

Roland Taylor gets down among the long grass to bring you this report on how to deal with the thick stuff

GRASS ATTACK

One of the most successful species of plants found throughout the world is grass. It is a survivor, growing in the harshest of conditions such as mountainous regions, mud flats, sand dunes and jungles.

There are an estimated 10,000 species globally and the family includes at the top end bamboo trees that grow to over 50 metres, whilst at the bottom of the scale is the dreaded poa annua at less than 12mm. Here in the UK there are approximately 160 species found naturally of which a few have been chosen for their characteristics in the production of professional turf.

The rest grow wild and a fair proportion will find their way on to most golf courses. Combined with other vegetation such as trees, bracken, heather

and flowers they make up the backdrop to immaculate greens, fairways and tees. These areas play an important role in the overall image of the course and, therefore, require some form of management.

Regardless of its location, a course is a haven for the development of flora and fauna and in recent years there has been an increasing interest in developing this aspect. Changes in agriculture and the encroachment of concrete and tarmac have led to the demise of natural grasslands and as a result some flower species have been lost, whilst others are becoming rare. The introduction of wild flower areas is one positive action that can be taken to reduce the impact modern civilisation is having on the environment.

Whilst the greens, tees and fairways are the most important part of any course, creating natural areas that blend in and add another dimension to the game are increasingly becoming a consideration when managing a course.

To manage these sites and keep vegetation under control often requires a different range of grass cutting equipment. For long grass there are three suitable systems rotary, flail and reciprocating blade (rarely used for cutting grass these days).

Rotary

This is the most popular method of dealing with long grass and vegetation and today it can be found in many configurations.

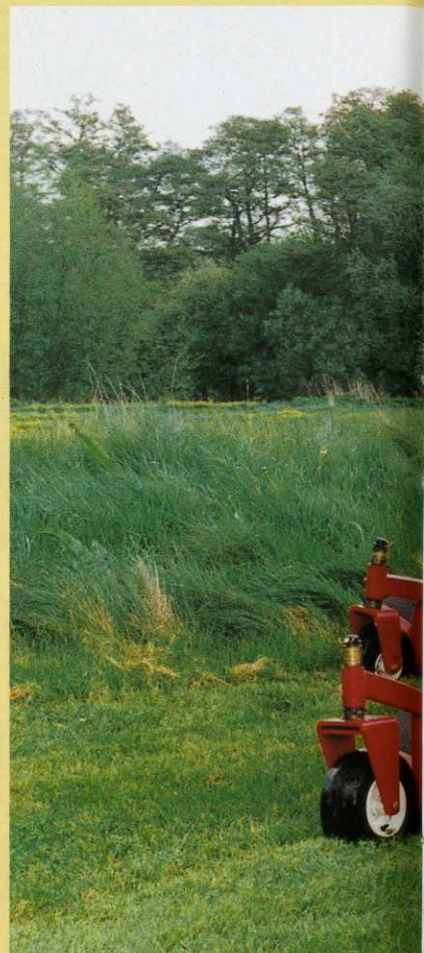
Its origins date back to 1930 when the hedge of Scotsman David Cockburn was causing him problems – he was fed up with having to cut it by hand. One day while his wife was out shopping he

removed the brushes from her vacuum cleaner and replaced them with a blade. The experiment on the hedge was a failure but when he pulled the unit across his lawn it cut and collected the grass. David Cockburn realised he was on to a winner and set up a company to develop the machine. A petrol engine was used for power and the first rotary mower was created and christened 'the Rotoscyth'. World-wide patents were taken out, but unfortunately, Adolf Hitler intervened and production ceased.

With the coming of peace, Cockburn's company resumed production but shortage of materials was a problem, plus the fact that the American and Australian designers had found a way round the patents. They marketed products that had no collection facility as rough grass cutters – a label all rotaries were to carry for over two decades.

It was the beginning of the fifties and the country was getting back to some normality after the war. On the Hertfordshire/Essex border a builder by the name of Doug Hayter had built a rotary mower for cutting around his premises and quickly discovered there was a market for such a machine. He established a factory and went into production. A local agricultural company which had found a number of customers with large areas of grass to cut contacted him. The result of this meeting was the 6/14 – the first tractor-mounted rotary mower in the world. These units proved highly successful and were used by many golf clubs for cutting their rough.

The next rotary milestone was as a result of work of Karl Dahlman, a Swedish engineer, who combined the hover principle of a cushion of air and a rotary





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The FlailDek can mow anything from quality parklike conditions to rough road sides at speeds not attainable with other mowers. The unique Gamma Flail blades fitted to the FlailDek require relatively low horsepower. Designed by Trimax engineers, the Gamma Flail with its aerodynamic shape cuts easily while creating optimum airflow to expel the clippings. Tractor horsepower is used for cutting grass, not pumping air. The Gamma flails deliver a perfectly uniform cut with clippings evenly dispersed behind the mower, even in sodden, long grass conditions. FlailDek does not leave windrows or clumps.

Robust flail mounting lugs are welded both sides.

UNIQUE FEATURES

- Gamma flails
- Extremely robust construction
- Quality cutting finish
- Leaves no windrows or clumps



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GRASS ATTACK



blade to produce the Flymo. At this time another inventor in the United States had used nylon fishing line and a tin can to come up with the strimmer.

