The Sports Turf Research Institute held its first grass trials in 1929, when the modern golf industry was in its infancy. Whilst it was recognised that greenkeepers needed to know which grasses to sow and how they would perform, it was safe to say that no-one could have predicted the demands placed on today's turfgrass mixtures.

Today, with courses played and mowed all-year round, the popular turfgrass mixtures are selected and mowed all-year round, the potential for disease and herbicide tolerant for the future of golf courses. For example, bent grasses require less water than fescues to produce a good playing surface. If we can’t use water, we may well have to reverse the current trend towards bent’s and go back to fescues.

“Maintenance is also important. Mowing, in particular, will affect the way grasses will perform. Slower growing grasses, which use less water, naturally require less mowing but what is done needs to be done well. If grass is not cut neatly, with sharp, regularly lapped blades, a larger surface area is wounded and this leads both to greater water loss and likelihood of disease. It is also, quite simply, a case of having the right kind of mower to produce the kind of playing surfaces golfers demand.”

At the same time as shifting emphasis over to existing grasses which require less water, research is also being done into Genetically Modified Organisms. Through gene transfer, grasses which require less water and spraying with herbicides can be created.

Dr Andy Newell, Head of Turfgrass Biology and Environmental Research at Aberystwyth, explains, “It’s the implications for the environment which are the chief problem with Genetically Modified Organisms. What happens when GMOs get into the food chain, for example. The potential hazards as well as benefits of each gene have to be assessed individually before release in a commercial variety. As far as golf courses are concerned, the problems are very specific.

“Our research indicates that grass pollen can travel several miles and it’s all very well breeding grasses which are resistant to disease and herbicide tolerant for the fairways but what about when the various weeds growing in the rough are pollinated? No greenkeeper wants the problem of herbicide resistant weeds growing on the fairway.”

Realistically, then it’s the case that genetically modified grasses created through gene transference may be easy to create but are a long way off being commercially available to greenkeepers.

“But,” Danny continues, “there is still a vast array of naturally occurring variation for characteristics in grasses growing in the wild. Plant breeders such as myself collect this wild plant material. We then hybridise it in complex crossing programmes to combine the useful traits such as drought tolerance, disease resistance, short dense growth and weed tolerance into a single variety.”

Hoy, then, does the concerned greenkeeper keep abreast of climatic and environmental considerations; what’s happening in turfgrass technology and its implications?

“The STRI held its first Cutting Edge three day Golf Training Course for Head Greenkeepers/ Course Managers last month with the express purpose of giving delegates in the picture with regard to developments in turfgrass technology and implications for the future of golf courses.

As Dr Newell explains, “Good greenkeepers have always been well aware of the need to know what’s available and what future developments are likely to influence their business. So although the response to the first Cutting Edge was good – with 16 Head Greenkeepers coming along – it was hardly surprising.

“But educating greenkeepers is only part of the whole picture. What needs to happen a lot more is for them to engage in real two-way dialogue with the technical people. Because, when you consider that it takes up to 15 years to create a new grass, for the seed breeders to respond to greenkeeper demands in general, as well as those caused by climatic, environmental and financial considerations they need to know what’s required for the future today.

“To be sure, the enlightened seed breeders do take steps to educate their salesmen to understand greenkeepers’ current needs and to encourage feedback when it comes to anticipating requirements. But there is still room for far greater exchange of information between greenkeepers and breeders. It’s only then that the breeders can supply what the people at the cutting edge really want.”

So, it seems that as far as the research institutes are concerned, the challenge is to adapt and create grasses to suit the inevitable demands made on them by the golf courses, brought about by a changing climate and growing concern over the environment. At the same time, It’s a question of encouraging a climate of debate between greenkeepers, breeders and the research bodies.

Johnson’s Seeds see things differently. "When we have our regular meetings with the STRI we invariably end up agreeing that the only difference in our perspectives is one of emphasis,” said Geoff Taylor, of Johnson’s.

As far as the potential benefits of GMOs are concerned Geoff is...
Sowing the seeds for the future

- sceptical. He argues that despite the potential of gene technology the range of options available to plant breeders are still bound by the fundamental precepts of plant ecology. "If grasses are modified by inserting appropriate genes, and trained suitably for drought tolerance, are fully expressed how will such an organism survive when it is faced with significant deficits of moisture/nutrients but is constantly subjected to the wear and tear and ultra close mowing expected by today's golfers?"

