



This stream flows pristine through a golf course then confronted by some much heavier pesticide users - it runs under railway, across an industrial estate and through miles of wheat and barley fields.

cies at the same time. Visions into the future are turf managers down 'on all fours' digging out weeds just like their great grandfathers did. But this won't work for deep tap-rooted offenders like dandelion and ragwort that produce new plants from fragments of root left in the ground. Some of the most intractable problems will result alien invasive weeds like Japanese knotweed and Himalayan balsam.

Doesn't make sense

The more you look at EU attitudes to chemical pesticides the less it makes sense. The current conundrum around the management of surface casting earthworms and control of the mole (the main predator of earthworms) sums this up in a nutshell.

Naphthalene was traditionally used to deter moles. Turf managers would place mothballs in mole holes to deter digging and tunnelling. Moth balls are freely available and as far as I know you can still put them in the wardrobe to kill clothes moths without ending up in court.

But together with disinfectant and diesel oil (also used to deter moles) it is illegal to use moth balls because under provision of the 'Control of Pesticides Act 1986' there is no approval to use naphthalene as a deterrent against moles. But the EU still allows you to catch and kill moles using wicked looking traps and to wipe them out using phostoxin, a highly toxic gas released when aluminium phosphide tablets

deposited in mole holes react with moisture.

The long term future of carbendazim the only chemical wormicide left on the market looks less than secure. One reason is pending reclassification as a 'Biocide' which means carbendazim will eventually be subject to another directive and forced to jump through different and perhaps more difficult hoops to ensure continued use. One of these will almost certainly be environmental in nature and could include any negative impact on soil fauna including earthworms.

The main component of a mole's diet is earthworms and wherever moles are found in number and activity you can bet your bottom dollar that the soil profile is rich in earthworms. The question I often ask is does phostoxin, which is legally allowed as a soil application to control moles, have any deleterious effect on earthworms? I can't find any solid information either way but I would be surprised if it does not.

It really doesn't make sense for EU to dismantle half a century of scientific research and development that has given greenkeepers highly effective and much cleaner and safer pesticides to manage turf diseases, kill turf weeds and manage surface casting earthworms. And at the same time allow such methods to kill moles which are a protected species in some EU countries like Germany. If you can solve this conundrum and come up with a clear and logical answer then please let me know.



There will be no quick and easy solutions to this problem (chafer grubs and collateral bird damage) without chemical pesticides, especially in winter when soil temperature is too low for good biological control agent activity



Drought-stressed turf in July 2010 (southern England) with white clover and birds-foot trefoil (yellow) as far as the eye can see



1st



Snap happy

The 2010 BIGGA Photographic Competition was a huge success, writes Scott MacCallum

BIGGA's Photographic Competition, sponsored by Syngenta, and now in its fifth year has seen the standard of pictures taken by BIGGA members steadily rise. More and more greenkeepers are aware of what constitutes a good photograph and many more carry a compact digital camera or mobile phone with a quality camera built in as a matter of course.

This year the winning entry came from regular entrant Gareth Roberts, Course Manager at Hankley Common Golf Club, who won the bragging rights in his own home as he pushed his son, Graeme, into second place, which his superb picture taken on his own course. Graeme's picture of Quail Hollow Golf Club in the United States pushed it very close though.

Third place went to Paul Hope, of High Post Golf Club, in Wiltshire, with another stunning entry.

The 2011 BIGGA calendar will comprise those three pictures plus entries from: Marek Zubert, Lewis Birch, James Hutchinson, Peter Dawson, Russell Lewis, Adam Turner, Craig Boath, Glen Kirby and David Harrison.

Judging took place in early October with Alan Birch, whose idea the competition was; Karen Roberts (no relation to Gareth and Graeme), of Syngenta, and professional golf course photographer, Eric Hepworth. Tom Campbell and Scott MacCallum, of BIGGA, co-ordinated the judging.

Eric was particularly impressed by the winning entries this year.

"Gareth shows a superb use of the sky. The cloud formations coming in on the left hand side are very strong. I don't know how on earth he's been able to keep the flare out of this picture because the sun is looking directly into the lens. There is a good use of composition and I like the trees on the right hand side which frame it really well," said Eric

"Graeme has shown a good use of perspective on this picture. The line of the edge of the green, which I'm presuming is a lake, on the left hand side is really fantastic and goes all the way to the bunker, turns left then all the way around the back so is leading your eye into the picture. It is framed fantastically well by the two trees both right and left. The mist is just the icing on the cake. I would love to have this in my library," he said.

"I like Paul's picture a great deal. There is a rule in photography that a subject which is the main element of the picture should be on what is called a third within the whole frame and that is where the triple mower is set on. The sun has been placed behind the trees using an established technique where, to shade the light coming into the lens, and stop flare coming into the lens. Flare on this picture would have ruined it and the tree has acted as a long lens hood."

