

Aerator options



MAIN ABOVE: The Terrain Aeration Terralift injects air via 2.5cm probe and is claimed to send a blast of sufficient force to work down to around 1.0m. A Terralift can be used to inject dry materials to include dried milled seaweed, osmocote and slow release nutrients.

The increasing availability of sub-soil aeration techniques can literally breathe new life into tired turf. So before looking to strip off the old turf and starting again, consider if some form of aeration can help. James de Havilland writes

It would be unfair to single out any item of equipment as the ideal aeration tool. Not only a wide range of aeration systems, from slitters to air injection systems but an endless array of problems too.

So what follows is a general overview of some kit that is on offer with a general truism. If you are experiencing an aeration problem with your tees, greens or fairways, the chances are someone has been through similar problems too!

The **Wiedenmann Terra Spike** range comprises ten machines with widths spanning 1.35m to 2.1m with working depths of up to 220mm or 400mm depending on the model. As to work rates, this

can be as high as 9km/hr; fast enough to make fairway aeration feasible.

To help indicate a given models performance, Wiedenmann rank its models into XF for units able to work at a high forward speed, XD for extra deep, and XP for extra penetrative. Models with a G prefix are suitable for use on greens and other fine turf.

Terra Spike aerators have evolved to make it easier to set both working depth and, as applicable, the degree of heave. There is no need for tools either. As to tine changing, it should be possible to switch between different sets in around 15 minutes.

This is important as one machine can be employed for soil decompac-

tion and coring for soil exchange.

Launched in autumn 2009, the Wiedenmann GXi8 HD is interesting from a mechanical standpoint. Wear and tear is inevitable on all types of equipment, but it is how it is minimized that can really be of value. On the GXi8 HD, key moving parts to include springs and heave linkages are positioned behind covers at the front of the machine. The claim is that this keeps them out of the 'dirt zone' which in turn can help reduce wear and tear. As a bonus, it also helps to make the unit quieter too.

The centre of gravity is also closer to the tractor, a small point that in practice can really help stability. The tines on the GXi are closer to the



Groundsman Industries

Groundsman Industries deep tine aerators feature sealed bearings, to reduce maintenance, and have a shock absorbing system on the crank to help reduce noise and vibration. Tractor mounted models are offered in 1.2 and 1.8m working widths and can be fitted with a full range of solid and hollow tines.



Sisis

ABOVE: Up to 9 different types of tine, spaced at 150mm centres, can be fitted. Maximum working depth is a useful 127mm and the working width is 1,500mm.

INSET RIGHT: The Hydrovane compressor pump has its own integral cooling pack. Designed to deliver compressed air in demanding industrial applications, the pump is well within its operating capacity with the Aer-Aid system, delivering 88 litres per minute at a pressure of up to 10 bar.

eter. These can be set to operate as shallow as 25mm to 450mm (1 to 18in).

In itself, the drilling process is claimed to improve drainage by penetrating and piercing compacted layers in turf subsoil. By extracting material, lateral soil movement is also encouraged and this can allow re-establishment of capillary pore space in the root-zone area.

The drilled holes can also help improve rooting at the interface between turf and subsoil. Where turf has been laid over packed subsoil, it is unable to get adequate rooting and will tend to



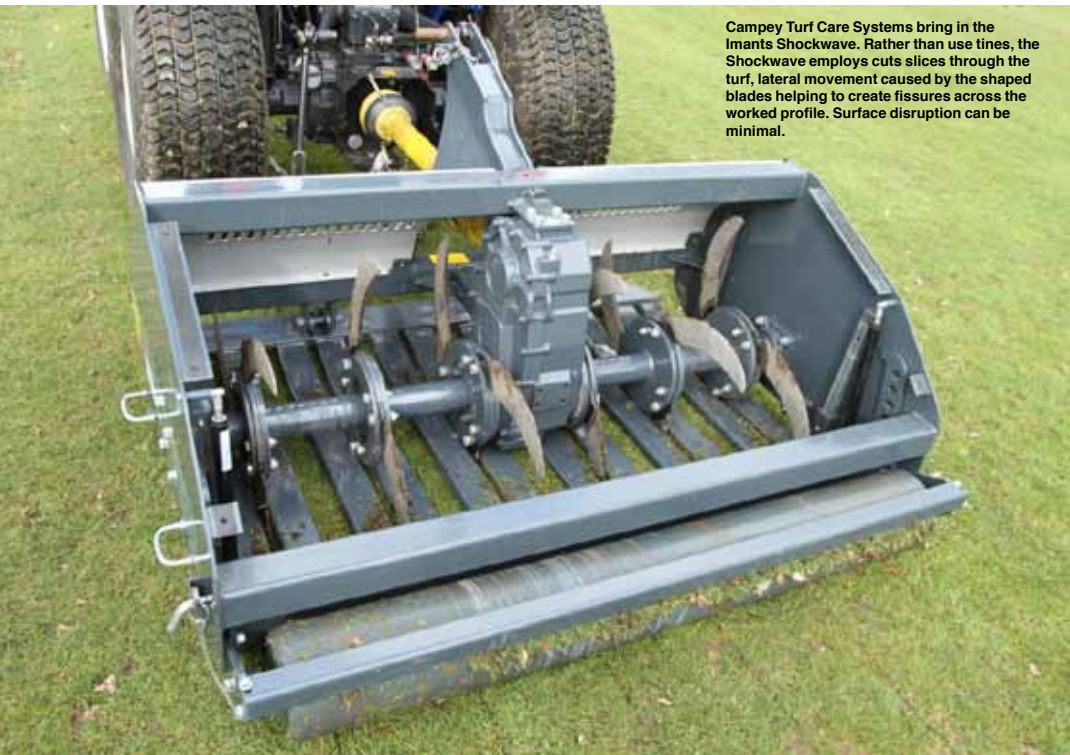
BELOW: Although developed to work on golf greens, the Wiedenmann GX18 HD is 'fast enough' to be worked over wider areas. Aerating approaches and compacted areas of fairways is just one of the uses to which such equipment can be put.