"Grasses which are more efficient at converting available nutrients than their contemporaries - especially nitrogen - are already undergoing trials. But such advances, despite their benefits are dwarfed by the climatic changes which are likely to be much greater than the capacity of GHG to produce the higher levels of performance demanded."

So, where does that leave the greenkeeper needing to make commercial purchasing decisions but with an eye to the long-term health and performance of the course's playing surfaces? As far as Des Thorogood and Newell are concerned, the crux of the matter is that, in the words of Dr. Thorogood, "Far-sighted companies with direct involvement with the greenkeeper on the one hand and the research scientists and breeders on the other, are in the ideal position to bring together the geneticists and greenkeepers to discuss what is possible and what is needed in the grass seed mixtures for the millennium."

Dr. Newell's main concern is that greenkeepers beware of cheap grasses because they can become very expensive.

"Greenkeepers may save money on seed but pay out for extra maintenance, extra watering and extra fertiliser. If grass has to be replaced due to poor performance, this could be extremely expensive."

From Ken Taylor's perspective, the crucial thing is that the products of plant breeders need to be integrated effectively with the technological development of mowers and other machines, along with chemicals.

"A holistic approach is the only one likely to succeed where superior management skills can maximise the full range of resources available."

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**Drawing breath before BTME 98**

Yet another year has flown by with the New Year only three weeks away and Harrogate only six weeks away. Nineteen ninety seven started with the Learning Experience, commencing with the National Education Conference and the welcome return of two workshops. Workshop 1 on Golf Course Design, Construction and Maintenance was extremely popular again, so much so that we had to stop taking applications in early December. We, therefore, decided to this workshop around the Regions, which has proved to be a great success. This workshop will be held at Harrogate again in January and, if you are quick, there are still a few places left. Workshop 2, Surveying and Leveling was, again, very successful and will be running in January. New for 1998 will be a workshop on Irrigation and its popularity is such that it is completely full. The National Education Conference will again be held in the Majestic Hotel, with speakers from all parts of the industry sure to offer something for everyone. The Seminar Programme returns to the Royal Hall for 1998. The Seminar Programme begins at 10am with a seminar presented by the Institute of Agricultural Engineers.

Unfortunately, Mr. Jaime Ortiz Patino will not be able to attend on Wednesday 22 January, however he will be speaking on Thursday 22 January at 1 pm. This seminar is a must for anyone wanting to hear how Valderrama was prepared for the 1997 Ryder Cup. All three workshops, the National Education Conference and Seminars will, once again, attract Master Greenkeeper credits and BASIS Continuing Professional Development points. Please ask for details at the Conference Office or at Seminar Registration in Hall G.

Thanks to the contributors to the BIGGA Education and Development Fund, including those companies listed at the front of this magazine, we have been able to continue to provide a range of courses around the Regions at very low prices. This year has seen courses on Essential Management Skills, Recruitment and Selection, Health and Safety and Leadership, allowing more than 180 greenkeepers to gain important knowledge which they can use in the future to provide better managed, efficient, cost-effective, safe golf courses.

TORO sponsored both the Student of the Year and the Excellence in Greenkeeping Award for the first time in 1997. This enabled us to hold a joint final in October, when Steven Nixon from Worley Golf Club and Ian McMillan from Hankley Common Golf Club were selected as the winners. Congratulations to both. Ian was doubly successful as Hankley Common also won the BIGGA Golf Environment Competition, in association with Amazon Ground Care and Rhône Poulenc Amenity, with Hankley winning £5000 to add to the prize of a Toro triple greens mower and Ian's trip to the USA. Full details of all 1998 competition will be available at BTME.

The next field guide, 'Grass Identification' is being distributed and will be available at BTME. Further field guides on 'Trees and Shrubs', 'Control of Mammals' and 'Basic Machinery Maintenance' will become available during 1998.

New for 1998 will be the BIGGA Refund of Education Fees Scheme. Watch out for full details of how and when to apply in the January edition of Greenkeeper International and on the BIGGA stand at BTME.

This year has been very hectic for Sami and me. We get immense satisfaction from seeing greenkeepers improve their knowledge, skills and confidence and we see education and training as the way to improve the status of greenkeepers and the greenkeeping profession. Remember, training courses, competitions and other training opportunities are staged for your benefit. Why not make a New Year's resolution to become more involved, attend courses and improve your status.

Sami and I hope that you all have a very happy Christmas and an educational New Year.