Thatch and root zone soil is also home for the wide range of antag-
nostic microbes both fungal and bac
terial which compete with, consume or secrete natural chemicals to kill potential grass pathogens. Root zone microbes including mycoc-
orrhinal fungi recycle root exudates to form a physical barrier against grass root infection.

There is a natural enemy that provides the cushion for turf as a playing and leisure surface. Secret of disease management is to maintain a dynamic thatch kept at a depth appropriate to turf type. A dynamic thatch ensures continual and fast recycling of nutrients for grass growth and health while avoiding high stress, especially during high traffic and wear periods. In addition it will lessen dependence on syn-
thetic fertility.

Thatch degradation is acceler-
ated and sustained using physical techniques to boost aeration while number and activity of thatch degrading microbes can be supplemented by innoculants and compost tea. Together with use

of disease resistant grass species and varieties and taking measures against those conditions conducive to disease development, by for instance removing surface moisture and reducing shade in the case of Fusarium Patch, disease manage-
ment in professional turf without use of chemical fungicides becomes feasible. That said fresh free surfaces and ‘fast fixes’ will no longer be an option.

Turf pests and weeds

UK turf gets off relatively lightly from insect pests compared with North America. Chafer grubs (Phyl-
lopertha belliocularis) and leatherjack-
ets (Tipula paludosa) are the only two of any real consequence. Direct damage from root feeding can grossly misshape turf but the literature - endless - is replete with stories of how beneficial soil fauna can prove almost terminal. While turf managers are aware of the potential for soil fauna to cause problems, few attempt to control those soil fauna which can prove troublesome.

Chafer grubs historically present the worst problem not least because in the period after withdrawal of gamma HCH (lindane) and before approval of imidacloprid there was a gaping hole in the market and even bigger holes in turf. Approved herbicides on the market and even bigger holes in turf. Biocides based on entomo-
pathogenic nematodes are available but being natural enemies they are by definition density dependent factors, dependent that is on the density of the insect pest host. The nematodes multiply gradually with rising numbers of chafer grubs then fall away as the insect pest popula-
tion is controlled. As such they are not rapid control duo. Biological control agents they generally require more exacting conditions than do chemical insecticides. For instance, ideal time for application is when the soil is already moist and soil temper-
ature is within the 12-20°C range. In addition they are clearly not the quick and most appropriate option for golf greens already being damaged by predators in late autumn and winter with an important tournament just weeks away.

It is difficult to imagine profes-
sional turf with an acceptable level of weeds if the current arsenal of
cides 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 mere you look at EU attitudes to chemical pesticides the less it makes sense. The current conun-
drum around the management of surface casting earthworms and control of the mole (the main preda-
tor 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 wastebin to kill cockroaches 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 detergent against moles. But the EU still allows you to catch and kill moles using wicked looking traps and use them out using pho-
toxin, a highly toxic gas released when aluminium phosphate tablets deposited in mole holes react with moisture.

The long term future of car-
bendazim the only chemical wor-
icide left on the market looks less than secure. One reason is pending reclassification as a ‘slicker’ 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 environ-
mental 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 on any negative impact 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 develop-
ment that has given greenkeepers highly effective and much cleaner and safer pesticides to manage turf diseases, kill turf weeds and manage surface casting earth-
worms. 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 help us with this conundrum and come up with a clear and logical argument then please let me know.

Drought-stricken turf in July 2010 (southern England) with white stripe and bare-foot test (yellow) as far as the eye can see.
Snap happy

The 2010 BIGGA Photographic Competition was a huge success, writes Scott MacCallum.
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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 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.
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Old Course, St Andrews, by Lewis Birch

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

3rd

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Fairhaven GC, by James Hutchinson

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

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

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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?

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 outsold 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 good 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 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 at a pedestrian, or worse a third party, is an ever present hazard facing those who maintain grass in a public space.

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The anatomy of... A rotary mulch mower

James de Havilland takes a closer look at the intricacies of current machinery
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In the British Isles there remains a desire to try and tame wider grazed 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. This type of sward responds well to being maintained regularly but need not be mown tightly; a longer sward length can help to crowd out moss and weeds without detracting from the overall look of the turf.

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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.
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 mass 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 ‘full’. When mulching light patches of leaves, speed up to keep the deck working. The simple act of blocking the outlet of a ‘conventional’ rotary mower will not do this.
• 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 regimes that currently call for regular mowing.
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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 Recyclers decks, but the basics will apply to other designs.

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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.