

Landmarks in Greenkeeping

Jim Arthur files through his memory banks and identifies the landmarks he has witnessed in the greenkeeping industry

At regular intervals, and I have succumbed myself, greenkeeping writers are tempted by offers to write on the milestones of greenkeeping history. There are enormous pitfalls in the path of those who blithely fall into the trap.

The first point that must be accepted is that very little of these epoch-making greenkeeping revolutions were specifically invented for the purpose of the better management of recreational turf.

The second is that these developments had often been in existence, though neglected, for years before being adopted. Thirdly until there was a demand, there was no market. Fourthly such revolutions were often adopted very slowly and by no means universally, not only because there was no universal need but because of inborn reluctance to change – when often the change meant poorer results until the methods or machines were refined to deal with their side effects on fine turf.

A classic example is that of the use of tile drains on golf courses. It has been said that until the introduction of powered trenching tools in the early 1900s the use of tile drains was not widespread. What nonsense!

Many, many thousands of acres of heavy clay land were drained in the post Napoleonic war period to enable home food production to be stepped up to meet the needs of an expanding population nearly two centuries ago.

The first cylindrical tile drain making machine was invented (by Switzer) in the UK in 1787, but demand was poor because then food production was just about adequate – despite the knock on effects of the industrial revolution and a mass migration from the land to factories in towns.

Then came the agricultural demand first met by hand made tiles (see Chapter 13 Practical Greenkeeping for full details) and then in response to the huge demand in 1845 by Scraggs machine.

Some of this very old drainage is still working, because it was laid very deep (one metre at least) laboriously by hand. There was no demand from golf because in 1857 there were only 17 golf courses – all of them naturally free draining Scottish sandy links. Even in 1888 there were only 138 in the U.K. – virtually all on heath or links.

However in the 1890s there was a vast explosion in golf to cope with the new demand from the big cities. Courses were constructed on often "unsuitable" heavy land where intensive drainage – and earthworm control – were essential to achieve tolerable playing conditions, even during the few summer months to which inland golf was restricted a century ago.

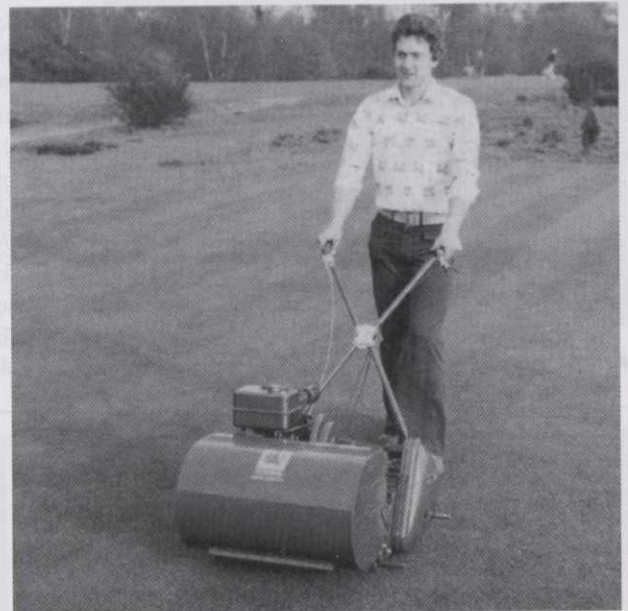
Remember Ber-'nard Darwin's comment in the 1930s that "golf was a game played by a few gentlemen and most Scotsmen" and that "no gentleman played golf before the first of May". His words – not mine!

Tile drainage of golf courses took off because the need was there and remained dominant until plastic drains took over in the 1950s, (much more easily handled).

We have to accept that golf has never generated a big enough market to make specific research let alone production economically worthwhile. The only exception has perhaps been the mower.

Edwin Budding's mower developed in 1832 from a reel type shearing machine designed to remove 'nap' from woolen woven tweeds was not widely adopted save by wealthy estate owners trying to mechanise the presentation of their expensively maintained 'lawns' surrounding their mansions, until the early 1900s.

This was largely because the finish left by these huge, heavy, clumsy early machines was far inferior to that provided by skilled greenkeepers with scythes.



▲ The Ransomes' Auto Certes - natural progression

Even I can remember such men scything wild white clover out of golf greens! It is worth remembering that the first hand Certes mower by Ransomes, specifically designed for use on golf greens was not introduced until 1924 and the first powered Auto-certes not until 1950! This was not because there was any criticism of design or finish – just that there was no money in golf.

Where there was money – in the States – and therefore a market, there followed great strides in the development of, for example, triplex mowers and trailed, then mounted, gang mowers for fairways.

Another 'agricultural' development slowly adopted by golf was the small tractor, with a power take off, which revolutionised small scale farming (because of manoeuvrability as well as low cost). Until Harry Ferguson's invention tractors were used as horses, trailing machinery.

