowadays, greenkeepers are confronted with more complicated influences: heavily polluted soils, low maintenance requirements, environmental laws, saline conditions and extreme wear conditions for greens and tees. All of these criteria highlight the need for accurate information, in order to match specification to demand.

In the past, many failures occurred because of poorly selected species, varieties or mixtures, (often selected merely on price), and we know for certain that even forage grasses have been used for amenity purposes. In the sixties Barenbrug started to change its breeding goals, beginning with the desire to breed new varieties which would withstand the stresses and extreme conditions required for golf. Simultaneously, our breeders became convinced that grasses bred under poorer environmental conditions, eg. on soil with low fertility levels and given less water and/or nutrition, would give a better indication of quality.

It then became clear to us that varieties bred in poor conditions performed as well as other varieties which demanded higher maintenance levels. The concept of testing new varieties under stress conditions such as drought, low fertility soil, minimal fertiliser application and pressure from diseases etc., proved successful. The first results came in the late seventies, and in the eighties a real breakthrough was achieved.

All this may clearly be seen, reflected in official independent trials conducted by institutes such as the CPRO in Holland, the INRA in France and the Sports Turf Research Institute in Britain. BIGGA members would find it worthwhile to inspect the findings contained within the booklet 'STRI Turfgrass Seed 1993', and we at Barenbrug would be happy to supply copies free of charge.

Above all, let it be stressed that with good management and the careful selection of cultivars and mixtures, rather than with the hit or miss 'bag of seed for the green' approach, healthier greens with more fescue can be assured.

MICHEL MULDER

Marketing Director, Barenbrug UK Ltd,
PO Box 2, Bury St Edmunds, Suffolk IP30 9NW

Please give me a chance

I have been a member of BIGGA for over five years but due to unemployment and limited finances I have been unable to renew my subscription for 1993. This has meant that I have been unable to see your excellent recruitment pages and thus my chances of finding further employment in greenkeeping are restricted. So, if any employer reading my letter would care to give a chance to a 22 year old greenkeeper with five years experience, together with Phases I and II in Greenkeeping, I would welcome their contacting me.

In the meantime, I thank BIGGA and Greenkeeper International for all they have done for the profession and look forward to the day when I can return to the fold of such a forward and excellent Association.

ROB PARKES

177 Coast Road, Rhyl, Clwyd, LL18 3US
GREENKEEPER INTERNATIONAL July 1993 13

SOLUTIONS TO

by Dr James Beard,
Director and Chief Scientist,
International Sports Turf
Institute; Professor Emeritus
of Turfgrass Science, Texas
A&M University

Most sports and recreational turfs are subjected to traffic stresses. A hidden but very important component of traffic stress is soil compaction, which is defined as the pressing together of soil particles into more dense mass. Soil compaction tends to be greater in the upper 50 to 75 mm of the root zone profile. Proneness to soil compaction tends to be greater (a) in finer textured soils such as clays, particularly in comparison to sands in the medium particle size range, (b) at higher soil water contents, and (c) with a higher amount of canopy biomass to function as a cushion to traffic stress pressures.

Traffic stress pressure aspects

Another aspect affecting soil compaction is the intensity and frequency of pressure applied during traffic stress. Basically, pressure is calculated based on the weight of the pedestrian or vehicle divided by the surface area actually in contact with the turf-soil surface. Consequently, to minimise soil compaction it is desirable to have as great a contact surface area as possible relative to the amount of weight being applied. For example, a footballer with studs or flat-cleated shoes has a majority of the weight applied on the base of the cleats, in contrast to a flat to wafer-shaped tennis shoe where the pressure is applied broadly across the full base surface area. This results in a 25-fold greater intensity of traffic pressure where stud/cleated shoes are used in contrast to flat-soled shoes. For the same reason, a golf shoe with the traditional hubs or shoulder

with spikes results in much higher pressure stress in comparison to spiked shoes with either inverted metal bases flat with the sole or else nonspiked shoes.