To know what to look for when deciding which machine to choose and how to get the optimum performance, it is necessary to understand how the rotary system operates and the factors that can affect it.

For a rotary mower to operate efficiently two things are required: rotational speed and the ability to move the cut material out of the system as quickly as possible. Each of these affects the other and the machine eventually blocks up and stalls the engine.

In many instances this can be avoided as there are other contributory factors:

- **The cutting height is too low for the volume of vegetation.**
- **Blunt blades.** This is a common fault, as even a blunt blade will hack off something.
- **A worn engine or one that needs servicing will not give of its best.**
- **The forward travel speed of the machine is too high for length of grass conditions.**

Whilst all rotary systems are similar the method of ejecting the cut material can be different especially on the wider machines. This is either out of the side or rear of the machine. In the case of the latter, the blades contra-rotate and their action directs the flow of grass back and into the centre of the cutting deck.

The dimensions of the outlet aperture are vital to the efficiency of the mower when it comes to collection. It needs to be as large as possible and with minimum obstructions. The more direct the flow of cut material into the catcher is from the blade, the better the performance.

Cutting decks need to be kept clean. Dried grass deposits and dirt attract more build-up and impede the flow.

When using collectors it is necessary to ensure the air vents in the bag or box are free of debris. Blockages cause a build up of air pressure, which slows and often restricts the volume of grass entering the receptacle, thus choking up the cutting chamber.

When using strimmers it is important to have the correct length of nylon protruding from the drum – too

long and the rotation speed is reduced with a resulting drop in performance and more strain on all the components.

As said before, for all rotary blades sharpness and balance are critical. Any damaged ones must be replaced immediately using only those supplied by the original manufacturer. If something solid has hit the cutting system the blade carriers and mountings will need checking for signs of stress or breakage especially around welds.

Which rotary to buy will depend on the requirements. In the case of wild flower meadows the cut material should be collected, otherwise it can smother the sward and reduce light penetration so the plants become weakened. The rotary mower has to be able to cope with long, often lush, wet growth and this should be borne in mind when choosing a machine.

For large areas a tractor drawn unit could be suitable and the introduction of small independent units, all linked together to make a wide mower that is flexible and can follow the ground contour could be the solution to undulating rough areas.

Recycling mowers are now available. These finely chop up the cuttings and blow them into the turf. The length of grass and frequency of cuts will determine if one of these units is suitable.

In recent years there have appeared on the market a number of wheeled strimmers, which are suitable for dealing with long grass and undergrowth. When it comes to rugged work the hand held, pedestrian and ride-on brushcutters are ideally suited. For banking on the course around tees and bunkers there are the two-stroke petrol powered hover mowers and four-wheel rotaries.

Flails

The flail mower arrived on the scene largely due to the problems found using reciprocating cutterbar on roadside verges and hedges. Roadmen were a dying breed in the early fifties and they were being replaced with tractor mounted mowers. Whilst these did a reasonable job they were extremely expensive to maintain, especially when used on hedges.

On the verges the cut material blew across the road and blocked drains and ditches. The answer was the flail. This



consists of a drum with rows of hinged blades. When spun at high speed the blades are held out by centrifugal force and cut the grass, mulching it up in the process.

The first machines were belt-driven from the tractor but Tony Turner had other ideas. He came up with a hydraulically powered version. This made the machine much more adaptable. It had a long fully adjustable arm and the cutting head could be set to virtually any angle – sales of this machine are said to have taken off immediately.

A long armed flail unit will have limited applications on a lot of courses but for banking, ditches, river banks, around water features and cutting country-type hedges they are ideal. Where the workload does not warrant buying one, it is worth considering hire as they can save a lot of time.

For areas of rough and semi-rough there are rear-mounted tractor models. These machines have the facility for fitting a large hopper for collecting the cut material. This is a distinct advantage

when the flail unit is fitted with scarifying blades.

Like the rotary machines the cutting efficiency relies on drum speed. As there are a large number of blades involved they need to be checked regularly for damage or breakage and replaced, as the drum will be out of balance. The vibration set up in this situation can do a lot of damage in a short period time.

With both rotaries and flails because of the conditions they work in there is often a tendency to neglect the maintenance

aspect. Blades are allowed to become blunt; guards are left off; belts not adjusted and a grease gun is rarely used. In the end, any one of these can cause a breakdown, so it is worth spending those extra few minutes checking and carrying out any replacements so the machine always performs at its optimum. Who wants hassle?

Having the right piece equipment to deal quickly and efficiently with areas other than greens, tees and fairways, is half the battle – there are plenty out there to choose from or hire.

Cuddles contours

What?

The 3.05m (10ft) wide Pro-Flex 120 rotary mower for tractors of 35hp upwards.

How?

Five individually-floating cutter heads attached to a freely-pivoting trailed frame.

Why?

To produce a consistent cut across the working width over undulations, bumps and hollows.

Where?

Golf courses, landscaped grounds, parks, all uneven turf demanding a precise, clean cut every time.

When?

As part of all regular mowing programmes.

Who?

For illustrated literature, a video or a demonstration across your contours, call:



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