As he told me himself, he modestly disclaimed the credit that was his due because he said that he was merely the first to realise the basic difference between a horse and a tractor, which was that "you can't bolt anything to a horse's backside!" Now mounted equipment is standard, but it all started with that inventive Ulsterman.

Another development from another (agricultural) market which was enthusiastically adopted (for a change) by golf was that of selective weedkillers. These derived from war-time work in producing defoliating sprays to attack and destroy the enemies' field crops.

Our first selective in 1946 was powder MCPA (on a lime base!!) and then a year later liquid 2:4D. What a joy advisory work was in those early post war days, explaining the miraculous eradication of the prevalent weeds of



▲ Hand operated Turfman aerator, circa early 1930s

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those days – starweed and daisies. The sceptical approach was soon replaced by joy.

Apart from a few pioneers – largely greenkeepers not research bodies – working e.g. on the application of such things as sodium chlorate (with very small safety margins), weed control was almost entirely by hand weeding.

I can still remember the sight of a line of a score or more of potato pickers in the East of Scotland advancing across a links green, 'howking out' starweed – and the resultant damage. Wise advisers did not exchange badinage with such redoubtable characters!

We now have virtually an effective selective weedkiller for every weed but despite the investigating work carried out by firms and STRI it was not research for which we have always had to rely on agriculture.

This applies today with pesticides where products are being withdrawn rather than being banned, simply because the market is too small to justify the huge costs of EC registration and regulations.

There were a few areas where invaluable introductions were aimed at and funded by the sports turf market. One of these was the mechanisation of aeration produced in the middle of the worst economic depression of the last century by a small firm, Sisis, run with foresight and engineering skill by Wm. Hargreaves in the 1930s.

Prior to the Turfman (1934) aeration was by hand forking. Admittedly the motorised version the Auto turfman was not marketed until 1964.

Naturally, developments in aeration machinery were being made in America, but as so often happens conditions there are not relevant to our different climatic and soil conditions.

All their machines were too shallow penetrating. They were admittedly sophisticated. I asked Sisis engineers to develop a machine costing under £500(!) capable of penetrating 6" deep and of aerating a golf green in an hour.

This resulted in the Autocrat in 1971, which held sway until replaced by the de Ridder's Vertidrain (again my introduction) in 1980 – which could penetrate 15" and



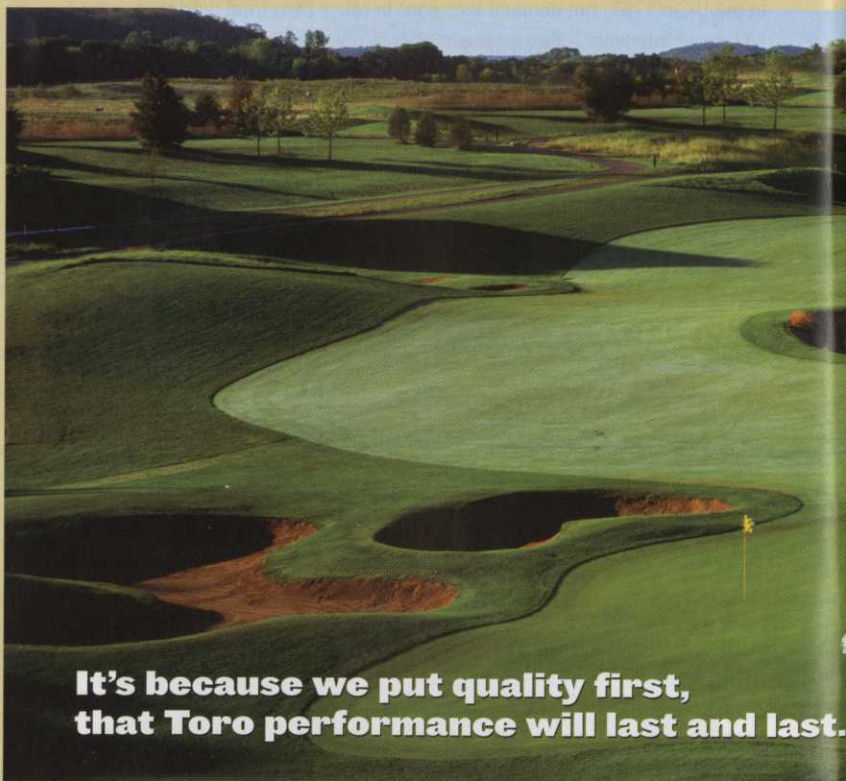
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more, with a lifting action akin to the old raise forking with 'graips*' which was the inspiration for this really deep aerator, now being used worldwide.

I have left the most important milestone until last, partly because it is the essence of sound management of fine turf and partly because it has undisputed worldwide application for the management of bents and fescues through all the temperate zones of the world.

This of course was the precept of Dr Murray, published in 1913, based on his work over the ten years earlier in the winter rainfall areas of South Africa, on turf dominated by bents (*Agrostis*).

