

1999 RUTGERS Turfgrass Proceedings



THE NEW JERSEY TURFGRASS ASSOCIATION

In Cooperation With

RUTGERS COOPERATIVE EXTENSION
NEW JERSEY AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK

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1999 RUTGERS TURFGRASS PROCEEDINGS

of the

**New Jersey Turfgrass Expo
December 7-9, 1999
Trump Taj Mahal
Atlantic City, New Jersey**

**Volume 31
Published July, 2000**

The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, Cook College, Rutgers University in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public. Articles appearing in these proceedings are divided into two sections.

The first section includes lecture notes of papers presented at the 1999 New Jersey Turfgrass Expo. Publication of the New Jersey Turfgrass Expo Notes provides a readily available

source of information covering a wide range of topics. The Expo Notes include technical and popular presentations of importance to the turfgrass industry.

The second section includes research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of this section is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to those individuals who have provided support to the Rutgers Turf Research Program at Cook College - Rutgers, The State University of New Jersey.

Dr. Ann B. Gould, Editor
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BRITISH GOLF COURSE MANAGEMENT PRINCIPLES AND STANDARDS

Jonathan W. Tucker¹

The ideals of traditional golf greenskeeping in Britain have not changed since the day of the horse drawn mower and can be summarized as follows:

- Firm, true greens
- Firm, mud free fairways
- Sustainable year round play
- Capability to support substantial golf traffic

It is no coincidence that these qualities are closely associated with the fine leaved bentgrass and fescue species that occur naturally on our links and heathland sites.

In reality, such goals may have to be modified due to site limitations and available financial resources. Many of our courses (including championship venues) are far removed from the true concepts of links golf and it is *Poa annua* (in all its different forms) rather than the fescue and bentgrass species which now predominate. Let us examine the reasons behind this trend.

1. Deficiencies in management, notably excessive use of water and fertilizer.
2. Defective construction (the majority of the courses were built on inferior soils when there were few concerns over soil compaction).
3. Micro climate conditions, notably heavily shaded greens.
4. Inordinate levels of play—40 to 50 thousand rounds of golf per annum is not unusual.

I would also include the impact of the media and television. The image of perfectly manicured courses may well attract golfers, but it also produces unrealistic expectations of tournament standard presentation and turf quality.

Professional tournaments require that greens are cut low to foster fast greens. This chase for pace over a prolonged period, irrespective of season, is simply unattainable for the vast majority of clubs in Britain. Consistency and uniformity are more important criteria rather than slavishly following stimpmeter readings.

It must be stressed that our Open Championship courses (which by definition are true links and hopefully will continue to be so in the future) receive little protection, apart from a couple of weeks for final preparation before the start of the championship. The membership still demand, and get, high standards throughout the year regardless of other commitments. The role of the agronomist is to ensure that there is a healthy foundation on which surfaces can be perfected and, more importantly, sustained throughout the course of the championship. This is entirely consistent with the long term aims of management. The agronomist does not act as a surrogate greenskeeper, and final surface refinements are left firmly in the hands of the greenskeeper who knows the limits to which he can push his greens. There has even been a resurgence in the use of lightweight vibratory rollers in order to improve pace without the need

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to take the mower down another notch. The R & A also adopt a light-handed approach to course presentation. The final arbiter is often the weather as witnessed by the punishing rough at Carnoustie this year. This is the essence of links golf, i.e., play it as you find it!

The objectives and principles of course management are invariably encapsulated in a course management plan that is specific to the type of course, e.g., links, heathland, moorland, parkland, etc. It is this wide diversity of golfing environments that influences management rather than our climatic extremes. There are fundamental strategies that underpin traditional course management specifically:

- Minimum but adequate fertility (approximately 12 g/m² of nitrogen for old, established greens).
- Optimizing mechanical treatments, notably aeration.
- Control of moisture through a sensible balance of irrigation and drainage.

Water is applied to keep grasses alive and not to soften greens artificially in order to flatter the ability of the golfers to stop the ball. The combination of close cutting and excessive watering invariably leads to a shallow rooted, vulnerable turf which is on the brink of decline.