In terms of the frequency at which traffic pressure is applied, obviously the more frequently that pressure stresses are applied, the greater the potential for increased soil compaction problems. There are a diversity of traffic control techniques that can be used to encourage broader distribution of traffic across turfed areas. In the case of sports fields, it may necessitate developing a greater number of sports fields so that use can be reduced on any one field by rotation of play to allow turf rest and recovery periods.

Effects of soil compaction

The pressing together of soil particles into a more dense soil mass as a result of traffic pressure causes a number of problems in maintaining a healthy, dense turf. The first negative event resulting from soil compaction is the loss of macro-pore space and associated soil aeration. Turfgrass roots and beneficial soil micro-organisms require oxygen for respiration to support vital life processes. The loss of soil aeration results in (a) the inability of oxygen to move from the above external atmosphere into the root zone environment and, (b) the blockage in outward movement of excessive carbon dioxide and anaerobic gases that are potentially toxic to the turfgrass root system and beneficial micro-organisms. The loss of porosity in the root zone also significantly reduces the water infiltration and percolation rates and therefore increases the amount of precipitation lost by surface runoff. The lack of oxygen and presence of potentially toxic



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anaerobic gases and chemicals result in functional restrictions of the turfgrass root system, and eventually root dieback, which in turn is reflected in reduced turfgrass health and eventually actual thinning of the above ground canopy.

Correcting soil compaction problems

Problems develop on extensive turf areas that can only be managed through corrective measures such as turf cultivation. By definition, turf cultivation refers to mechanical methods of selectively tilling an established turf without destroying the sod characteristics. The goal of this practice is to enhance exchange of air and water between the soil and the above atmosphere. Since soil compaction is most severe in the upper 50 to 75mm, it is important that turf cultivation operations penetrate at least 80mm, and preferably 100mm deep.

A key principle in implementation of turf cultivation operations is that they be used only as needed to correct a developing soil compaction problem. In other words, it should not be used as a



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routine cultural practice, as there are negative aspects as well as positive benefits. Deep turf cultivation may never be needed on high-sand root zones constructed of the proper particle size analysis, whereas turf cultivation may be needed as frequently as monthly during the playing season on intensively trafficked, fine-textured clay soils. Symptoms used in diagnosis of soil compaction problems requiring turf cultivation include (a) a more impervious, hard soil mass as indicated by increasing difficulty in pushing a soil probe or cup cutter into the profile, (b) a reduction in the amount of water penetrating into the soil per unit of irrigation time, (c) reduced rooting depth and root number, and (d) actual thinning of the turf canopy. Turf cultivation is best accomplished when the soil is relatively moist to ensure maximum penetration and at a time of the year when moisture and tempera-



Coring: the Ryan DGA-05 high capacity airtor

ture conditions will ensure rapid turf recovery over the openings, but when the seed germination and invasion of problem weedy species are minimised.

Coring

A form of turf cultivation involving a hollow tine to remove soil cores and leave a hole in the turf-soil profile is termed coring. There also are devices that pro-

duce an opening and lift out soil by means of drilling. Coring generally has been preferred over the years in terms of beneficial responses. There is the option of either (a) removing the soil cores, if of an undesirable soil texture, followed by topdressing with an improved root zone mix, or (b) returning the soil cores, if of an acceptable turf texture, during

which they are broken up and matted across the turf surface where they serve as a topdressing to enhance thatch decomposition. Most traditional coring machines penetrate 85 to 100mm deep. The more recent innovative development of deep tine coring units with the capability of penetrating 200 to 300mm deep has proven very beneficial in many situations. However, this does not mean that this deep penetration unit will replace the more traditional coring devices. Both approaches have a place in the culture of intensively maintained turfgrasses for sports and recreation uses.

Slicing

A form of turf cultivation involving a deep vertical cutting action that provides soil openings and loosening, but without removal of soil, is termed slicing. It typically involves V-shaped knives mounted in a circular arrangement. The penetration → 16



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15 → depth depends on the weight applied to the slicing knives. Slicing does not cause as much disruption of the turf surface as coring but, by the same token, it is not as effective in enhancing soil water and air interchange. However, it is used effectively where a soil compaction problem has started to develop in the upper 50 to 75mm that cannot be corrected by coring, because it would be objectionable to the users during periods of intense play, or when high level competitions are scheduled.

