



UNDERSTANDING AMERICAN GREENKEEPING

Part 2. Maintenance Practices

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It is common fallacy in Britain that 'American' golf greens are constructed of sand; are excessively irrigated, excessively fertilized, and that their surfaces are soft. Generalisations of 'American' golf greens cannot be made. The diversity in climates, maintenance budgets, construction methods, etc., results in a host of 'American' greens. The grass species on the greens may consist of *Poa annua* (Annual Meadowgrass); or *Agrostis palustris* "Penn-cross"; or a mixture of *Agrostis* and *Fescue*; or hybrid *Bermudagrass*; or even a blend of *Ryegrass* during the Winter months. The soils can vary from strong clays to coarse sands; from very acid to highly calcareous. The surfaces of greens can vary from soft and lush to hard and starved.

The popular notion of 'American' greens being slow, soggy, and plugging, is most easily rebuffed by exemplifying the firm, lightning-fast greens of the Augusta National Links, Georgia; those of Merion Golf Club, Pennsylvania; those of Pebble Beach, California; and virtually all the other tournament courses that are televised in Britain. Our own experiences tell us that the so-called 'typical American golf green' is not typical at all.

At one time it was probably fair to say that the majority of American greens were over-fed and over-irrigated but, nowadays, fertiliser and water usage is much reduced and the demands are for firm, fast greens. Britain and America share this same goal. After all, the U.S.G.A. Green Section has, for many years, been advocating a policy of reduced feeding and watering.

Ignoring the obvious inaccuracies of common generalisations, let us consider some of the maintenance practices currently in use in various parts of the United States and compare them with practices in Britain. Any comparison must take account of the differences in climate, a factor which can often dictate the need for certain operations. In many instances, an exceptional year in Britain, such as the drought of 1976, will offer some indication of the conditions that many American golf course superintendents must face year after year. In fact, the vast majority of American superintendents must cope with much harsher conditions than those. Winters, too, can be very much more severe than any that we may have experienced in the last fifty years.

Many people are familiar with the chemically-orientated greenkeeping systems of some parts of America. Fungicides, in particular, are widely used. In some localities and at certain times of the year, fungicides may be applied to the greens as frequently as every four or five days, and every seven to ten days on the fairways. By our standards, this is unthinkable.

Nevertheless, we are very fortunate in that our climate does not favour the rapid development of serious turf diseases. Even *Fusarium Patch Disease* is relatively mild in comparison with some of the diseases that are experienced during the hot, humid Summer weather of areas of the North-eastern States. Even so, our turf managers soon resort to the use of fungicides to control an outbreak of *Fusarium Patch*. Imagine their horror if their greens were attacked by *Pythium Blight*, a disease which is capable of killing a whole golf green in a matter of only a few hours.

Is it any wonder that some golf courses in the States use vast quantities of fungicides as a preventative measure against such an alarming disease? If our climate encouraged such diseases, we too would use any chemical at our disposal, and in equally large quantities. Areas of the States which enjoy a milder climate, more reminiscent of our own, use no more fungicides than we do. Like ourselves, they have no need to.

In some zones, insect pests such as *Awl*, *Sting* and *Stubby-root Nematodes*; the *Hairy Chinch Bug*, *Hunting Billbug*, *Sod Webworm*, *Mole Cricket*, and *Fall Armyworm* can create further headaches for turfgrass managers. The weather in some years can encourage their numbers to reach epidemic proportions; frequent and expensive chemical control over a large part of the golf course being necessary to avoid severe damage. In the case of *Mole Crickets*, the damage can be worsened by the digging activities of *Armadillos* which are predators of them.

Similarly, the use of fertilisers is often misunderstood. How often has it been stated that the Americans use vast quantities of fertilisers and that their greens are over-fed? Again, as with this Country, some greens are excessively lush but it is not a general policy. Indeed, the United States Golfing Association's 'Green Section', the principal advisory body in the States, recommends very modest rates.

As a guideline, Nitrogen applications for *Bentgrass* greens should be in the order of a half pound per 1,000 square feet per growing month. In an area such as Southern California, which can enjoy 365 days per year of growing weather, the total annual Nitrogen application, using Sulphate of Ammonia as the Nitrogen source, would be in the order of 32lbs. or more per 1,000 square feet. It sounds a lot, doesn't it?

However, when the same guideline is applied to areas of the north-west which suffer a growing season similar to our own, the total application of Sulphate of Ammonia would be approximately 1.5 to 2 ounces per square yard per annum. Even the most ardent critic of 'American' greenkeeping methods has to admit that such a quantity cannot be described as excessive. Indeed, it is far less than many British greenkeepers are applying to their greens.

