

# REAL WORLD TEST

## SLITTERS

### GREENKEEPER INTERNATIONAL

**Hugh Tilley concludes his three part look at aeration with an examination of a selection of slitters currently on the market.**

Least complex and mechanical of all aerators – and most inexpensive to buy and run are slitters, and many greenkeepers use these as part of their routine management for aeration, thatch suppression and opening up the surface for drainage.

Most designs are simply a set of flanges with slitting tines bolted to them and mounted on bearings within a frame. Both tractor and turf maintenance vehicle (TMV) mounted models are produced and some – mainly for fairways, are trailed.

Some machines are made so that extra deadweight can be added, such as water, concrete blocks, or other means, but some can be fitted with a hydraulic rams so that they press themselves into the ground. One model has a movable weight which can be used to concentrate weight over the slitting rotor for increased penetration.

The majority of greenkeepers use their slitters in conjunction with other forms of aeration, or anti compaction programmes. Major concerns are over ripping the turf rather than slitting and the fact that subsequent dry weather can cause the slits to open, this is particularly prone on clay. As a result slitters are mainly used in autumn and early winter.

Slitters are usually able to take several types of blade or tine, but narrower or knife blades are the most usual for golf course use – and these are often designated as fine turf blades. Fairway slitters may be designated as “outfield” slitters and usually have larger less pointed tines.

Spacing is entirely dependent upon flange spacing, typically about 150mm, and the location of the blades around the flanges. Replacing the blades can be a time consuming task, although a ratchet spanner or pneumatic wrench will make it faster and easier, however, most of the clubs had seldom had to change blades – and some machines were several years old. As a result tine wear and cost was of little consequence. Where there are alternative spacing options (around the flange) it is vital that the blades



**The SISIS Multislit**

are bolted to the correct positions to ensure the correct helical pattern, even penetration and a smoother ride.

Some models are available with rear rollers but most greenkeepers like these to firm and level the turf after slitting and not to control depth.

Without exception maintenance was minimal, nyloc nuts on the bolts hold the tines, but some need regular checking for tightness – perhaps because the tine does not have a “seat” on the rotor. A few greenkeepers experienced problems with these working loose, but none experienced any loss of blades. Sealed bearings are used at the ends of the rotor, most being greasable, but no one said they had any problems with damaged seals or dropping grease. These can be symptomatic of either over enthusiastic or nil maintenance. Fitting the machine to a tractor should be a simple routine, but some tractors need extra weight where wide and/or ballasted slitters are used on the linkage – at least if they are to remain stable.

#### **Sisis Multi-slit at Wrag Barn Golf Club, Highworth – near Swindon**

Wrag Barn has two Sisis slitters, an “Air Drain” and a “Multislit”, and uses them extensively over greens, fairways and other areas. Proprietor and Course Manager is Tim Manners and he commented that the machines, which are tractor mounted, have been extremely useful and effective. The Multi-slit is about a year old, it was bought direct, and it is still with its original slitting tines, although Tim expects to replace tines annually if necessary.

The Sisis slitter was bought following a demonstration at which it gave good account of itself. Tim also added that Sisis has an established reputation – and from personal experience he had always found their after sales service good. Nor are prices unreasonable.

The underlying soil at Wrag Barn is part brash – similar to Cotswold, and part deeper silty loam with a few clay caps on some of the tops.

The fine turf slitter, the Multi-

slit, is usually used on the linkage of an Iseki 320, and without any double acting hydraulics to push the machine in, Wrag Barn use tractor type “Jerry can” weights on the slitter frame when necessary to get the necessary penetration. Normal working depth is 5in to 6in (120-150mm). The Multi-slit has a 1.36m width and integrated pressure rollers with floating heads. The Air Drain has a 2.44m width and 300mm slitting tines, and is available with an optional (hydraulic) pressure frame.

Slitting of greens is carried out every month during the winter with the main objective of getting air into the roots. The machines are used during the summer when conditions are suitable and there is a need for aeration.

As was expected there have been no mechanical problems and maintenance is quick and easy – checking round and two grease points to grease.

In summary Tim said the Multi-slit gives good penetration with minimal upheaval and turf disturbance – he was extremely satisfied with it.

#### **Charterhouse Level Spike 2.2 80 at Hindhead Golf Club**

Used behind a Ford New Holland 3610, the Level Spike is a 2.2m wide fairway slitter which the club has recently purchased in replacement of an older slitter. David Oliver is course manager at the club, and he commented that the slitter is used as part of an overall programme which includes the use of a Verti-drain annually in autumn. A Huxley greenslitter H84 is used for greens.

The course is basically sandy with a limited amount of sandstone, which can cause some lifting of turf, however overall this is little problem. If any ripping of turf occurs it is at walk-on points where there is a lot of compaction.

The machine was seen as being extremely easy to use and particularly user friendly, and in addition David stated that it was quiet – although the club had at first added weight with concrete blocks in the weight tray and these had rattled, so the greenkeepers had replaced them with wooden blocks and a clamp to keep them firm – and quiet. These blocks (3 sleepers worth)

added about 50kg and allowed the slitter, which has narrow tines, to penetrate to its full 7.5in. potential in most conditions.