Injection displacement

A recent innovation in turf cultivation involves the development of high pressure pulses of water or air that create openings in the soil profile to varying depths up to more than 200mm. The water injection displacement unit has created a great deal of interest, and is an innovative mechanical procedure involving sophisticated mechanical engineering approaches. They are advantageous on greens in that turf cultivation is achieved with minimal surface disruption. However, in the process of soil displacement, the soil must be moved somewhere and there is the question of just how much localised soil compaction or differential displacement of certain soil particles may occur under continued use. Time and further research will answer these questions. In the meantime, turf cultivation by water injection displacement is another tool which the turf manager has available to choose, depending on the particular circumstances under which the soil compaction problem develops.

Spiking

Turf cultivation involving shallow perforations of the turf surface by solid tines or blades is termed spiking. Because the penetration is only 20 to 30mm, spiking does not correct a major soil compaction problem. Rather spiking is used to break up an impermeable organic/compacted surface layer. It can prove particularly effective on high-sand root zones of the proper particle size distribution

when the profile as a whole has an adequate infiltration rate and all that is needed is to break up the impermeable surface layer.

Preventing soil compaction

The preferred approach to solving soil compaction problems is a preventive basis. This typically involves root zone modification which tends to be relatively costly and thus is restricted to moderate to small areas such as sports fields, putting greens, and tees. The objectives of root zone modification are to select a particle size distribution that will have minimal compaction tendency, and maximum air and water exchange with the upper atmosphere. Construction starts with the proper subsurface drainage system. A 300 to 350mm deep root zone is placed over a gravel or crushed stone drain-bed of 100mm in depth. The best long-term performance has involved placement of a 50-60mm coarse sand layer above the drain-bed to create a perched hydration zone. This minimises soil drought stresses typical of sand root zones that do not possess a perched hydration zone. Construction systems such as the older Texas-USGA Method or the more recently published 1993 USGA guidelines are found to be the most effective (*see References*).

It is essential that the high-sand root zone contains a fully decomposed organic matter component to ensure proper buffering in terms of nutrient availability and protection against excessive leaching and allied environmental quality concerns. Note: the gravel, sand or organic matter materials being assessed for use in the root zone modification must be chosen based on established, detailed physical soil analysis, following the procedures outlined in the USGA guidelines.

Mesh system

A recent innovative development, one that has been researched since 1985, is use of the randomly oriented interlocking mesh element system. High-sand root zones have many advantages but they do tend to be less stable. There are a number of types of fibres available of a two-dimen-