Gareth, Graeme and Paul each win a framed print from Eric's extensive photo library.



2nd



Old Course, St Andrews, by Lewis Birch



Carnoustie Golf Links by Craig Boath



5th on the Heritage, at The London Club, by Glenn Kirby



Fairhaven GC, by James Hutchinson



St Michaels GC by Adam Turner

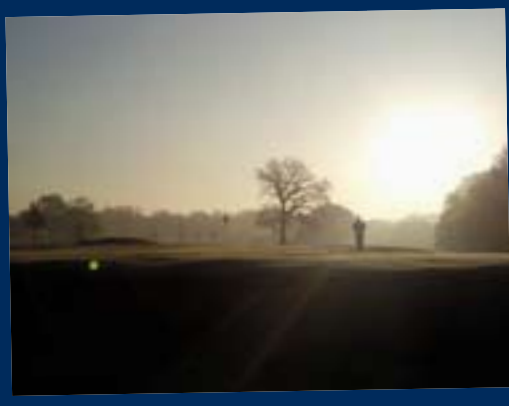


Mount Juliet, Republic of Ireland, by Marek Zubert

3rd



View to the 5th at South Essex Golf Centre, by Peter Dawson



Hale GC, 9th green being dewied, by Russ Lewis



Early morning sun at Crieff GC on the 9th, by David Harrison

James de Havilland takes a closer look at the intricacies of current machinery

The anatomy of...

A rotary mulch mower



Mulch mowing in the broader amenity and commercial sector tends to see a resurgence of interest when we enjoy a few dry summers in a row; the technique favours 'little and often' mowing and is well suited to helping to retain moisture in dry conditions. But does mulch mowing equipment now deserve wider use?

The John Deere 8800 TerrainCut mower is fitted with five individual rotary units to allow the following of ground contours. Designed to cut and mulch clippings, this type of mower is well suited to wide area mowing to include the cutting of roughs.

Anyone whose has looked at the way rotary mowing has evolved over the past few years will be struck by the increased availability of what can broadly be termed a mulch mower.

On the pedestrian rotary front, the term should really be broadened to suggest more manufacturers are offering mowers that can mulch. Dedicated mulch mowers are out-sold by '3 in 1' units that can readily switch between collection, cut and drop and mulch.

On ride-on equipment, it is increasingly likely that a modern rotary deck will be offered with a mulching kit. This can range from a simple outlet 'bung' that effectively seals the deck discharge through to a more comprehensive option that will see a different type of blade and modified baffles under the deck altering how clippings are handled. A 'proper' mulching deck is designed to do more than just contain clippings and chop them more finely. The aim is to chop and then 'blow' and evenly distribute the clippings back down into the sward to leave a clump free finish.

In other words is now established that some deck designs are better at producing a good mulch finish than others. Simply stopping clippings exiting a conventional 'cut and drop' deck does not turn it into a 'proper' mulching deck.

Another key issue is the wider adoption of rear discharge and single unit gang decks where the clippings that are left on the surface but well distributed to leave a really neat finish. Mulching decks are competing with ever improving 'conventional' rotary mowers in other words.

It of course follows that regular mowing of any description makes it easier to leave a decent finish. Fairway clippings are not routinely boxed off, the repeat slicing of clippings carried out by a sharp cylinder mower proving that a great finish can still be achieved without collection.

It is perhaps this point that is overlooked when looking at rotary mowers. How they are operated and the option of going for a deck that mulches as opposed to one that evenly distributes its clippings is not as broadly discussed as perhaps it could be. In certain circumstances, a good rear discharge deck will leave a finish that is pretty hard to tell from that left by a good mulch mower. Where a mulch deck can score, however, is in leaving a good finish on less regularly mown swards.



Understanding the basics of how a mulch mower operates can help explain why. The first point is that a mulch mower is not designed to cut grass down to the tight heights achievable with a cylinder mower or increasingly demanded of a rotary deck. The key to mulching is to leave a longer sward into which the 'recycled' clippings can be 'hidden'.

This type of sward responds well to being maintained regularly but need not mown tightly; a longer sward length can help to crowd out moss and weeds without detracting from the overall look of the turf.

There are also modern grass varieties that have a slow rate of growth, good drought and/or shade

Toro Groundsmaster 3280-D out front rotary mowers are offered with a choice of 1.57 and 1.83m wide side-discharge, rear-discharge and dedicated Guardian Recycler decks. Mulching kits for the conventional decks are increasingly popular, allowing long wet grass to be tackled early in the season, with the mulch kit allowing contained mowing later on.

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In the British Isles there remains a desire to try and tame wider grassed areas to the point where many parks have a manicured 'short lawn' finish. And long may it continue. But try to expect a mulch mower to operate within this regime and it will typically lead to disappointment.

