HAVE YOU TRIED ALL YOUR AERATION AND DE-COMPACTION OPTIONS?

By James de Havilland

The range of aeration and de-compaction kit available has evolved from simple slitters through the baffling armoury of kit that is now available. Here we take a peek at just a few of the machines currently on offer.

Before taking a look at some of the equipment outlined here, it is important to realise just how many suppliers of kit there are. Although a list of suppliers is always handy, there is a risk that a company has been missed. So please consider this when reviewing the suppliers table with apologies to those who are not on the list.

We have not pictured the Charterhouse Verti-Drain simply because it has to be one of the best known deep aeration machines on the market; for some it was the machine that revolutionised de-compaction and allowed winter play on turf that would otherwise have been waterlogged. The items pictured are a reminder of the diversity of kit on offer. Some are ideal for regular use, others for use by a contractor or hired in. The key point is that there is a system that can help with any aspect of aeration or de-compaction.

De-compaction and aeration suppliers include the following. This is not a full and comprehensive guide.

Campey Turf Care Systems	01260 224568
Charterhouse Turf Machinery	01428 661222
Groundsman Industries	02827 667049
John Deere	01949 860491
JSM	08450 260061
Ransomes Jacobsen	01473 270000
Rytec Industrial Equipment	01944 768232
SISIS Equipment	01625 503030
Toro Products	01480 226800
Wiedenmann	01418 143366

Designed to offer high-speed operation, the pedestrian Toro ProCore 648 greens aerator (left) offers a wide 1220mm working width with the claimed potential to aerate 18 greens in just over seven hours. A key feature of the 648 is that its wheels are located ahead of its tines so that the machine never runs over the cores. Powered by a 23hp petrol engine, it can be fitted with both solid and hollow tines. Coring can be done at variable spacing between 380 to 762mm to a depth up to 1016mm. A TrueCore ground-following system automatically maintains tine depth to match ground undulations. Toro also claim its RotaryLink system ensures the tines enter and exit the ground cleanly and to leave a high quality finish.

Wiedenmann Terra Spike equipment includes the well established XF models pictures. The latest model to join the range is the 1.4m wide Terra Spike GXi (left). Designed for tractors of 25hp plus, this 1.4m wide unit is a smaller brother to the XF, offering a working depth of up to 25cm at an operating speed as high as when working at 12cm, the GSi will take a solid tine of up to 20mm in diameter. Wiedenmann claim to offer a choice of machine to suit not just a wide range of applications but outputs as well. A key feature is smooth operation, this allowing higher work rates when operating big tines at greater depths.

BLEC has long offered the ability to mate its Ground Breaker soil de-compactor to a Sand Master attachment to de-compact and sand slit in one go. The recently introduced Vibra-Tine Sand Master (left) refines this concept to improve operating efficiency. Up front, the Ground Breaker rotary tine de-compactor operates as before. The powered scythe shaped slitting tines are designed to produce minimal surface disturbance but by shuffling the soil laterally relieve compaction down to depths of 26cm (10.5"). The Vibra-Tine Sand Master attachment opens up the slit with a feeder coulter through which sand from its integral hopper fills the void.

Now finished in silver-grey and black, the Imants range of de-compaction and slitting equipment from Campey Turf Care Systems is offered in a broad range of sizes to suit both in-house and contract operations. The pictured Shockwave 2.20m will relieve compaction down to 35cm, its drop forged rotary slicing times shuffling the soil laterally to relive compaction across the machines width. Also offered in 1.55 and 2.10m widths.

The latest versions of the John Deere Aercore 800 can be fitted with a verticut attachment to aerate and verticut turf in a single pass. The pedestrian aerator is powered by a 25hp petrol engine and provides deep scarification to encourage growth, remove surface compaction, allow moisture retention and absorption, and remove thatch. The verticutter attachment can be used at the same time, on its own or raised out of work. During the combined operation, the cores are pulled first. This is claimed to reduces the surface tension of the turf and allow the verticutter attachment to slice cleanly to a maximum depth of 44.5mm, depending on soil conditions. By utilising the Aercore 800's existing electro-hydraulic lift and lower system, the operator may raise the verticutter without the engine running. In work, the attachment's dual v-belt drive system engages when the coring head is lowered, and disengages when the coring head is raised.

A probe with integral meter (as above) can be useful in highlighting the need for de-compaction. The pictured Quakemeter is available through Campey Turf Care Systems, a firm, steady push into the ground enabling the user to typically identify the depths at which compaction is present. Although a sharp steel bar an 'T' handle can be easily fabricated to allow you to 'feel' how compacted the ground is, watching the needle on the dial gauge move as the probe is inserted can demonstrate how compaction form in layers. The low needle position pictured is the reading recorded following a pass of an Imants Shockwave.

Based around its established Javelin vertical action aerator, the SISIS Javelin (left) with Aer-Aid system uses compressed air to help relieve compaction in the rootzone. A cam trigger system is used to divert compressed air to individual tines in a fixed sequence. This ensures up to 88 litres of air is evenly 'pumped' into the rootzone every miniute. The aim is to enhance the aeration pocess by forcing air into the soil to improve lateral aeration. SISIS puts its workrate at between 2500 – 3500 sq.m per hour. That equates to the ability to potentially cover 18 greens in a day. In action, this machine is an impressive performer. Suitable for use behind tractors of 25hp plus, the system weighs 503kg.

The Jacobsen Performaire 60 and 80 have respective operating widths of 1.5 and 2.0m and will core or aerate to depths of between 25mm and 450mm, depending on soil conditions. A standard hydraulic top link allows the aeration dept to be adjusted in work. Operation speeds can be as high as 2.25 Km/h at 200mm hole spacing. The allows for rotational adjustment of the tine holders to preserve the correct angle of entry and exit into the turf, which is critical for hole quality. While primarily designed for golf fairways, the Performaire 60 is equally suited for greens applications as it can be operated in close spacing mode. A wide selection of solid and hollow coring times is available. Coring tines range from 12mm x 140mm to 32mm x 305mm with solid tines in the range from 12mm x 254mm up to 25mm x 355mm. Minimum power requirements are 40hp and 50hp respectively.

The Terrain Aeration Airforce Scamper Terralift (left) is the company's lightweight, four-wheeled ride-on model. Fed compressed air via an umbilical air hose, the unit injects compressed air one metre below the surface to create fractures and fissures and relieve compaction panning and water logging. Dried, milled seaweed is injected on the final air blast. This swells when wet, keeping the new air channels open. Working at two metre spacing on a staggered grid pattern, the entire area is treated with minimal disruption to the service. Play can resume immediately and the treatment, combined with normal surface aeration, should last for 10 to 15 years.