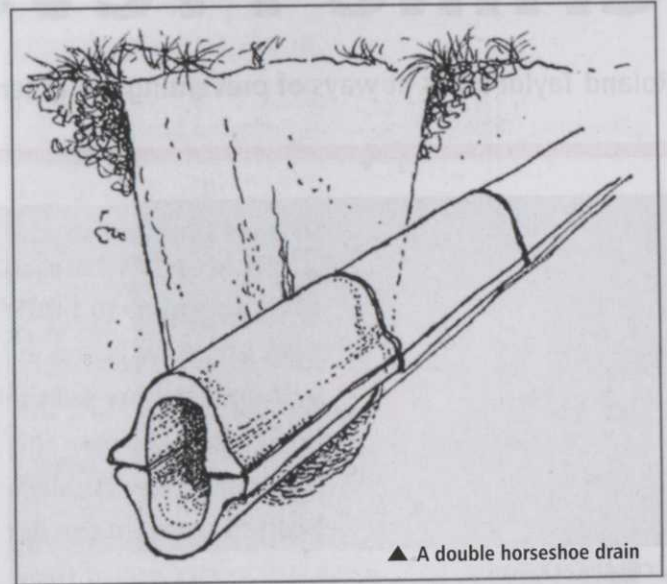
His work has lasted unchallenged and proven over the century by countless research projects, here and in the States. In his own words his system has "the object of providing an adequate supply of nitrogen in an acid medium, with a very limited amount of phosphates and potash, the only source of the latter being such as is contained in the usual compost. The real object of the compost is not so much the provision of plant food as to supply humus". How perspicacious?

This work, started at the beginning of the last century, is the basis of all traditional austere greenkeeping designed to favour bents and fescues. Where his rules are ignored or reversed, *Poa annua* invades and dominates at once.

I know of few good greenkeepers who will openly assert that their ideal grass is this highly successful weed. Many erroneously say it is unavoidable.

There are hundreds if not thousand of examples proving the reverse. Dr Murray was certainly a man before his time and perhaps (certainly in my view) the most important milestone in the history of golf greenkeeping.

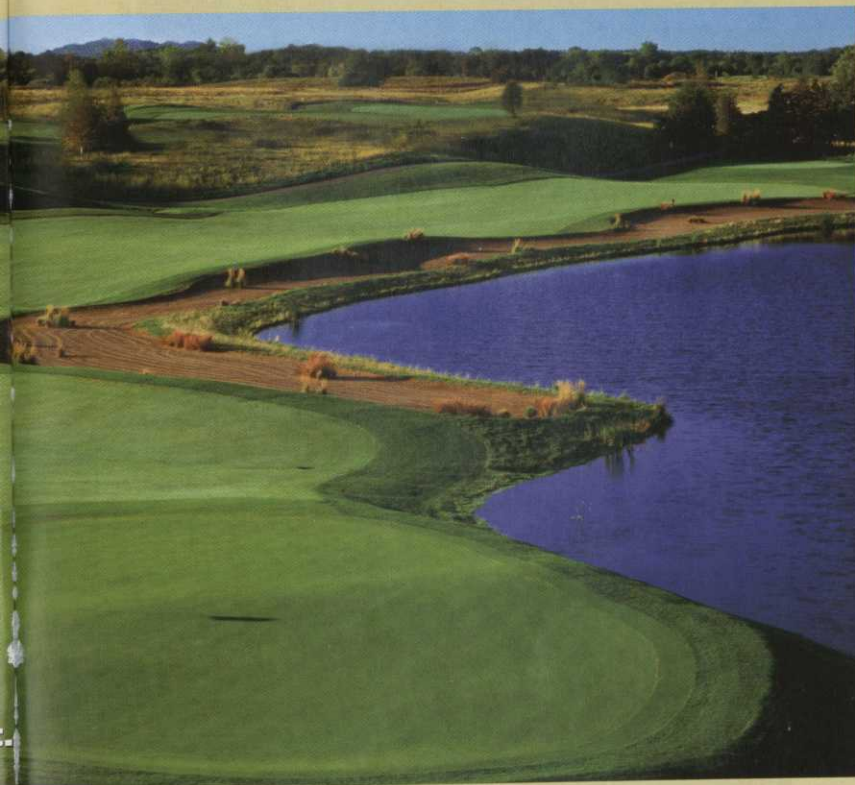
This in no way denigrates the sterling work of many links greenkeepers, even before him, who learnt by observation and from their ancestors, that



▲ A double horseshoe drain

the best way to look after their greens was to use soot (a nitrogenous fertiliser) and local sandy soil (with rotted seaweed) and deep spiking. Nothing new in greenkeeping – except in the minds of eccentrics and salesmen.

Jim Arthur will be happy to personally sign a copy of the Second Edition of Practical Greenkeeping and send to anyone postage free who contacts him. (Book price £29.95). Tel: 01395 442966.



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