front roller too, this being claimed to ensure a uniform job on undulating greens. Further, although the machine is mainly designed for greens, tees and fine turf it will also cope on fairways which aren't built on rocky sub soils.

Ecosolve are specialist contract operators with the **Drill n Fill aerator** and Deep Drill 60/18 aerator. These two machines, which are also marketed by the company, are specifically designed to provide sub-soil aeration. The Drill and Fill is claimed by Ecosolve to be unique in its ability to not only create aeration ducts but also backfill them. This is carried out immediately, with materials that can be added including soil amendments, such as sand and gravel, nutrients or even bacteria.

In outline, the Drill n Fill drills 24 vertical ducts 30cm deep by 20mm in diameter over an area of 0.85m². The Deep Drill 60/18 aerator has 60 drill bits of 15 to 20mm diam-





Campey Turf Care Systems bring in the Imants Shockwave. Rather than use tines, the Shockwave employs cuts slices through the turf, lateral movement caused by the shaped blades helping to create fissures across the worked profile. Surface disruption can be minimal.

rest on the soil and not root. Holes drilled through the turf and into the subsoil will act as penetrable ducts into which turf roots can grow, fastening the loose top zone to the subsoil.

Where the Drill n Fill departs from standard drill type aerators is its ability to remove soil and replace it with fresh material. By adding sand, gravel or a specialist drainage medium, this process can also be used to make the drilled holes semi-permanent.

Another innovative aeration system is the Terralift aerator. This type of equipment works by blasting compressed air down into the subsoil, the sudden blast of air opening up fissures and helping to alleviate a range of subsoil problems including compaction.

A Terralift injects air via 2.5cm probe, and is worked on a staggered grid based on 2.0m centres. Said to send a blast of sufficient force to work down to around 1.0m, a Terralift can also be used to inject dry material. This can include dried milled seaweed, osmocote and slow release nutrients as well as various fungal and microbe-based materials.

The system can also be used to treat areas damaged by oil spills, sending in a bacterial formulation that can be used to digest oil within the soil. It is this type of specialist application that is often overlooked, with digging out problem areas typically being seen as the only answer.

As an aside, the Deep Drill 60/18 can also be used in conjunction with Terralift type equipment. Here, drilling in holes to perforate the surface before using the Terralift will prevent the compacted layer acting like a 'membrane'. This helps reduce surface uplift and is particularly useful when working on playing surfaces.

Based around its established Javelin vertical action aerator, the SISIS Javelin with Aer-Aid system uses compressed air to help relieve compaction in the rootzone of all types of sports turf. In simple terms, as well as pushing a hole into the turf with its tines, the Aer-Aid element also injects a blast of compressed air too. The aim is to offer a degree of additional decompaction right where it has most benefit.

Aeration is a fascinating subject. The adoption of existing equipment and new techniques continue to broaden the ways in which aeration can be used to help keep turf in good shape. Of equal importance, aeration can be used to rejuvenate tired turf economically.



The now ubiquitous Verti-Drain, from Charterhouse Turf Machinery, is designed to relieve deeper compaction. The pictured Verti-Drain 7521 has a 2.10m working width and can operate down to a depth of 400mm. A choice of hollow and solid tines are available.

Contacts

www.ecosolve.co.uk/golf.html
www.terrainaeration.co.uk/
www.sisis.com/golf/

Other aeration equipment suppliers include:

EP Barrus Ltd (MTD), Campey Turf Care Systems
 Charterhouse Turf Machinery Ltd
 DJ Turfcare Equipment Ltd
 Groundsman Industries

John Deere Ltd
 JSM Distribution
 Lloyds & Co Letchworth Ltd
 Logic Manufacturing Ltd
 Mantis UK Limited
 Pinnacle Power Equipment Ltd
 Ransomes Jacobsen Ltd
 RECO
 Ryetec Industrial Equipment Ltd
 SCH (Supplies) Ltd Toro
 Commercial Products
 Tracmaster Ltd