Keeping grasses a little hungry and thirsty reduces reliance upon, and potential withdrawal symptoms from, the drugs of over watering and over fertilizing. Sulphate of ammonia forms a core part of the fertilizer program for most courses in Great Britain. This can be attributed to its acidifying properties which have beneficial spin-offs including suppression of disease activity (particularly *Fusarium* patch and take all patch diseases) and a reduction in casting worm activity. With the withdrawal of effective worm control agents in Britain this is an important consideration. Slow release type, synthetic fertilizers are employed, but usually only in combination with traditional fertilizers to provide a balanced response. It has also been demonstrated that there is less risk of encouraging annual

meadowgrass (*Poa annua*) invasion by incorporating sulphate of ammonia. This was the basis for the acid theory, expounded originally over 50 years ago.

The reality for the majority of golf courses in Britain is that they have to maximize the potential of a blend of *Poa annua* and bentgrass greens. However, it is becoming increasingly difficult to reconcile the needs of summer play with the demands of year-round golf, particularly on our more historic courses. The vital timing of treatments is also adversely affected by the constant throughput of golf and extended playing season. Against this background winter maintenance strategies are a vital part of the greenskeepers job remit. Enforced use of temporary greens, rerouting of traffic, and banning of golf trolleys are all measures deployed. Even the use of soft spikes are gaining a greater foothold in the British market!

In Britain, there is a greater tolerance of the odd blemish, but this should not imply that greenskeepers are complacent when it comes to pest and disease control. A broad-based, integrated pest management approach is adopted using sound cultural and environmental principles. Reaching for the fungicide or insecticide bottle is considered a last resort. In the long-term this makes economic sense and, more importantly, improves the natural resistance of the turf and minimizes impact on soil microorganisms. With the ever decreasing armory of pesticides, this approach will become more important. There is an increasing trend to use microbial inoculants and microbial stimulants, but the main thrust of greens management in Britain is to maintain the natural soil balance.

The most significant distinction between United States and British courses is in the level of course conditioning. The reason is one of straightforward economics and the resources devoted to this aspect of course presentation. There are courses who can afford every piece of new equipment, housed in the most up to date facilities, but many are considered fortunate to have a new piece of equipment each year.

Within these restraints it is impossible to provide uniform perfection from tee to green. In recent years there has been a move towards the use of lightweight, self propelled fairway mowers, but wall to wall irrigation is still a comparative rarity on inland courses. By contrast, irrigation has been installed on virtually all our major links courses with the objective of facilitating turf recovery from drought and not to cosmetically create a uniform green color!

The limited acceptance of creeping bentgrass in Britain is often a surprise to those who have been closely involved with this grass species either as a manager or user. Our experiences are variable, and generally the *Agrostis tenuis* cultivars perform better within our mild oceanic, temperate climate. The main factor that has limited its market penetration include:

1. The intensive maintenance demands of the grass.
2. Preference for alkalinity and high fertilizer and water inputs which equally favor *Poa annua*.
3. Lack of vigor over the British winter and spring, which is also exploited by *Poa annua*.

Perennial ryegrass has also found favor with some of the new courses in Britain, and whilst it may not be appropriate for our established courses, the breeding of increasingly fine textured cultivars (combined with characteristics of wear tolerance and rapid recovery) means that it cannot be ignored in the future.

Human factors can have as much influence as agronomic factors in realizing course management objectives. The majority of member clubs are still governed by amateur green committees in which the chief qualification for entry is an interest in gardening or, worse still, farming. Interference by these individuals can still be an obstacle to progress, but fortunately there are more enlightened and streamlined committees who listen to the professional.

The alarming extent of non-indigenous planting of flowering cherry and conifer varieties is often a legacy of committees wishing to leave their mark. This has turned roughs into glorified garden centers. Roughs play a vital role in conservation, and where golf courses adhere to specifications, Sites of Special Scientific Interest (SSSI), management practices are carefully regulated and vetted.

In summary, an environmentally responsible and cost effective approach to management is adopted in Britain. There is certainly less emphasis on color and absolute uniformity from tee to green which accords with the natural state of the original links. Course management remains an art as well as a science. Greenskeepers in Britain have to respond to greater pressures of play, and golfers are now undoubtedly more demanding. Maintenance techniques have improved and the balance of treatments has also shifted, but the underlying principles of course management have been established for a long time.