Where a mulch mower comes in is in the mowing of more general 'amenity grass'. A good example is the turf around buildings that is not regularly walked over but that is valued for its overall appearance.

tolerance but that also prefer to be trimmed to around an inch.

Another key and vital point is that a mulch deck is designed to contain the clippings. On regularly mown amenity turf this can be a real plus, tightly contained clippings being less likely to be thrown onto paths or up against parked vehicles. The chance of debris being projected at high velocities is also important. A stone thrown against a window, or worse a third party, is an ever present hazard facing those who maintain grass in a public space.



The Jacobsen AR522 again follows the rotary 'gang' format, the ability of these machines to leave a good finish having seen their increasing acceptance in the place of a cylinder mower alternative. Regardless of mower type, a decent mulch mow can only be delivered if the unit is operated correctly.



Most current Toro one-piece rotary decks can be fitted with recycler kits. Designed from the outset to accommodate these kits, a converted deck will contain material in the same manner as the company's dedicated Guardian Recycler deck. For effective mulching, the deck needs to be well filled with material, so the operator needs to adjust the mowing speed to get the best results. Debris allowed to collect under the deck will compromise performance.



Ransomes-Jacobsen TrimTeK Decks help to illustrate that there is no definitive mulching design. The key is to match the selected mower to its task. Expect this type of deck to reduce a long, wet sward down to under inch in a single pass and the finish will be compromised.

What about mulching leaves?

A dedicated mulching deck can be used to deal with autumn leaf fall. Getting the technique to work is not difficult, but a few basic points need to be followed to get best results. The following tips relate to Toro Guardian Recycler decks, but the basics will apply to other designs.

Quick tips for a better leaf mulch

- The drier conditions, the better the mulch.
- Concentrate on mulching the leaves. Avoid trying to cut grass at the same time. This is of particular importance when working in damp conditions. Wet grass mixed with mulched leaves will be more likely to produce a 'mat' of material that will not be as readily hidden in the sward.
- When mulching a mat of wet leaves, it may be necessary to adjust the deck height and mowing speed to draw the material into the blades. If the results remain poor, wait until conditions improve.
- Keep the deck 'full'. When mulching light patches of leaves, speed up to keep the deck working.
- Keep the deck underside clean and wash off at the end of each mowing session. If the deck starts to leave clumps, check it is clean.
- Try mowing in alternate directions. An initial pass with the deck at a higher setting, followed by a second at a lower setting in a different direction can be extremely effective in difficult conditions. NOTE: To get the best from all types of mulch mowing, it is recommended that repeat mowing patterns are avoided.

Setting up the deck for mulching

- Set the front of the deck lower than the rear; aim for a nose down 'slope' of around 6mm.
- Ensure air can pass under the front of the deck, particularly so when mulching deep piles of leaves.
- Set the deck height to mulch leaves, not to mow.
- Make sure the blades are sharp and balanced.

How a mulching deck should work

A 'proper' rotary mulcher works by both re-chopping the grass to produce small clippings and to then blow them back down and into the sward. The simple act of blocking the outlet of a 'conventional' rotary mower will not do this.

This is why 'convertible' deck mulch kits will typically incorporate some form of restriction around the blade or blades to restrict the flow of clippings. A kit may also include a change of blade type or even include 'ramps' against which 'stalled' clippings can be acted upon by the top of the blade.

Regardless of design, the aim is much the same – to leave the resultant finish as free of surface clippings as possible and to speed the decomposition of those clippings. A more aggressive mulching action helps decomposition, but good containment and the ability to force clippings back into the sward is also important.

Mowing technique will also play its part; the sward to clipping ratio has to be correct. The well established rule is to cut a third of the sward length in any single pass. Try and mulch too much material in one pass and the results can be compromised.

In fact a 'conventional' rear discharge deck can leave a better finish than an incorrectly operated mulcher, particularly in wet conditions.

It is perhaps worth taking a side step when looking at mulching and to consider the whole technique as an ally as opposed to an alternative to conventional rotary mowing. Rotary mowers, particularly for ride-on commercial machines, have evolved from units designed to essential knock grass down to machines capable of producing a good finish. Mulching is a further development in rotary mower design.

Those who are strong advocates of mulching suggest we all need to rethink how mowing is carried out. It is the well-understood that relatively high levels of summer rain are required to keep any sward lush and green.

Come late June and many areas will see non-irrigated turf starting to dry or even brown. It is here where a switch in early June from conventional cut and collect mowing to mulching can have a place. The returned clippings will help retain moisture and also return nutrients to the sward. As long as the regime allows the sward to be maintained to a moisture loss resistant inch or so, this and regular mulch mowing can help keep the grass greener for longer.

There is also the issue of not needing to remove clippings. Clipping disposal is a hot topic at present, so it may be that mulch mowing starts to become recognised as an alternative in regimes that currently call for cut and collect mowing. The secret is to keep an open mind and give mulch mowing a chance.