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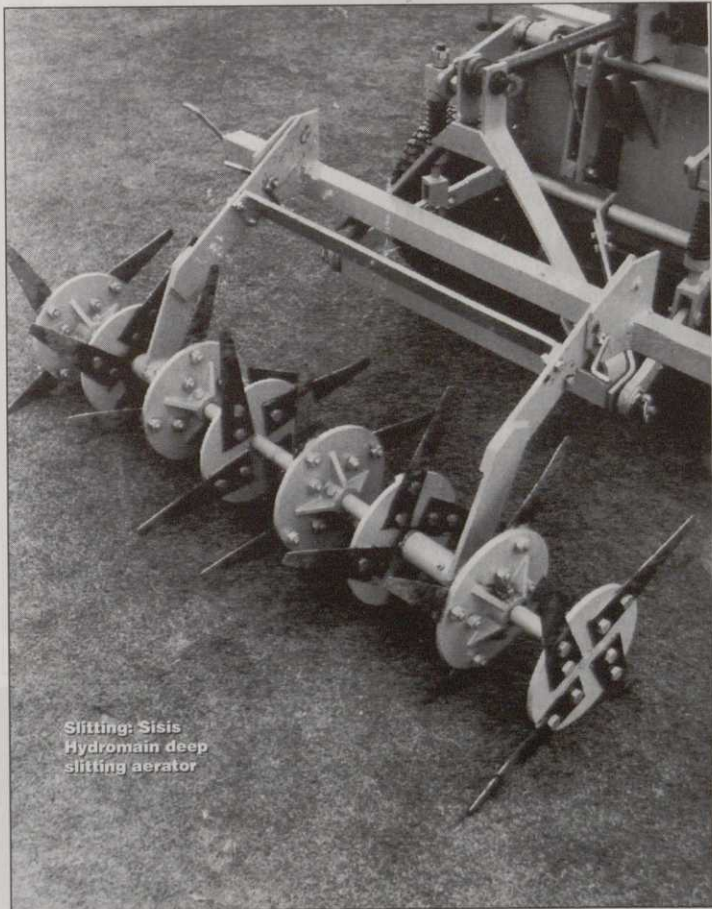
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sional nature that contribute to stabilisation of sands. However, only the three-dimensional interlocking mesh element system offers not only maximum soil stabilisation and root anchorage for reduced divoting, enhanced rate of divot turf recovery and lateral cleat tear, but also increased (a) soil water infiltration, (b) soil moisture retention, and (c) aeration, with resultant enhanced rooting and overall turfgrass health. These beneficial responses are attributed to a unique internal self-cultivation effect due to a flexing action of the three-dimensional, interlocking mesh elements randomly distributed through the upper 150mm of the root zone profile at a rate of 5kg/m³. The three-dimensional, interlocking mesh system with unique internal flexing also provides (a) a less hard surface, (b) a more uniform ball bounce, and (c) a superior load-bearing capacity. Based on eight years of detailed research, plus a number

of successful real-world constructions installed with the proper subsurface drainage systems, the mesh element system has demonstrated great promise for use on sports fields, horse race tracks, golf tees, cart paths, and intensively trafficked areas requiring high load-bearing capacities.

References

1. USGA Green Section Staff. 1993. USGA recommendation for a method of putting green construction. USGA Green Section Record. March/April. pp. 1-3.
 2. Beard, JB and SI Sifers. 1993. Stabilisation and enhancement of sand-modified root zones for high traffic sport turfs with mesh elements. The Texas Agricultural Experiment Station. B-1710:1-40.
- Editor's note: the interlocking mesh elements described are available world-wide as Netlon Advanced Turf. Further information concerning this process may be obtained by telephoning 0254 262431.

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Education

The introduction of National and Scottish Vocational Qualifications to our industry has had serious implications for greenkeeper training.

The principles of vocational qualifications are endorsed by the Greenkeepers Training Committee (GTC), however it is more than a little concerned regarding the qualification standards agreed by the Industry Lead Body for Amenity Horticulture (ILBAH) on behalf of greenkeeping.

Unfortunately, golf greenkeeping only employs around 10-11,000 persons in the United Kingdom and the Republic of Ireland, and with such numbers, this does not give the profession its own Lead Body status.

However, in order to protect the greenkeeping profession, the GTC moved swiftly in producing a new Training Manual, which incorporates the standards of NVQ/SVQ Amenity Horticulture.

The manual already includes the craft level skills and work is in progress to produce supervisory and management sections by the end of this year.

The changes in education have also coincided with major changes in how our training colleges are funded. I do not intend to explain the problems they have caused,

except to say that all colleges are now self governing and will need to be cost effective. The warning is clear to all, be careful if you plan to send a greenkeeper to college, check with the GTC Education Unit and establish that the training course on offer is at the agreed level. The GTC will soon issue a directory of colleges 'approved' to provide such courses, be they craft, supervisory or management levels.

It has to be suggested that whilst NVQ/SVQs are supposed to be work-based qualifications, it would be negligent of our industry to undo



the great work carried out at some colleges and whilst we intend to very closely monitor all training courses offered for greenkeeping, it is vital that we encourage golf clubs to support the courses which are offered, to complement the widely-acclaimed Training Manual.