Even the manicuring of some of the American courses is often misunderstood. Parkland courses on highly fertile soils in Britain require constant manicuring because the growth rates are so rapid. However, in comparison with the growth rates witnessed in the warm, humid areas of America, our parkland courses are very slow. Snakes are a common nuisance to golfers on many courses, with some clubs applying a local ruling of a free drop when a player's ball lies within a club length of a rattlesnake. If the rough were permitted to grow, lost members could well be a bigger problem than lost balls.

In Peninsular Florida, alligators basking in the sun on a golf green, or swallowing golf balls in the rough, are additional golfing hazards that provide a greater challenge than a mere sand trap. Severe rough would constitute a major danger to life and limb.

Most certainly some golf greens in America are over-watered and maintained in a rather soft condition, but the same thing can be said of many greens in Britain.

When judging the relevance or value of a maintenance practice, it must be related to the local soil type and/or climate. For example, the quantity of water needed to irrigate a sand construction in the arid climate of Arizona should not be considered excessive if it is compared with the requirements of a sandy loam in the high rainfall district of Lancashire. Just because an irrigation system is used more frequently in Arizona, it does not mean that the soil moisture content is any greater than it is in Lancashire. The grasses may be maintained in a similar state of drought stress, despite the enormous volumes of water applied. Evapotranspiration rates are so much greater in the hot climate of Arizona where daily temperatures can exceed 110 degrees in the shade that large quantities of water are required just to prevent the grasses from dying. In the

cool temperate climate of Lancashire, only a relatively small quantity of irrigation water is required to maintain the grasses in a similar state.

The total volume of water used does not, necessarily, indicate that irrigation has been excessive. The philosophies of irrigation can be exactly the same but the volumes of water required to achieve a similar result may be very different.

There is a fundamental difference between the best courses in America and their counterparts in Britain. Prestige is a vital ingredient of membership to some American golfers and cost of achievement receives little consideration. Resulting from this, because the better clubs charge astronomical fees to guarantee excellence, there is a proportionately higher cost for mediocrity. It is simply a difference in standards set by the golfers.

Similarly, golf course superintendents vary in ability. Competition is fierce. The better superintendents are extremely knowledgeable and, equally important, very professional. The majority of golf course superintendents are now university trained, most State Universities offering degree courses in turfgrass and golf course management. Salaries can range from as little as £9,000 per annum to above £50,000. A golf club that is willing to pay the high salary is, again, usually rewarded with excellence.

The most frequently quoted comparisons between 'American' and 'British' golf courses, and probably the least related, are maintenance budgets. There is considerable diversity in American budgets, with figures ranging from about £30,000 to over £250,000 per year. British greenkeepers and golfers often express consternation at, what appear to be, extravagant budgets but rarely is it noted

that the severe climates that prevail in many parts of the States make turfgrass maintenance, even to a relatively low standard, very costly.

All too often, critics in this country are only familiar with our own climate and management systems and are totally unaware of the problems in America. Certainly, some of the American clubs have luxury budgets but the vast majority experience similar financial constraints as their British counterparts, although the subsistence figure may be much higher. When more exacting standards are set and essential requirements are greater, the overall maintenance costs are bound to be higher.

Much of the golf course maintenance equipment currently available in Britain was designed in America for American conditions, but they have often proved invaluable to our own maintenance regimes.



A view of the tree lined fairway at Pine Valley Golf Course, New Jersey, U.S.A.

Creeping Bent and Bermudagrass, the turfgrasses which form the vast majority of putting surfaces in America, are vigorous species, prone to thatching and graininess. Verti-cutting units on triplex mowers were developed to retard thatch accumulation and minimise nap formation. They were introduced onto the American markets but prove to be just as valuable in Britain. Similarly, if used sensibly, integrated turfcare systems such as the Cushman, or automatic pop-up sprinklers, are very valuable maintenance aids. They are as relevant to Britain as they are to the States, their country of origin. The use of Sulphate of Ammonia and Sulphate of Iron are also introductions from America. Many of our accepted maintenance practices originated in the United States and they have, over the years, proved to be applicable to our climate, provided some allowance is made for our milder conditions.

The use of sand as a construction material is also an American introduction, although all our finest seaside links and heathland courses originated on such sands. Correctly, we should say that the use of sand as a construction medium is a re-introduction. Not all golf greens in America, however, are constructed of very sandy mediums. Many of the older, or lower priced constructions, are loams and display similar problems to those encountered in the U.K., although the severe climates usually result in more pronounced drawbacks.

The American construction techniques, management systems and maintenance equipment have evolved in response to climatic, environmental and social influences. We should not criticise their golf courses. Instead,

we should appraise them and their management techniques and, as we have done in the past, adopt whatever would be advantageous in our climate, and feasible in the British social structure, for the general improvement of our own golfing facilities. Perhaps the Americans will do the same with British golf courses! Most importantly though, we should maintain an open mind and remember that many of our present, accepted maintenance practices originated in the States.

Martyn Jones will be contributing further articles in 1986, on the development and maintenance of golf courses world wide.