In addition to being very cost effective the machine is fast to operate and all (18) fairways can be slit in a single day. It is also very robustly constructed and has a good working width. Slitting is carried out once or twice a month in winter, but only in summer if conditions require it.

Some tines have worked loose, they are held with two bolts with nyloc nuts, thus it is routine to check them regularly. David said that the club gets very good service from Charterhouse and has a very good working relationship with them.

#### **Grays of Fetterangus Slitter at Mount Pleasant Golf Club, near Letchworth**

Run by the Simkins family, this is a 9 hole facility with extra alternate tees to add variety. Mount Pleasant was established from farmland nine years ago with the additional tees added in the last two years. Built by a professional course builder and managed by him for the first years, the Grays slitter was suggested as being perhaps the most suitable tool for the fairways especially as those early autumns and winters were more wet than usually. However, although the machine is now some five years old David Simkins said it has not been needed for the last two which have been relatively dry. There was thought of contracting the slitter out, however this has not happened, although several courses have expressed interest. Commenting on weather, David said that it was particularly noticeable that the course is exposed and that the wind can dry out the turf rapidly. Thus care is taken not to slit in spring when it is likely to exacerbate the problem.

Most of the course is on good medium loam, but in the early years the 4th fairway in particular would waterlog – to the extent that in one year they hired a pump.

Greens are built over stone carpets with drainage led to soak-aways – although after experience most is now taken to streams rather than to soak-aways, which proved to lack capacity in very wet conditions.

The slitter is 2.5m wide and



tractor mounted, with a trailed rear roller and the ability to ballast the large diameter tine rotor. It is a large and particularly robust implement, and the Simkins use it with a 72hp Zetor tractor on turf tyres – Lodgeway Tractors being agents for both. With water ballast and extra weight on the top tray the tractor requires front weights, but penetration is then to the full tine 10 in. (250mm) depth. It is important to drain the ballast water to prevent freezing – David said they forgot one year and as a result burst a seal.

#### **McConnel Outfield Slitter at Minchinhampton GC on the Cotswold**

Originally bought for fairways the McConnel Outfield slitter at Minchinhampton is now also used for greens and tees. The club has two courses, one just two years old, plus a third in the same ownership only a couple of miles away on the common and 108 years old. The second course is 25 years old but with drainage carpets under the greens. Minchinhampton is on the edge of the Cotswolds with typical brash type soil. The McConnel slitter is a fully trailed machine.

Paul Worster is Course Manager and he made the proviso that it was essential that the greens are open to allow room for the tractor and slitter to get off the green to turn as being a trailed machine it was not very manoeuvrable.

Routine slitting is carried out every two weeks between September and January in normal years and the programme is worked in conjunction with a Ryan GA30 corer on the greens.

Used on greens the slitter is followed by a Toro 3100 greens triple with tri-roller attachments so completely repairing the surface and allowing immediate play.

In the two years that the club has had the McConnel slitter they have had no problems with tines working loose or with the frame of the machine, and very few problems with blades bending. The blades have been removed and sent to a blacksmith to resharpen, perhaps because they had contacted too much Cotswold stone. Keeping them sharp ensures that they give a good clean slit and require the minimum of effort to tow. Paul laid some stress on this, and it seemed strange that no other club has taken the same course of action. It was suggested that tines could be sharpened in-situ with an angle grinder.

Minchinhampton tow the slitter behind a 22hp MF1020 compact tractor and operate the lift from the tractor spool valve which operates the loader bucket tip – saving any need to remove the loader or fit additional valves or plumbing. No extra ballast weight is added to tractor or implement.

Paul said that they bought that particular machine because it was in the right place at the right time and at the right price, but he added that the possibility of quickly interchanging rotors, available with this slitter, was considered. In fact this option has not been exercised. He also liked the robustness and strength of the McConnel.

**Amazone Slitter SL80 at Knowle Golf Club in Bristol**  
Knowle is a long established

course around 80 years old close to the centre of Bristol, it has 18 holes in a parkland setting and on heavy clay soil, thus making aeration being as much about drainage as about getting air into the turf. The club uses a McConnel two leg moleplough regularly each autumn on the fairways and uses the slitter to assist water to flow to these mole runs.

Head Greenkeeper, Chris Light, said that although the Amazone has the ability to increase penetration by using a hydraulic ram between implement and tractor top link hitch point this ability to transfer weight has not been used since the club has had the machine – just over a season. Normally it is easy to get penetration of five or six inches.

A Toro Hydroject has also been hired on three occasions to supplement the effect of the other equipment and this has been achieving hole depths of about 10in.

Routine slitting treatment is done fortnightly fairways slitting from early October until January or February, however, this routine is flexible and depends on circumstances and the weather.

No problems have been experienced with loose tines and the few which have bent – after hitting a stone – have been easy to straighten.

The slitter is used behind a 4WD MF 250 – on turf tyres. Manoeuvrability has never been a problem.

Chris said that he looked at several makes and models at Saltex last year and decided that he liked the Amazone and bought through T H White, from whom the club has received excellent service.