There will be numerous centres offering NVQ/SVQ Level 2 (Greenkeeping Option), but beware, many of these establishments have no experience in training greenkeepers or assessing standards in our profession.

The NVQ/SVQ qualification in greenkeeping is under review by the ILBAH and the GTC is continuing to lobby for the Training Manual to be recognised as a candidate's Record of Achievement for the qualification.

The responsible GTC approved colleges will be offering training courses to complement the GTC training manual, incorporating NVQ/SVQs in Amenity Horticulture.

Having set out standards in the Training Manual and agreed to endorse and approve training courses at certain colleges, we must now provide trained assessors and verifiers to monitor these standards as an industry.

The GTC wishes to train sufficient assessors and verifiers throughout the United Kingdom and the Republic of Ireland and funding will be made available to allow course managers and head greenkeepers to obtain the required qualifications.

Nominations are therefore invited by the GTC from course managers and head greenkeepers who wish to be considered as assessors and/or verifiers. Forward your current curriculum vitae to David Golding, Education Director, at Aldwark Manor, Aldwark, Alne, York YO6 2NF, or call 0347 838640 for more details.

Management Courses

Applications have been pouring in for the limited number of spaces on the 1993 Management Courses. If you have not already booked, please do so quickly using the postcard in this magazine. A deposit of £100+VAT (£117.50) is required to secure your place. A grant of £150 per week may be available from the GTC for head greenkeepers with no supervisory qualifications.

Following the success of the last three in-house pesticide courses with 100% pass rate, a further course has been scheduled for the week beginning 27th September/1st October at BIGGA HQ. The course tutor will again be Jon Allbutt, who will guide you towards the PA1 and PA2A Certificates. Cost per delegate will be £495+VAT to include accommodation, meals, tuition and testing fees. The course is limited to six delegates, so if you wish to book, call BIGGA now.

Contact Debbie Savage on 0347 838581 for full details.

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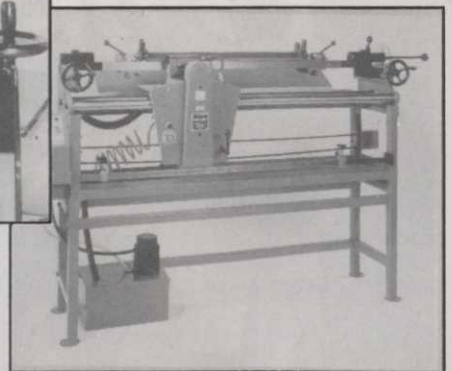
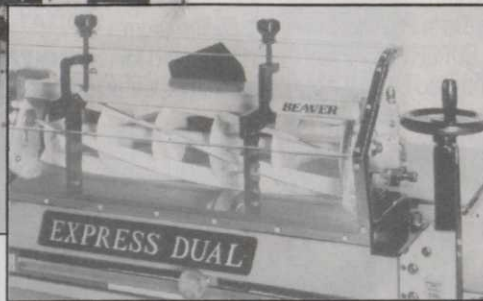
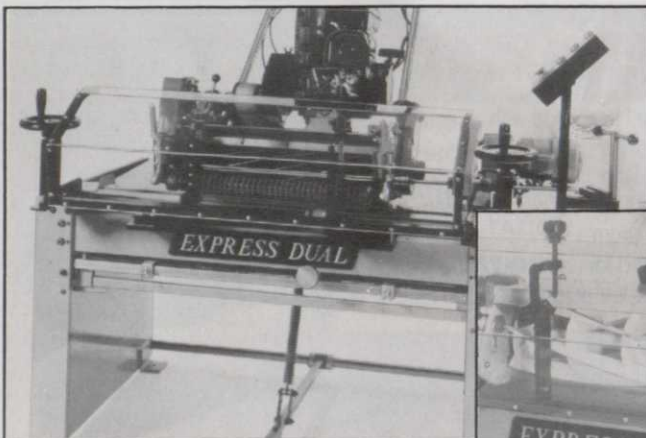


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